Medical Mnemonics

by

UpdatesInMedicine.com



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From evidence to everyday practice

Copyright & Publication Information

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Editorial Note

Clinical content was compiled and reviewed for educational accuracy at the time of publication. Medical knowledge, guidelines and prescribing information evolve; readers should verify current recommendations before applying information to patient care.

Remember More. Understand Better.

Medicine demands knowledge - and the ability to recall it when it matters.

Created for medical students and clinicians, this book brings together memorable phrases, acronyms and associations, organised by speciality, from the basic sciences to clinical practice.

Use it to strengthen revision, refresh familiar concepts and make difficult details easier to remember. But always look beyond the letters: a mnemonic is a doorway to understanding, not a substitute for it. Clinical judgement, current evidence and the individual patient must remain central.

Learn the concept. Remember the cue. Apply the knowledge with care.

Medical Disclaimer

Please read before using this book.

Educational use only

This book is intended for medical education and revision. It is not a substitute for professional clinical judgement, direct patient assessment, specialist advice or current local and national clinical guidance.

Check current guidance

Drug doses, contraindications, diagnostic criteria, emergency algorithms and treatment recommendations may change over time.

Use clinical judgement

Mnemonics simplify complex information and should be used as memory aids, not as diagnostic criteria or management rules unless explicitly stated and verified from current authoritative sources.

Patient care

Always consider the individual patient, local protocols, available resources and senior clinical advice when applying medical information.

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PART I | BASIC MEDICAL SCIENCES

ANATOMY MNEMONICS

A comprehensive regional collection of genuine anatomical memory aids

What counts as a mnemonic in this chapter?

Each entry is a real memory device - a phrase, meaningful acronym, rhyme, number pattern or word association. Plain initials without a usable mnemonic are excluded.

Contents

Head & Neck
Cranial Nerves & Orbit
Upper Limb
Thorax
Abdomen
Pelvis & Perineum
Lower Limb
Neuroanatomy
Integumentary System
Rapid Reference

Head & Neck

Some Anatomists Like Freaking Out Poor Medical Students

Used to remember: The eight branches of the external carotid artery, inferior to superior

Some	Superior thyroid
Anatomists	Ascending pharyngeal
Like	Lingual
Freaking	Facial
Out	Occipital
Poor	Posterior auricular
Medical	Maxillary
Students	Superficial temporal

To Zanzibar By Motor Car

Used to remember: The five terminal branches of the facial nerve within the parotid gland

To	Temporal
Zanzibar	Zygomatic
By	Buccal
Motor	Marginal mandibular
Car	Cervical

Head & Neck

Many Muscles Move During Biting; Let's Analyze Linguistic Information

Used to remember: Major branches of the mandibular division of the trigeminal nerve (V3)

Many	Meningeal branch
Muscles	Medial pterygoid nerve
Move	Masseteric nerve
During	Deep temporal nerves
Biting	Buccal nerve
Let's	Lateral pterygoid nerve
Analyze	Auriculotemporal nerve
Linguistic	Lingual nerve
Information	Inferior alveolar nerve

VIT C and D

Used to remember: The major branches of the subclavian artery

V	Vertebral artery
I	Internal thoracic artery
T	Thyrocervical trunk
C	Costocervical trunk
D	Dorsal scapular artery - when it arises directly from the subclavian

The dorsal scapular artery has a variable origin and may instead arise from the transverse cervical artery.

UIM ORIGINAL

Standing Room Only

Used to remember: The skull exits of the three trigeminal divisions

Standing	V1 - superior orbital fissure
Room	V2 - foramen rotundum
Only	V3 - foramen ovale

SCALP

Used to remember: The five layers of the scalp

S	Skin
C	Dense connective tissue
A	Aponeurosis - epicranial aponeurosis
L	Loose areolar tissue
P	Pericranium

Cranial Nerves & Orbit

On Old Olympus's Towering Top A Finn And German Viewed Some Hops

Used to remember: The twelve cranial nerves in numerical order

On	Olfactory - I
Old	Optic - II
Olympus's	Oculomotor - III
Towering	Trochlear - IV
Top	Trigeminal - V
A	Abducens - VI
Finn	Facial - VII
And	Vestibulocochlear - VIII
German	Glossopharyngeal - IX
Viewed	Vagus - X
Some	Accessory - XI
Hops	Hypoglossal - XII

Some Say Money Matters, But My Brother Says Big Brains Matter Most

Used to remember: Whether each cranial nerve is sensory, motor or both

Some	Sensory - I
Say	Sensory - II
Money	Motor - III
Matters	Motor - IV
But	Both - V
My	Motor - VI
Brother	Both - VII
Says	Sensory - VIII
Big	Both - IX
Brains	Both - X
Matter	Motor - XI
Most	Motor - XII

LR6 SO4 - All the Rest 3

Used to remember: Motor innervation of the extraocular muscles

LR6	Lateral rectus - CN VI
SO4	Superior oblique - CN IV
All the Rest 3	Remaining extraocular muscles - CN III

UIM ORIGINAL

Taste 7 Front, 9 Back; Feel 5 Front, 9 Back

Used to remember: The main taste and general sensory innervation of the tongue

Taste 7 Front	Anterior two-thirds taste - facial nerve via chorda tympani
Taste 9 Back	Posterior one-third taste - glossopharyngeal nerve
Feel 5 Front	Anterior two-thirds general sensation - lingual nerve, V3
Feel 9 Back	Posterior one-third general sensation - glossopharyngeal nerve

The epiglottic region is supplied by the vagus nerve (CN X).

Upper Limb

Upper Limb

Rugby Teams Don't Cover Bruises

Used to remember: The organisational sequence of the brachial plexus

Rugby	Roots
Teams	Trunks
Don't	Divisions
Cover	Cords
Bruises	Branches

Long-Legged Movers

Used to remember: Branches of the lateral cord of the brachial plexus

Long	Lateral pectoral nerve
Legged	Lateral root of median nerve
Movers	Musculocutaneous nerve

Make Many Moves Using Muscles

Used to remember: Branches of the medial cord of the brachial plexus

Make	Medial pectoral nerve
Many	Medial cutaneous nerve of arm
Moves	Medial cutaneous nerve of forearm
Using	Ulnar nerve
Muscles	Medial root of median nerve

ULTRA

Used to remember: Branches of the posterior cord of the brachial plexus

U	Upper subscapular nerve
L	Lower subscapular nerve
T	Thoracodorsal nerve
R	Radial nerve
A	Axillary nerve

SITS

Used to remember: The four rotator cuff muscles

S	Supraspinatus
I	Infraspinatus
T	Teres minor
S	Subscapularis

Some Lovers Try Positions That They Can't Handle

Used to remember: The eight carpal bones from lateral to medial, proximal row then distal row

Some	Scaphoid
Lovers	Lunate
Try	Triquetrum
Positions	Pisiform
That	Trapezium
They	Trapezoid
Can't	Capitate
Handle	Hamate

DAB / PAD

Used to remember: The actions of the interossei

DAB	Dorsal interossei ABduct
PAD	Palmar interossei ADduct

LOAF

Used to remember: The classic intrinsic hand muscles supplied by the median nerve

L	Lateral two lumbricals
O	Opponens pollicis
A	Abductor pollicis brevis
F	Flexor pollicis brevis - mainly superficial head

Save The Lions And Protect Species

Used to remember: The branches of the axillary artery

Save	Superior thoracic
The	Thoracoacromial
Lions	Lateral thoracic
And	Anterior circumflex humeral
Protect	Posterior circumflex humeral
Species	Subscapular

Cadavers Are Dead People

Used to remember: The branches of the thoracoacromial artery

Cadavers	Clavicular
Are	Acromial
Dead	Deltoid
People	Pectoral

Thorax

I 8 10 Eggs At 12

Used to remember: The major diaphragmatic openings and vertebral levels

I 8	Inferior vena cava - T8
10 Eggs	Esophagus + vagal trunks - T10
At 12	Aorta + thoracic duct + azygos vein - T12

C3, 4, 5 Keep the Diaphragm Alive

Used to remember: The spinal roots of the phrenic nerve

C3	Contribution
C4	Major contribution
C5	Contribution

RALS

Used to remember: The relation of the pulmonary arteries to the main bronchi

RA	Right pulmonary artery - Anterior to bronchus
LS	Left pulmonary artery - Superior to bronchus

VAN

Used to remember: The intercostal neurovascular bundle from superior to inferior

V	Vein
A	Artery
N	Nerve

UIM ORIGINAL

Big Cats Sleep

Used to remember: The three branches of the aortic arch

Big	Brachiocephalic trunk
Cats	Left Common carotid artery
Sleep	Left Subclavian artery

All Physicians Take Money

Used to remember: The standard cardiac auscultation areas in sequence

All	Aortic
Physicians	Pulmonary
Take	Tricuspid
Money	Mitral

These are listening areas, not the anatomical valve positions themselves.

VAD

Used to remember: The main hilar order of lung structures from anterior to posterior

V	Pulmonary vein
A	Pulmonary artery
D	Bronchus - the airway 'duct'

Useful as a broad hilar relationship; right and left hilar anatomy have additional superior-inferior differences.

Abdomen

TIRE Pump

Used to remember: The anterolateral abdominal wall muscles

T	Transversus abdominis
I	Internal oblique
R	Rectus abdominis
E	External oblique
Pump	Pyramidalis

MALT

Used to remember: The principal walls of the inguinal canal

M	Roof - internal oblique and transversus abdominis arches
A	Anterior wall - external oblique aponeurosis; reinforced laterally by internal oblique
L	Floor - inguinal ligament; reinforced medially by the lacunar ligament
T	Posterior wall - transversalis fascia; reinforced medially by the conjoint tendon

Abdomen

SAD PUCKER

Used to remember: Major posterior abdominal and extraperitoneal structures

S	Suprarenal glands - primary retroperitoneal
A	Aorta and IVC - retroperitoneal
D	Duodenum - parts 2-4, secondarily retroperitoneal
P	Pancreas - except tail, secondarily retroperitoneal
U	Ureters - primary retroperitoneal
C	Ascending and descending colon - secondarily retroperitoneal
K	Kidneys - primary retroperitoneal
E	Abdominal oesophagus - posterior/extraperitoneal relation
R	Rectum - largely subperitoneal/extraperitoneal

This is a broad posterior/extraperitoneal recall aid, not a list in which every structure has the same peritoneal classification.

UIM ORIGINAL

Lazy Students Cheat

Used to remember: The three major branches of the coeliac trunk

Lazy	Left gastric artery
Students	Splenic artery
Cheat	Common hepatic artery

DAVE

Used to remember: The portal triad relationship in the hepatoduodenal ligament

D	Common bile duct - anterior and to the right
A	Proper hepatic artery - anterior and to the left
V	Portal vein - posterior
E	Epiploic foramen - behind the free edge

Duct and artery form an anterior pair; D-A-V is not a strict anterior-to-posterior sequence.

VAD

Used to remember: The renal hilum structures from anterior to posterior

V	Renal Vein
A	Renal Artery
D	Renal pelvis / ureter - Duct

Spleen: 1-3-5-7-9-11

Used to remember: Classic splenic dimensions and rib relations

1	About 1 inch thick
3	About 3 inches wide
5	About 5 inches long
7	About 7 ounces in traditional teaching
9-11	Related to ribs 9-11

The numerical values are traditional approximations, useful for recall rather than precise measurement.

Pelvis & Perineum

Water Under the Bridge

Used to remember: The relationship of the ureter to the uterine artery

Water	Ureter
Bridge	Uterine artery passes over it

S2, 3, 4 Keep the Pelvis Off the Floor

Used to remember: The sacral parasympathetic outflow

S2-S4	Pelvic splanchnic nerves

PIN & PINS

Used to remember: Structures passing below piriformis through the greater sciatic foramen

P	Posterior femoral cutaneous nerve
I	Inferior gluteal nerve and vessels
N	Nerve to quadratus femoris
P	Pudendal nerve
I	Internal pudendal vessels
N	Nerve to obturator internus
S	Sciatic nerve

Mnemonic order varies across sources; use it to recall the infrapiriform contents rather than exact spatial order.

No Internals Tonight, Padre

Used to remember: Structures passing through the lesser sciatic foramen

No Internals	Nerve to obturator internus
Tonight	Tendon of obturator internus
Padre	Pudendal nerve and internal pudendal vessels

Lower Limb

SAIL

Used to remember: The principal boundaries of the femoral triangle

S	Sartorius - lateral
A	Adductor longus - medial
IL	Inguinal Ligament - superior

NAVEL

Used to remember: The contents of the femoral triangle from lateral to medial

N	Femoral Nerve
A	Femoral Artery
V	Femoral Vein
E	Empty space - femoral canal
L	Lymphatics

Interested In Getting Lunch On Friday?

Used to remember: The major branches of the lumbar plexus

Interested	Iliohypogastric
In	Ilioinguinal
Getting	Genitofemoral
Lunch	Lateral femoral cutaneous
On	Obturator
Friday	Femoral

Tiger Cubs Need MILC

Used to remember: The seven tarsal bones

Tiger	Talus
Cubs	Calcaneus
Need	Navicular
M	Medial cuneiform
I	Intermediate cuneiform
L	Lateral cuneiform
C	Cuboid

Lower Limb

Tom, Dick And Very Nervous Harry

Used to remember: The tarsal tunnel contents from anterior to posterior

Tom	Tibialis posterior
Dick	Flexor digitorum longus
And	Posterior tibial artery
Very	Posterior tibial vein
Nervous	Tibial nerve
Harry	Flexor hallucis longus

Serve and Ball Frame; Nerve-Vein-Artery Run Deep

Used to remember: The boundaries and central neurovascular relationship of the popliteal fossa

Serve	Semimembranosus and semitendinosus - superomedial boundary
Ball	Biceps femoris - superolateral boundary
Nerve-Vein-Artery	Central bundle from superficial to deep when viewed posteriorly

The hamstring boundaries are described medial-to-lateral; the central bundle is described superficial-to-deep.

2-2-2 Rule of the Lumbar Plexus

Used to remember: The root pattern of the six main lumbar plexus branches

2 from 1 root	Iliohypogastric and ilioinguinal - L1
2 from 2 roots	Genitofemoral - L1/2; lateral femoral cutaneous - L2/3
2 from 3 roots	Obturator and femoral - L2/3/4

Neuroanatomy

UIM ORIGINAL

Pain Crosses Promptly; Position Crosses in the Medulla

Used to remember: Where the spinothalamic and dorsal column pathways decussate

Pain crosses promptly	Spinothalamic fibres cross within the spinal cord
Position crosses in the medulla	Dorsal column-medial lemniscus fibres cross in the medulla

UIM ORIGINAL

Motor Mostly Crosses in the Medulla

Used to remember: The major decussation of the corticospinal tract

Motor	Most corticospinal fibres cross at the pyramidal decussation in the caudal medulla

2 Midbrain, 4 Pons, 4 Lower Brainstem

Used to remember: Approximate apparent attachment regions of the cranial nerves

Midbrain	III, IV
Pons / pontomedullary region	V, VI, VII, VIII
Medulla / lower brainstem	IX, X, XI, XII

This is an attachment-region aid, not a precise map of nuclei. The spinal component of CN XI arises mainly from the upper cervical cord (approximately C1-C5/6).

Integumentary System

British & Spanish Grannies Love Cornflakes

Used to remember: The epidermal layers from deep to superficial

British	Stratum basale
Spanish	Stratum spinosum
Grannies	Stratum granulosum
Love	Stratum lucidum
Cornflakes	Stratum corneum

Stratum lucidum is present in thick skin.

Integumentary System

PRE TEST

Used to remember: Distinct major functions of the skin

P	Protection and barrier / water-balance function
R	Repair and wound healing
E	Excretion and secretion
T	Thermoregulation
E	Endocrine function, including vitamin D synthesis
S	Sensation
T	Tissue immune surveillance

Rapid Reference

Mnemonic	What it recalls
On Old Olympus's Towering Top...	Cranial nerves
Some Say Money Matters...	Cranial nerve modalities
To Zanzibar By Motor Car	Facial nerve branches
Some Anatomists Like Freaking Out Poor Medical Students	External carotid branches
VIT C and D	Subclavian branches; dorsal scapular origin varies
Rugby Teams Don't Cover Bruises	Brachial plexus organisation
Long-Legged Movers / Make Many Moves Using Muscles / ULTRA	Brachial plexus cord branches
SITS	Rotator cuff
Some Lovers Try Positions That They Can't Handle	Carpal bones
DAB / PAD	Interossei
LOAF	Median-innervated intrinsic hand muscles
Save The Lions And Protect Species	Axillary artery branches
I 8 10 Eggs At 12	Diaphragm openings
C3, 4, 5 Keep the Diaphragm Alive	Phrenic roots
RALS	Pulmonary artery-bronchus relation
MALT	Inguinal canal walls and reinforcements
SAD PUCKER	Posterior abdominal / extraperitoneal structures
DAVE	Portal triad: duct right, artery left, vein posterior
Water Under the Bridge	Ureter under uterine artery
NAVEL	Femoral triangle contents
Interested In Getting Lunch On Friday?	Lumbar plexus
Tiger Cubs Need MILC	Tarsal bones
Tom, Dick And Very Nervous Harry	Tarsal tunnel
Serve and Ball Frame; Nerve-Vein-Artery Run Deep	Popliteal fossa, using two anatomical axes
2 Midbrain, 4 Pons, 4 Lower Brainstem	Approximate cranial-nerve attachment regions
PRE TEST	Distinct functions of skin

Sources consulted

Mnemonic discovery resources were used only to identify candidate memory aids. Medical verification used the following edition-specific anatomy references:

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Editorial note: UIM Original entries remain clearly labelled. Corrected wording was checked against mainstream anatomical teaching before publication.

PART I | BASIC MEDICAL SCIENCES

PHYSIOLOGY MNEMONICS

A comprehensive body-system collection of genuine physiology memory aids

What counts as a mnemonic in this chapter?

Each entry is a real memory device - a phrase, meaningful acronym, rhyme, number pattern or word association. Equations, scores and ordinary abbreviations are excluded.

Contents

Cardiovascular Physiology
Respiratory Physiology
Renal Physiology
Gastrointestinal Physiology
Endocrine Physiology
Neurophysiology
Autonomic Nervous System
Muscle Physiology
Blood & Haemostasis
Reproductive Physiology
Special Senses
Acid-Base & Electrolytes
Temperature Regulation
Rapid Reference

Cardiovascular Physiology

Beta 1 = 1 Heart; Beta 2 = 2 Lungs

Used to remember: The predominant physiological associations of beta receptors

Beta 1	Heart - increases rate and contractility
Beta 2	Bronchial and vascular smooth muscle - relaxation

9 = Carotid; 10 = Aortic

Used to remember: The afferent cranial nerves carrying baroreceptor information

CN IX	Carotid sinus
CN X	Aortic arch

0-1-2-3-4 = Na-K-Ca-K-Rest

Used to remember: The dominant events of the ventricular myocyte action potential

0	Rapid Na+ influx
1	Transient K+ efflux
2	Ca2+ influx - plateau
3	K+ efflux - repolarisation
4	Resting membrane potential

UIM ORIGINAL

Sympathetic = Speed and Strength

Used to remember: The major sympathetic effects on the heart

Speed	Heart rate increases
Strength	Contractility increases

Respiratory Physiology

CADET, face Right!

Used to remember: Factors shifting the oxyhaemoglobin dissociation curve to the right

C	CO2 increased
A	Acid increased / pH decreased
D	2,3-DPG increased
E	Exercise
T	Temperature increased

UIM ORIGINAL

Right = Release; Left = Lock

Used to remember: The physiological meaning of right and left shifts of the oxyhaemoglobin curve

Right shift	Lower oxygen affinity - facilitates unloading
Left shift	Higher oxygen affinity - tighter oxygen binding

UIM ORIGINAL

Bohr = Body; Haldane = Lungs

Used to remember: The difference between the Bohr and Haldane effects

Bohr	CO2/H+ in tissues promotes oxygen unloading
Haldane	Oxygenation of haemoglobin in lungs facilitates CO2 unloading

C3, 4, 5 Keep the Diaphragm Alive

Used to remember: The spinal roots of the phrenic nerve

C3	Contribution
C4	Major contribution
C5	Contribution

UIM ORIGINAL

Emphysema = Easy; Fibrosis = Firm

Used to remember: The contrasting changes in lung compliance

Emphysema	Higher compliance - lungs inflate more easily
Fibrosis	Lower compliance - lungs are stiff

UIM ORIGINAL

Central = CO2; Peripheral = O2 + pH + CO2

Used to remember: The main stimuli sensed by central and peripheral chemoreceptors

Central chemoreceptors	Primarily PaCO2 via CSF H+
Peripheral chemoreceptors	PaO2, PaCO2 and arterial pH

Renal Physiology

UIM ORIGINAL

PCT Takes Plenty

Used to remember: The proximal tubule as the major site of bulk reabsorption

PCT	Most filtered Na+ and water; essentially all glucose and amino acids under normal conditions; much bicarbonate

Descending = Water; Ascending = Salt

Used to remember: The loop of Henle permeability pattern

Descending limb	Relatively permeable to water
Ascending limb	Reabsorbs solute and is relatively impermeable to water

UIM ORIGINAL

ADH Adds H2O

Used to remember: The principal physiological action of antidiuretic hormone

ADH	Increases collecting-duct water permeability via aquaporin-2

UIM ORIGINAL

Aldosterone Saves Sodium, Sends Potassium

Used to remember: The principal distal nephron actions of aldosterone

Sodium	Reabsorption increases
Potassium	Secretion increases
Hydrogen ions	Secretion increases

UIM ORIGINAL

Principal = Potassium

Used to remember: A key function of collecting-duct principal cells

Principal cells	Na+ reabsorption and K+ secretion

UIM ORIGINAL

Renin = Low, Low, Beta

Used to remember: The main physiological stimuli for renin release

Low	Low renal perfusion pressure
Low	Low NaCl delivery to the macula densa
Beta	Beta1 sympathetic stimulation

Gastrointestinal Physiology

UIM ORIGINAL

Gastrin Gets Gastric Acid Going

Used to remember: The principal effect of gastrin

Gastrin	Promotes gastric acid secretion and trophic effects on gastric mucosa

Secretin Secretes Bicarbonate

Used to remember: The principal digestive action of secretin

Secretin	Promotes bicarbonate-rich pancreatic and biliary secretion

UIM ORIGINAL

CCK = Contract, Call Enzymes, Keep

Used to remember: The major actions of cholecystokinin

Contract	Gallbladder contraction
Call enzymes	Stimulates pancreatic enzyme secretion
Keep	Slows gastric emptying

“Call enzymes” is a memory cue: CCK stimulates their secretion; it does not catalyse digestion.

Motilin = Motility

Used to remember: The role of motilin

Motilin	Helps initiate the migrating motor complex during fasting

UIM ORIGINAL

Ghrelin Makes the Stomach Growl

Used to remember: The role of ghrelin

Ghrelin	Stimulates appetite and hunger signalling

UIM ORIGINAL

Somatostatin Stops

Used to remember: The broad inhibitory role of somatostatin

Stops	Multiple endocrine and gastrointestinal secretory processes

Endocrine Physiology

FLAT PiG

Used to remember: The principal anterior pituitary hormones

F	FSH
L	LH
A	ACTH
T	TSH
P	Prolactin
G	Growth hormone

FLAT ChAMP

Used to remember: A classic group of hormones that signal through cAMP

F	FSH
L	LH
A	ACTH
T	TSH
C	CRH
h	hCG
A	ADH V2
M	MSH
P	PTH

Teaching versions vary slightly; this is a commonly used core version.

GOAT HAG

Used to remember: Major Gq/IP3-DAG linked hormones or receptors

G	GnRH
O	Oxytocin
A	ADH V1
T	TRH
H	Histamine H1
A	Angiotensin II
G	Gastrin

VETT CAP

Used to remember: Hormones acting through intracellular/nuclear receptors

V	Vitamin D
E	Estrogen
T	Testosterone
T	Thyroid hormone
C	Cortisol
A	Aldosterone
P	Progesterone

PIGGLET

Used to remember: Commonly taught JAK-STAT-associated hormones and cytokines

P	Prolactin
I	Interferons and selected interleukins
G	Growth hormone
G	G-CSF
L	Leptin
E	Erythropoietin
T	Thrombopoietin

This is a useful, non-exhaustive teaching formulation; not every cytokine uses JAK-STAT.

GFR = Glomerulosa, Fasciculata, Reticularis

Used to remember: The order of the adrenal cortex layers

G	Zona glomerulosa
F	Zona fasciculata
R	Zona reticularis

Salt, Sugar, Sex

Used to remember: The major adrenal cortex products from outer to inner

Salt	Glomerulosa - aldosterone
Sugar	Fasciculata - cortisol
Sex	Reticularis - androgens

PTH = Phosphate Trashed, Calcium High

Used to remember: The characteristic serum effects of parathyroid hormone

Phosphate	Renal excretion increases
Calcium	Serum calcium rises

UIM ORIGINAL

Calcitonin Calms Calcium

Used to remember: The general effect of calcitonin

Calcitonin	Tends to lower serum calcium by opposing osteoclastic bone resorption

UIM ORIGINAL

Insulin Puts IN

Used to remember: The broad anabolic actions of insulin

Glucose	Into insulin-sensitive cells
Potassium	Into cells
Fuel	Into glycogen, fat and protein stores

UIM ORIGINAL

Glucagon Gets Glucose Going

Used to remember: The main fasting actions of glucagon

Glycogenolysis	Increases
Gluconeogenesis	Increases
Ketogenesis	Promoted

Neurophysiology

Na In, K Out

Used to remember: The main ionic movements during a typical neuronal action potential

Na+	Influx drives depolarisation
K+	Efflux drives repolarisation

UIM ORIGINAL

GABA = Brake; Glutamate = Gas

Used to remember: The major inhibitory and excitatory CNS neurotransmitters

GABA	Major inhibitory neurotransmitter
Glutamate	Major excitatory neurotransmitter

UIM ORIGINAL

Glycine = Spinal Brake

Used to remember: The main functional association of glycine

Glycine	Important inhibitory neurotransmitter in spinal cord and brainstem

UIM ORIGINAL

Broca = Broken; Wernicke = Wordy

Used to remember: The classic distinction between Broca and Wernicke aphasia

Broca	Non-fluent output with relatively preserved comprehension
Wernicke	Fluent but poorly meaningful speech with impaired comprehension

Autonomic Nervous System

All Preganglionic = ACh

Used to remember: The neurotransmitter used by all autonomic preganglionic fibres

Sympathetic	Acetylcholine
Parasympathetic	Acetylcholine

Odd Muscarinics = Gq; Even = Gi

Used to remember: Muscarinic receptor G-protein coupling

M1, M3, M5	Gq
M2, M4	Gi

QISS

Used to remember: Adrenergic receptor G-protein coupling

Alpha1	Gq
Alpha2	Gi
Beta1	Gs
Beta2	Gs
Beta3	Gs

UIM ORIGINAL

Eccrine Sweat Is Sympathetic but Cholinergic

Used to remember: The principal sympathetic cholinergic exception

Eccrine sweat glands	Postganglionic sympathetic fibres release acetylcholine during thermoregulatory sweating

This rule applies chiefly to thermoregulatory eccrine glands and should not be generalised to all sweat-gland physiology.

Fight or Flight vs Rest and Digest

Used to remember: The broad functional contrast between sympathetic and parasympathetic systems

Sympathetic	Mobilises cardiovascular and metabolic responses
Parasympathetic	Supports digestion, secretion and energy conservation

Muscle Physiology

T-I-C

Used to remember: The troponin subunits

T	Binds tropomyosin
I	Inhibitory subunit
C	Binds calcium

UIM ORIGINAL

Calcium Uncovers Actin

Used to remember: The role of calcium in skeletal muscle contraction

Calcium	Binds troponin C and shifts tropomyosin away from actin binding sites

UIM ORIGINAL

ATP = Detach

Used to remember: Why ATP is required during cross-bridge cycling

ATP	Binding to myosin permits detachment from actin

UIM ORIGINAL

Type I = Slow and Steady; Type II = Fast and Forceful

Used to remember: The broad physiological characteristics of skeletal muscle fibre types

Type I	Slow oxidative; fatigue resistant
Type II	Faster contraction and greater power

Blood & Haemostasis

UIM ORIGINAL

Platelets Plug; Coagulation Cements

Used to remember: The difference between primary and secondary haemostasis

Platelets	Form the initial haemostatic plug
Coagulation	Generates fibrin to stabilise it

2, 7, 9, 10 - Vitamin K Does Them

Used to remember: The vitamin K-dependent coagulation factors

II	Prothrombin
VII	Factor VII
IX	Factor IX
X	Factor X

Proteins C and S are also vitamin K dependent.

Intrinsic = 12-11-9-8; Common = 10-5-2-1

Used to remember: The classic coagulation cascade sequences

Intrinsic	XII -> XI -> IX with VIII
Common	X -> V -> II -> I

UIM ORIGINAL

Extrinsic = Seven

Used to remember: The classic extrinsic pathway

VII	Factor VII with tissue factor

Reproductive Physiology

FSH = Follicle / Sertoli

Used to remember: The main gonadal targets of FSH

Female	Follicular / granulosa-cell function
Male	Sertoli cells and spermatogenesis

LH = Luteum / Leydig

Used to remember: The main gonadal targets of LH

Female	Ovulation and corpus luteum support
Male	Leydig-cell testosterone production

FOL

Used to remember: The sequence of the ovarian cycle

F	Follicular phase
O	Ovulation
L	Luteal phase

UIM ORIGINAL

Sertoli Supports Sperm

Used to remember: The core physiological role of Sertoli cells

Sertoli	Supports germ-cell development and regulates spermatogenesis

UIM ORIGINAL

hCG Holds the Corpus Luteum

Used to remember: The major early-pregnancy role of hCG

hCG	Maintains corpus luteum progesterone production in early pregnancy

Special Senses

Rods = Night; Cones = Colour

Used to remember: The major functions of retinal photoreceptors

Rods	Dim-light vision
Cones	Colour vision and high acuity

UIM ORIGINAL

Rods Are Rural; Cones Are Central

Used to remember: The broad retinal distribution of rods and cones

Rods	Predominate in peripheral retina
Cones	Concentrated centrally, especially at the fovea

S-M-L = Short-Medium-Long

Used to remember: Cone wavelength sensitivity

S cones	Short-wavelength sensitive - conventionally associated with blue
M cones	Medium-wavelength sensitive - conventionally associated with green
L cones	Long-wavelength sensitive - conventionally associated with red

Cone sensitivities overlap; the colour names are convenient associations, not exclusive detection bands.

Near Response = 3 Cs

Used to remember: The components of the near response

C1	Convergence
C2	Constriction of pupils
C3	Change in lens curvature - accommodation

Acid-Base & Electrolytes

ROME

Used to remember: The direction of pH change in primary acid-base disorders

R	Respiratory
O	Opposite: pH and $PaCO_2$ move oppositely
M	Metabolic
E	Equal: pH and bicarbonate move in the same direction

Useful for the basic primary pattern, not for compensation or mixed disorders.

Sodium Outside, Potassium Inside

Used to remember: The major cation distribution across cell membranes

Extracellular	Sodium predominates
Intracellular	Potassium predominates

3 Na Out, 2 K In

Used to remember: Na^+/K^+ ATPase stoichiometry

3 Na^+	Moved out of the cell
2 K^+	Moved into the cell

UIM ORIGINAL

Acidosis Pushes K Out; Alkalosis Pulls K In

Used to remember: The broad transcellular H+/K+ relationship

Acidosis	Often shifts potassium out of cells
Alkalosis	Often shifts potassium into cells

This is a useful generalisation, but the potassium response varies with the mechanism of the acid-base disorder.

Temperature Regulation

UIM ORIGINAL

Hot = Dilate and Sweat; Cold = Constrict and Shiver

Used to remember: The major thermoregulatory responses

Hot	Cutaneous vasodilation and sweating
Cold	Vasoconstriction and shivering

UIM ORIGINAL

Anterior = Air Conditioning; Posterior = Produces Heat

Used to remember: The broad hypothalamic roles in thermoregulation

Anterior hypothalamus	Promotes heat loss
Posterior hypothalamus	Supports heat conservation and production

Rapid Reference

Mnemonic	What it recalls
Beta 1 = 1 Heart; Beta 2 = 2 Lungs	Beta receptor associations
9 = Carotid; 10 = Aortic	Baroreceptor afferents
0-1-2-3-4 = Na-K-Ca-K-Rest	Ventricular action potential
CADET, face Right!	Right shift of oxyhaemoglobin curve
Bohr = Body; Haldane = Lungs	Bohr vs Haldane effects
C3, 4, 5 Keep the Diaphragm Alive	Phrenic roots
Descending = Water; Ascending = Salt	Loop of Henle
ADH Adds H2O	ADH action
Aldosterone Saves Sodium, Sends Potassium	Aldosterone action
CCK = Contract, Call Enzymes, Keep	CCK actions
FLAT PiG	Anterior pituitary hormones
FLAT ChAMP	cAMP-linked hormones
GOAT HAG	Gq-linked hormones/receptors
VETT CAP	Intracellular receptor hormones
PIGGLET	JAK-STAT examples; I = interferons / selected interleukins
Salt, Sugar, Sex	Adrenal cortex products
GABA = Brake; Glutamate = Gas	CNS neurotransmitters
Odd Muscarinics = Gq; Even = Gi	Muscarinic coupling
QISS	Adrenergic coupling
Eccrine Sweat Is Sympathetic but Cholinergic	Thermoregulatory eccrine sweating
T-I-C	Troponin subunits
2, 7, 9, 10 - Vitamin K Does Them	Vitamin K factors
FSH = Follicle / Sertoli	FSH targets
LH = Luteum / Leydig	LH targets
Rods = Night; Cones = Colour	Photoreceptors
S-M-L = Short-Medium-Long	Overlapping cone wavelength sensitivities
Near Response = 3 Cs	Near response
ROME	Acid-base pattern
3 Na Out, 2 K In	Na/K ATPase

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Editorial note: UIM Original entries remain clearly labelled. Corrected wording was rechecked against mainstream physiology references before publication.

PART I | BASIC MEDICAL SCIENCES

BIOCHEMISTRY MNEMONICS

A comprehensive topic-based collection of genuine biochemical memory aids

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What counts as a mnemonic in this chapter?

Each entry is a real memory device - a phrase, meaningful acronym, rhyme, word association or number pattern. Bare pathways and equations are excluded unless the mnemonic itself helps recall them.

Contents

Vitamins & Cofactors
Amino Acids
Carbohydrate Metabolism
Krebs Cycle & Oxidative Phosphorylation
Lipid Metabolism
Urea Cycle & Nitrogen Metabolism
Nucleotide Metabolism
Glycogen Storage Disorders
Lysosomal Storage Disorders
Amino-Acid Disorders
Haem & Porphyrin Metabolism
Molecular Biology & Cell Cycle
Rapid Reference

Vitamins & Cofactors

ADEK

Used to remember: The fat-soluble vitamins

A	Vitamin A
D	Vitamin D
E	Vitamin E
K	Vitamin K

Pellagra = The 4 Ds

Used to remember: The classic manifestations of niacin deficiency

D1	Dermatitis
D2	Diarrhoea
D3	Dementia
D4	Death

UIM ORIGINAL

B1 = Beriberi + Brain

Used to remember: The key clinical consequences of thiamine deficiency

Beriberi	Cardiac or neurological manifestations
Brain	Wernicke-Korsakoff syndromes

Wernicke = C-A-E

Used to remember: The classic Wernicke encephalopathy triad

C	Confusion
A	Ataxia
E	Eye movement abnormalities

The complete triad is often absent clinically.

UIM ORIGINAL

B6 = Blood + Brain

Used to remember: The broad physiological roles affected in pyridoxine deficiency

Blood	Haem synthesis - sideroblastic anaemia may occur
Brain	Neurotransmitter synthesis - neuropathy/seizures may occur

UIM ORIGINAL

B12 = Blood + Brain; Folate = Blood

Used to remember: The key clinical distinction between vitamin B12 and folate deficiency

Vitamin B12	Megaloblastic anaemia plus neurological dysfunction
Folate	Megaloblastic anaemia without the typical B12 neurological syndrome

Vitamin C = Collagen

Used to remember: The major connective-tissue association of vitamin C

C	Collagen hydroxylation and connective-tissue integrity

2, 7, 9, 10 - Vitamin K Does Them

Used to remember: The vitamin K-dependent coagulation factors

II	Prothrombin
VII	Factor VII
IX	Factor IX
X	Factor X

Proteins C and S are also vitamin K dependent.

Amino Acids

PVT TIM HALL

Used to remember: The nine essential amino acids plus conditionally essential arginine

P	Phenylalanine
V	Valine
T	Threonine
T	Tryptophan
I	Isoleucine
M	Methionine
H	Histidine
A	Arginine - conditionally essential during growth and selected stress states
L	Leucine
L	Lysine

Arginine is not universally essential in healthy adults; it is retained as a clearly labelled conditional addition.

LIV

Used to remember: The branched-chain amino acids

L	Leucine
I	Isoleucine
V	Valine

Aromatic = Phe, Tyr, Trp

Used to remember: The aromatic amino acids

Phe	Phenylalanine
Tyr	Tyrosine
Trp	Tryptophan

UIM ORIGINAL

Tyrosine Makes C-M-T

Used to remember: Major products derived from tyrosine

C	Catecholamines
M	Melanin
T	Thyroid hormones

C-M-T gives a direct one-to-one letter mapping for the three major product groups.

Tryptophan = Serotonin, Melatonin, Niacin

Used to remember: Major products derived from tryptophan

Serotonin	Neurotransmitter
Melatonin	Pineal hormone
Niacin	Vitamin B3 pathway

Carbohydrate Metabolism

Glycolysis Irreversible = 1, 3, 10

Used to remember: The three major irreversible glycolytic reactions

1	Hexokinase / glucokinase
3	Phosphofructokinase-1
10	Pyruvate kinase

UIM ORIGINAL

PFK Sets the Pace

Used to remember: The major rate-limiting regulatory enzyme of glycolysis

PFK-1	Phosphofructokinase-1

UIM ORIGINAL

PPP = Pentose + Protection

Used to remember: The two major high-yield outputs of the pentose phosphate pathway

Pentose	Ribose-5-phosphate for nucleotide synthesis
Protection	NADPH for reductive reactions and antioxidant defence

UIM ORIGINAL

NADPH = Fat, Phagocytes, Glutathione

Used to remember: Important uses of NADPH

Fat	Fatty-acid and cholesterol synthesis
Phagocytes	Respiratory burst
Glutathione	Maintains reduced glutathione

UIM ORIGINAL

G6PD Guards Glutathione

Used to remember: Why G6PD is important in red cells

G6PD	Provides NADPH through the pentose phosphate pathway
Glutathione	Keeps glutathione reduced and protects against oxidative injury

Krebs Cycle & Oxidative Phosphorylation

Citrate Is Krebs' Starting Substrate For Making Oxaloacetate

Used to remember: The Krebs-cycle intermediate sequence

Citrate	Citrate
Is	Isocitrate
Krebs'	alpha-Ketoglutarate
Starting	Succinyl-CoA
Substrate	Succinate
For	Fumarate
Making	Malate
Oxaloacetate	Oxaloacetate

1, 3 and 4 Pump

Used to remember: The electron transport chain complexes that pump protons

Complex I	Pumps H+
Complex II	Does not pump H+
Complex III	Pumps H+
Complex IV	Pumps H+

UIM ORIGINAL

Complex II Does Two Jobs

Used to remember: The special role of Complex II

Job 1	Succinate dehydrogenase in the Krebs cycle
Job 2	Electron transport chain Complex II

UIM ORIGINAL

Oxygen Is the Final Receiver

Used to remember: The role of oxygen in oxidative phosphorylation

Oxygen	Final electron acceptor at Complex IV, reduced to water

Lipid Metabolism

UIM ORIGINAL

LDL Delivers; HDL Hauls Back

Used to remember: The broad transport roles of LDL and HDL

LDL	Delivers cholesterol to peripheral tissues
HDL	Participates in reverse cholesterol transport

UIM ORIGINAL

Apo B-48 = Bowel; Apo B-100 = Body

Used to remember: Where the two ApoB forms are used

B-48	Chylomicrons - intestinal origin
B-100	VLDL, IDL and LDL - hepatic/systemic pathway

UIM ORIGINAL

Apo C-II Clears Triglycerides

Used to remember: The main function of Apo C-II

Apo C-II	Activates lipoprotein lipase

UIM ORIGINAL

Apo E = Entry to the Liver

Used to remember: The main function of Apo E

Apo E	Mediates hepatic uptake of remnant particles

UIM ORIGINAL

Carnitine Carries Long Chains

Used to remember: The role of carnitine in fatty-acid oxidation

Carnitine	Transports long-chain fatty acyl groups into mitochondria

Urea Cycle & Nitrogen Metabolism

UIM ORIGINAL

OTC = Orotic Acid + X-Linked

Used to remember: The classic high-yield association in ornithine transcarbamylase deficiency

Orotic acid	Increased
X-linked	Inheritance pattern

UIM ORIGINAL

Ammonia Attacks the Brain

Used to remember: Why hyperammonaemia is dangerous

Brain	Confusion, seizures, cerebral oedema and coma

UIM ORIGINAL

CPS-I Starts the Cycle

Used to remember: The first committed mitochondrial step of the urea cycle

CPS-I	Carbamoyl phosphate synthetase I

Nucleotide Metabolism

HGPRT = Lesch-Nyhan

Used to remember: The purine salvage defect in Lesch-Nyhan syndrome

HGPRT	Hypoxanthine-guanine phosphoribosyltransferase deficiency
Clinical clue	Hyperuricaemia with neurological/self-injurious features

ADA = SCID

Used to remember: The classic purine-metabolism defect causing severe combined immunodeficiency

ADA	Adenosine deaminase deficiency
SCID	Severe combined immunodeficiency

UIM ORIGINAL

Orotic Acid + No Ammonia = UMP Synthase

Used to remember: How hereditary orotic aciduria differs from OTC deficiency

Orotic acid	Increased
Hyperammonaemia	Absent in the classic UMP synthase disorder

Glycogen Storage Disorders

Von Gierke Can't Give Glucose

Used to remember: Glycogen storage disease type I

GSD Ia defect	Glucose-6-phosphatase deficiency
GSD Ib defect	Glucose-6-phosphate transporter (SLC37A4) deficiency
Shared clues	Fasting hypoglycaemia, hepatomegaly and lactic acidosis

Both subtypes impair the glucose-6-phosphatase system, but they do not have the same molecular defect.

Pompe Affects the Pump

Used to remember: Glycogen storage disease type II

Defect	Lysosomal acid alpha-glucosidase
Clue	Cardiomyopathy and muscle weakness

UIM ORIGINAL

Cori Can't Debranch

Used to remember: Glycogen storage disease type III

Defect	Debranching enzyme

McArdle = Muscle

Used to remember: Glycogen storage disease type V

Defect	Muscle glycogen phosphorylase
Clues	Exercise intolerance, cramps and second-wind phenomenon

Lysosomal Storage Disorders

Tay-Sachs = Hex A

Used to remember: The enzyme defect in Tay-Sachs disease

Hex A	Hexosaminidase A deficiency
Accumulation	GM2 ganglioside
Classic clue	Neurodegeneration with cherry-red macula; no hepatosplenomegaly

Niemann-Pick = Sphingomyelinase

Used to remember: The classic enzyme defect in Niemann-Pick types A/B

Defect	Acid sphingomyelinase deficiency
Clue	Hepatosplenomegaly; neurological disease prominent in type A

Gaucher = Glucocerebrosidase

Used to remember: The enzyme defect in Gaucher disease

Defect	Glucocerebrosidase deficiency
Clues	Hepatosplenomegaly, cytopenias, bone disease

Fabry = Alpha-Gal A

Used to remember: The enzyme defect in Fabry disease

Defect	Alpha-galactosidase A deficiency
Inheritance	X-linked
Clues	Neuropathic pain, angiokeratomas, renal/cardiac disease

Krabbe = Galactocerebrosidase

Used to remember: The enzyme defect in Krabbe disease

Defect	Galactocerebrosidase deficiency
Clue	Peripheral neuropathy, developmental regression, globoid cells

Amino-Acid Disorders

UIM ORIGINAL

PKU = Phenylalanine Can't Proceed

Used to remember: The metabolic block in phenylketonuria

Defect	Usually phenylalanine hydroxylase
Result	Phenylalanine accumulates; tyrosine becomes conditionally essential

MSUD = LIV

Used to remember: The branched-chain amino acids affected in maple syrup urine disease

L	Leucine
I	Isoleucine
V	Valine

Homocystinuria = Marfanoid + Thrombosis

Used to remember: The two major clinical pattern-recognition clues

Marfanoid	Long-limbed habitus
Thrombosis	Important vascular complication

UIM ORIGINAL

Alkaptonuria Darkens

Used to remember: The classic features of alkaptonuria

Urine	Darkens on standing
Ochronosis	Dark connective-tissue pigmentation

Haem & Porphyrin Metabolism

UIM ORIGINAL

Lead Blocks ALA and Ferro

Used to remember: The two major haem-synthesis enzymes inhibited by lead

ALA	ALA dehydratase
Ferro	Ferrochelatase

AIP = The 5 Ps

Used to remember: Classic features of acute intermittent porphyria

P1	Pain - especially abdominal
P2	Port-wine / dark urine
P3	Polyneuropathy
P4	Psychiatric symptoms
P5	Precipitated by drugs, fasting or hormones

Mnemonic variants exist; use as a broad recall aid.

UIM ORIGINAL

Porphyria Cutanea Tarda = Photosensitive Skin

Used to remember: The defining clinical pattern in porphyria cutanea tarda

Skin	Fragile blistering photosensitive skin on exposed areas

Molecular Biology & Cell Cycle

A-T, G-C

Used to remember: DNA base pairing

A-T	Adenine pairs with thymine
G-C	Guanine pairs with cytosine

UIM ORIGINAL

GC Gets 3

Used to remember: The hydrogen-bond difference between base pairs

A-T	2 hydrogen bonds
G-C	3 hydrogen bonds

UIM ORIGINAL

RNA Uses U

Used to remember: The base used in RNA instead of thymine

U	Uracil replaces thymine

UIM ORIGINAL

5 to 3 - That's the Way to Be

Used to remember: The direction of nucleic-acid synthesis

DNA polymerase	Synthesises 5' to 3'
RNA polymerase	Synthesises 5' to 3'

PMAT

Used to remember: The main stages of mitosis

P	Prophase
M	Metaphase
A	Anaphase
T	Telophase

UIM ORIGINAL

G1-S-G2-M = Grow, Synthesise, Get Ready, Multiply

Used to remember: The basic cell-cycle sequence

G1	Growth
S	DNA synthesis
G2	Preparation for mitosis
M	Mitosis

UIM ORIGINAL

Meiosis I = Homologues; Meiosis II = Sisters

Used to remember: What separates during the two meiotic divisions

Meiosis I	Homologous chromosomes
Meiosis II	Sister chromatids

Rapid Reference

Mnemonic	What it recalls
ADEK	Fat-soluble vitamins
The 4 Ds	Pellagra
PVT TIM HALL	Nine essential amino acids plus conditionally essential arginine
LIV	Branched-chain amino acids
Tyrosine Makes C-M-T	Catecholamines, melanin and thyroid hormones
1-3-10	Irreversible glycolysis steps
PPP = Pentose + Protection	Pentose phosphate pathway
1, 3 and 4 Pump	ETC proton-pumping complexes
LDL Delivers; HDL Hauls Back	Lipoprotein roles
Apo B-48 = Bowel; B-100 = Body	ApoB forms
OTC = Orotic Acid + X-Linked	OTC deficiency
HGPRT = Lesch-Nyhan	Purine salvage defect
Von Gierke Can't Give Glucose	GSD I: Ia enzyme; Ib transporter
Pompe Affects the Pump	GSD II
McArdle = Muscle	GSD V
Tay-Sachs = Hex A	Lysosomal storage disease
Gaucher = Glucocerebrosidase	Lysosomal storage disease
PKU = Phenylalanine Can't Proceed	Phenylketonuria
MSUD = LIV	Maple syrup urine disease
Lead Blocks ALA and Ferro	Lead and haem synthesis
PMAT	Mitosis
5 to 3 - That's the Way to Be	Nucleic-acid synthesis

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PART I | BASIC MEDICAL SCIENCES

GENETICS MNEMONICS

A comprehensive quick-reference collection of genuine genetics memory aids

Editorial approach
Only real memory devices are included: phrases, meaningful acronyms, number patterns and associations that help recall inheritance patterns, chromosomal disorders, molecular genetics and classic syndromes.

Contents

Patterns of Inheritance
Chromosomal Disorders
Trinucleotide Repeat Disorders
Genomic Imprinting
Mitochondrial Genetics
DNA Repair Disorders
Cancer Genetics
Classic Genetic Syndromes
Molecular Genetics
Rapid Reference

Patterns of Inheritance

Autosomal Dominant = Vertical

Used to remember: The typical pedigree pattern of autosomal dominant inheritance

Vertical	Affected individuals are often seen in successive generations
Both sexes	Males and females affected
Male-to-male	Transmission can occur

Autosomal Recessive = Horizontal

Used to remember: The typical pedigree pattern of autosomal recessive inheritance

Horizontal	Affected siblings may cluster in one generation
Parents	Often unaffected carriers
Both sexes	Males and females affected similarly

X-Linked Recessive = No Father-to-Son

Used to remember: The key pedigree rule for X-linked recessive inheritance

Father	Passes Y, not X, to sons
Therefore	No direct father-to-son transmission

UIM ORIGINAL

Mothers Carry, Sons Show

Used to remember: The classic pattern often seen in X-linked recessive disorders

Carrier mother	May transmit the variant to sons
Affected sons	Express the disorder with one affected X chromosome

UIM ORIGINAL

X-Linked Dominant = Dad Gives to All Daughters

Used to remember: The hallmark paternal transmission pattern of X-linked dominant inheritance

Affected father	Transmits the affected X to all daughters
Affected father	Transmits no X to sons

Mitochondrial = Mother to All, Father to None

Used to remember: The transmission pattern of mitochondrial DNA

Affected mother	Can transmit to sons and daughters
Affected father	Does not transmit mitochondrial DNA

Chromosomal Disorders

Patau 13, Edwards 18, Down 21

Used to remember: The three major viable autosomal trisomies

13	Patau syndrome
18	Edwards syndrome
21	Down syndrome

Turner = 45,X; Klinefelter = 47,XXY

Used to remember: The classic sex-chromosome karyotypes

Turner syndrome	45,X
Klinefelter syndrome	47,XXY

UIM ORIGINAL

Turner Is Short One X

Used to remember: The chromosome pattern in Turner syndrome

Short one X	Monosomy X - 45,X

UIM ORIGINAL

Klinefelter Has an Extra X

Used to remember: The chromosome pattern in Klinefelter syndrome

Extra X	47,XXY

UIM ORIGINAL

Cri-du-chat = Cry + 5p

Used to remember: The classic deletion in cri-du-chat syndrome

Cry	Characteristic high-pitched cry in infancy
5p	Deletion of the short arm of chromosome 5

DiGeorge = 22q11

Used to remember: The chromosome deletion associated with DiGeorge syndrome

22q11.2	Microdeletion

Williams = 7q11.23

Used to remember: The chromosome region deleted in Williams syndrome

7q11.23	Typical microdeletion involving ELN among other genes

Trinucleotide Repeat Disorders

Huntington = CAG

Used to remember: The repeat expansion in Huntington disease

CAG	Expanded repeat in HTT

Fragile X = CGG

Used to remember: The repeat expansion in Fragile X syndrome

CGG	Expanded repeat in FMR1

Myotonic Dystrophy = CTG

Used to remember: The repeat expansion in myotonic dystrophy type 1

CTG	Expanded repeat in DMPK

Friedreich Ataxia = GAA

Used to remember: The repeat expansion in Friedreich ataxia

GAA	Expanded repeat in FXN

UIM ORIGINAL

Anticipation = Earlier and Worse

Used to remember: The clinical effect of unstable repeat expansion across generations

Earlier	Disease may appear at a younger age
Worse	Severity may increase in later generations

Genomic Imprinting

Prader = Paternal Missing

Used to remember: The parental contribution lost in Prader-Willi syndrome

Paternal	Loss of paternally expressed genes in 15q11-q13

Angelman = Maternal Missing

Used to remember: The parental contribution lost in Angelman syndrome

Maternal	Loss of maternally expressed UBE3A function in the relevant region

UIM ORIGINAL

Same Chromosome, Different Parent, Different Syndrome

Used to remember: The principle behind Prader-Willi and Angelman syndromes

15q11-q13	Same broad chromosomal region
Parent of origin	Determines phenotype through imprinting

Mitochondrial Genetics

MELAS = Mitochondria, Encephalopathy, Lactic Acidosis, Stroke-like

Used to remember: The major features encoded by MELAS

M	Mitochondrial
E	Encephalomyopathy
LA	Lactic acidosis
S	Stroke-like episodes

MERRF = Myoclonic Epilepsy with Ragged-Red Fibres

Used to remember: The syndrome name and defining association

M	Myoclonic
E	Epilepsy
RRF	Ragged-red fibres

LHON = Leber's Hereditary Optic Neuropathy

Used to remember: A classic maternally inherited mitochondrial optic neuropathy

LHON	Leber hereditary optic neuropathy

UIM ORIGINAL

Heteroplasmy = Mixed Mitochondria

Used to remember: Why mitochondrial disease severity varies

Mixed	Cells may contain both normal and mutant mitochondrial DNA
Threshold	Clinical disease depends partly on mutant load and tissue threshold

DNA Repair Disorders

UIM ORIGINAL

XP = UV Repair Problem

Used to remember: The core defect in xeroderma pigmentosum

UV damage	Defective nucleotide excision repair
Result	Extreme photosensitivity and skin-cancer risk

UIM ORIGINAL

Lynch = Mismatch

Used to remember: The DNA repair pathway implicated in Lynch syndrome

Mismatch repair	MLH1, MSH2, MSH6, PMS2 or EPCAM-associated silencing

UIM ORIGINAL

BRCA = Break Repair

Used to remember: The role of BRCA1/2 in DNA repair

Breaks	Homologous recombination repair of double-strand breaks

ATM = Ataxia Telangiectasia Mutation

Used to remember: The gene defect in ataxia-telangiectasia

ATM	DNA damage-response kinase
Clinical clue	Ataxia, telangiectasia, immunodeficiency, radiosensitivity

Cancer Genetics

UIM ORIGINAL

Two Hits for Tumour Suppressors

Used to remember: Knudson's two-hit concept

Hit 1	One tumour-suppressor allele inactivated
Hit 2	Second functional allele lost or inactivated

UIM ORIGINAL

RB = Retina + Bone

Used to remember: The classic tumour associations of RB1

Retina	Retinoblastoma
Bone	Osteosarcoma risk in hereditary disease

APC = Adenomatous Polyposis Coli

Used to remember: The established APC gene name and its key disease association

A	Adenomatous
P	Polyposis
C	Coli

Pathogenic APC variants underlie familial adenomatous polyposis; “coli” is the established gene-name expansion.

MEN 2 = RET

Used to remember: The gene associated with MEN type 2

RET	Activating proto-oncogene variant

UIM ORIGINAL

VHL = Vessels, Hemangioblastomas, Lesions

Used to remember: Major disease associations of von Hippel-Lindau syndrome

Vessels	Highly vascular tumours
Hemangioblastomas	CNS and retinal
Lesions	Clear-cell renal cell carcinoma, phaeochromocytoma and others

Classic Genetic Syndromes

Marfan = FBN1

Used to remember: The gene associated with Marfan syndrome

FBN1	Fibrillin-1

Ehlers-Danlos = Collagen

Used to remember: The broad molecular association in Ehlers-Danlos syndromes

Collagen	Multiple EDS subtypes involve collagen synthesis, structure or related extracellular-matrix pathways

Achondroplasia = FGFR3

Used to remember: The gene associated with achondroplasia

FGFR3	Gain-of-function variant

NF1 = Chromosome 17; NF2-Related Schwannomatosis = Chromosome 22

Used to remember: The chromosome locations of the NF1 and NF2 genes

NF1	Chromosome 17
NF2	Chromosome 22

NF2-related schwannomatosis is the current consensus disorder name; it was formerly called neurofibromatosis type 2.

Tuberous Sclerosis = TSC1 / TSC2

Used to remember: The genes associated with tuberous sclerosis complex

TSC1	Hamartin
TSC2	Tuberin

PKD1 = 16; PKD2 = 4

Used to remember: The main genes in autosomal dominant polycystic kidney disease

PKD1	Chromosome 16
PKD2	Chromosome 4

Molecular Genetics

UIM ORIGINAL

DNA Reads 3 to 5, Makes 5 to 3

Used to remember: The directional relationship between template reading and nucleic-acid synthesis

Template	Read 3' to 5'
New strand	Synthesised 5' to 3'

Start = AUG; Stop = UAA, UAG, UGA

Used to remember: The major translation start and stop codons

AUG	Start codon - methionine
UAA / UAG / UGA	Stop codons

U Are Annoying, U Go Away, U Are Gone

Used to remember: The three stop codons

UAA	U Are Annoying
UGA	U Go Away
UAG	U Are Gone

UIM ORIGINAL

Exons Exit the Nucleus; Introns In-between

Used to remember: The broad distinction between exons and introns

Exons	Retained in mature RNA sequence
Introns	Removed during RNA splicing

UIM ORIGINAL

Silent, Missense, Nonsense = Same, Swap, Stop

Used to remember: The three common coding consequences of point mutations

Silent	Same amino acid
Missense	Different amino acid
Nonsense	Premature stop codon

UIM ORIGINAL

Frameshift = Reading Frame Falls Apart

Used to remember: The effect of insertion/deletion not divisible by three

Frameshift	Changes downstream codon reading frame

Rapid Reference

Mnemonic	What it recalls
Autosomal Dominant = Vertical	AD pedigree
Autosomal Recessive = Horizontal	AR pedigree
No Father-to-Son	X-linked recessive
Mother to All, Father to None	Mitochondrial inheritance
Patau 13, Edwards 18, Down 21	Autosomal trisomies
Huntington = CAG	Huntington disease
Fragile X = CGG	Fragile X
Myotonic dystrophy = CTG	DM1
Friedreich ataxia = GAA	Friedreich ataxia
Prader = Paternal Missing	Prader-Willi
Angelman = Maternal Missing	Angelman
Lynch = Mismatch	Mismatch repair
BRCA = Break Repair	Homologous recombination
APC = Adenomatous Polyposis Coli	Familial adenomatous polyposis
MEN 2 = RET	MEN2
NF2-Related Schwannomatosis = Chromosome 22	Current NF2 disorder terminology
Start AUG; Stops UAA/UAG/UGA	Translation codons
Same, Swap, Stop	Silent, missense and nonsense variants

Principal verification references

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2. Turnpenny PD, Ellard S, Cleaver R. Emery's Elements of Medical Genetics and Genomics. 16th ed. Elsevier; 2021.
3. Kumar V, Abbas AK, Aster JC. Robbins & Cotran Pathologic Basis of Disease. 11th ed. Elsevier; 2025.
4. GeneReviews. APC-Associated Polyposis Conditions and NF2-Related Schwannomatosis. NCBI Bookshelf.

UIM Original entries remain clearly labelled; corrected terminology was rechecked before publication.

PART I | BASIC MEDICAL SCIENCES

PATHOLOGY MNEMONICS

A comprehensive collection of genuine pathology memory aids

Editorial approach
Only real memory devices are included: phrases, meaningful acronyms, number patterns and high-yield associations. The chapter is organised from general pathology to systemic pathology.

Contents

Cell Injury & Adaptation
Inflammation
Wound Healing
Thrombosis & Embolism
Neoplasia
Haematopathology
Cardiovascular Pathology
Respiratory Pathology
Gastrointestinal & Liver Pathology
Renal Pathology
Endocrine Pathology
Neuropathology
Bone & Joint Pathology
Rapid Reference

Cell Injury & Adaptation

Size Up; Number Up; Shrink; Switch

Used to remember: The four major cellular adaptations

Size Up	Hypertrophy - increased cell size
Number Up	Hyperplasia - increased cell number
Shrink	Atrophy - reduced cell size and often cell number
Switch	Metaplasia - reversible replacement by another mature cell type

The four cues map directly to the standard adaptive responses; the incomplete HAT mnemonic has been retired.

UIM ORIGINAL

Necrosis Is Nasty; Apoptosis Is Orderly

Used to remember: The broad distinction between necrosis and apoptosis

Necrosis	Membrane disruption, inflammation and uncontrolled injury
Apoptosis	Programmed cell death with minimal inflammation

UIM ORIGINAL

Coagulative Keeps the Contour

Used to remember: The characteristic morphology of coagulative necrosis

Contour	Tissue architecture is initially preserved despite cell death

Liquefactive = Liquid

Used to remember: The gross outcome of liquefactive necrosis

Liquid	Enzymatic digestion converts tissue into a viscous or liquid mass

Caseous = Cheese

Used to remember: The gross appearance of caseous necrosis

Cheese	Soft, friable, white 'cheese-like' material

UIM ORIGINAL

Fat Necrosis = Chalky Calcium

Used to remember: The gross clue of enzymatic fat necrosis

Chalky	Saponification with calcium-soap formation

Inflammation

RUBOR, CALOR, TUMOR, DOLOR, FUNCTIO LAESA

Used to remember: The five classic signs of inflammation

Rubor	Redness
Calor	Heat
Tumor	Swelling
Dolor	Pain
Functio laesa	Loss of function

UIM ORIGINAL

Neutrophils = Now; Macrophages = Later

Used to remember: The typical timing of inflammatory cell predominance

Neutrophils	Predominate early in acute inflammation
Macrophages	Become prominent later and in chronic inflammation

UIM ORIGINAL

Histamine = Heat and Hives

Used to remember: The key vascular effects of histamine

Heat	Vasodilation
Hives	Increased vascular permeability

UIM ORIGINAL

Bradykinin = Burns

Used to remember: The mediator strongly associated with pain

Burns	Bradykinin contributes to pain

UIM ORIGINAL

C3a, C5a = Anaphylatoxins; C5a Calls Neutrophils

Used to remember: The inflammatory roles of complement fragments

C3a/C5a	Anaphylatoxins
C5a	Powerful chemotactic factor for neutrophils

UIM ORIGINAL

Granuloma = Giants + Macrophages

Used to remember: The cellular pattern of granulomatous inflammation

Macrophages	Activated epithelioid histiocytes
Giants	Multinucleated giant cells may be present

Wound Healing

Inflammation, Proliferation, Remodelling - IPR

Used to remember: The three broad phases of wound healing

I	Inflammation
P	Proliferation
R	Remodelling

Type III First, Type I Later

Used to remember: The collagen transition during wound healing

Type III	Laid down early
Type I	Becomes predominant during remodelling

Vitamin C = Collagen

Used to remember: The key nutritional requirement for collagen hydroxylation

Vitamin C	Required for proline and lysine hydroxylation in collagen synthesis

UIM ORIGINAL

Keloid Keeps Growing

Used to remember: The distinction between keloid and hypertrophic scars

Keloid	Extends beyond the original wound boundaries
Hypertrophic scar	Remains within original wound

Thrombosis & Embolism

Virchow's Triad = Stasis, Injury, Hypercoagulability

Used to remember: The three major contributors to thrombosis

Stasis	Abnormal blood flow
Injury	Endothelial injury
Hypercoagulability	Inherited or acquired prothrombotic state

UIM ORIGINAL

DVT Loves the Legs

Used to remember: The common source of pulmonary thromboembolism

Legs	Deep veins of the lower limbs are the most common source

UIM ORIGINAL

Lines of Zahn = Layers of Life

Used to remember: Why Lines of Zahn indicate antemortem thrombosis

Layers	Alternating platelet/fibrin and red-cell layers form in flowing blood

UIM ORIGINAL

Fat Embolism = Lungs, Brain, Skin

Used to remember: The classic organ pattern of fat embolism syndrome

Lungs	Respiratory distress
Brain	Neurological features
Skin	Petechial rash

Neoplasia

CAUTION

Used to remember: Classic warning features of malignancy

C	Change in bowel or bladder habits
A	A sore that does not heal
U	Unusual bleeding or discharge
T	Thickening or lump
I	Indigestion or difficulty swallowing
O	Obvious change in a wart or mole
N	Nagging cough or hoarseness

A traditional public-health mnemonic; individual cancers may present differently.

UIM ORIGINAL

Anaplasia = Atypia

Used to remember: The broad morphological appearance of poorly differentiated malignant cells

Atypia	Pleomorphism, hyperchromasia, abnormal mitoses and loss of differentiation

UIM ORIGINAL

Benign Pushes; Malignant Invades

Used to remember: The typical growth behaviour of benign versus malignant tumours

Benign	Often expansile and circumscribed
Malignant	Characteristically invades surrounding tissue

UIM ORIGINAL

Carcinoma = Covering; Sarcoma = Support

Used to remember: The tissue origin of carcinomas and sarcomas

Carcinoma	Epithelial tissues
Sarcoma	Mesenchymal/supporting tissues

UIM ORIGINAL

Grading = Looks; Staging = Location

Used to remember: The difference between tumour grade and stage

Grade	Degree of differentiation / histological aggressiveness
Stage	Anatomical extent of disease

TNM = Tumour, Nodes, Metastasis

Used to remember: The standard anatomical components of cancer staging

T	Primary tumour extent
N	Regional lymph nodes
M	Distant metastasis

Haematopathology

UIM ORIGINAL

ALL = Young; CLL = Old

Used to remember: The typical age associations of acute lymphoblastic and chronic lymphocytic leukaemia

ALL	Most common acute leukaemia in children
CLL	Typically affects older adults

Auer Rods = AML

Used to remember: The classic cytoplasmic inclusion of myeloid blasts

Auer rods	Needle-like azurophilic inclusions supporting myeloid lineage

t(15;17) = APL

Used to remember: The characteristic translocation in acute promyelocytic leukaemia

15;17	PML-RARA fusion

t(9;22) = Philadelphia = CML

Used to remember: The hallmark translocation of chronic myeloid leukaemia

9;22	BCR-ABL1 fusion - Philadelphia chromosome

Starry Sky = Burkitt

Used to remember: The classic histological appearance of Burkitt lymphoma

Starry sky	Pale macrophages among densely packed tumour cells

Reed-Sternberg = Owl Eyes

Used to remember: The classic nuclear appearance in Hodgkin lymphoma

Owl eyes	Large binucleate/bilobed cell with prominent nucleoli

Cardiovascular Pathology

UIM ORIGINAL

Atherosclerosis = Fatty Fibrous Plaque

Used to remember: The core morphology of an atherosclerotic plaque

Fatty	Lipid-rich necrotic core
Fibrous	Fibrous cap

MI = Coagulative Necrosis - Except the Brain

Used to remember: The usual type of necrosis in infarction

Heart and most solid organs	Coagulative necrosis
Brain	Liquefactive necrosis

Aschoff Bodies = Rheumatic Fever

Used to remember: The characteristic cardiac lesion in rheumatic fever

Aschoff bodies	Granulomatous inflammatory foci in the myocardium

UIM ORIGINAL

Fish-Mouth Mitral = Rheumatic

Used to remember: The classic chronic rheumatic mitral valve appearance

Fish-mouth	Commissural fusion and thickening produce stenosis

Tree-Bark Aorta = Syphilis

Used to remember: The classic gross appearance of tertiary syphilitic aortitis

Tree-bark	Wrinkled intimal scarring of the ascending aorta

Respiratory Pathology

Pink Puffer = Emphysema; Blue Bloater = Chronic Bronchitis

Used to remember: The traditional clinical-pathological COPD phenotypes

Pink puffer	Emphysema-predominant phenotype
Blue bloater	Chronic-bronchitis-predominant phenotype

These are historical simplifications and not modern phenotypic classifications.

UIM ORIGINAL

Emphysema = Enlarged Empty Spaces

Used to remember: The standard pathological definition of emphysema

Enlarged	Permanent enlargement of airspaces distal to terminal bronchioles
Empty spaces	Destruction of alveolar walls without obvious fibrosis

The fibrosis qualifier distinguishes emphysema from airspace enlargement caused by scarring.

UIM ORIGINAL

Asthma = Thick Basement Membrane + Mucus + Muscle

Used to remember: The classic airway-remodelling features in asthma

Basement membrane	Subepithelial fibrosis
Mucus	Goblet-cell and mucous-gland hyperplasia
Muscle	Smooth-muscle hypertrophy

Asbestos Bodies = Iron-Coated Asbestos Fibres

Used to remember: The specific histological marker of asbestos exposure

Asbestos bodies	Asbestos fibres coated with iron-protein material

“Ferruginous body” is a broader term and may describe iron-coated asbestos or other inorganic fibres.

Silica = Upper Lobes; Asbestos = Lower Lobes

Used to remember: The usual predominant distribution of silicosis versus asbestosis

Silicosis	Upper-lobe predominance
Asbestosis	Lower-lobe and subpleural predominance

Gastrointestinal & Liver Pathology

UIM ORIGINAL

Crohn = Cracks, Cobblestones, Creeps Through Wall

Used to remember: The characteristic pathological pattern of Crohn disease

Cracks	Deep fissuring ulcers
Cobblestones	Cobblestone mucosa
Creeps through wall	Transmural inflammation

UIM ORIGINAL

UC = Uniform and Continuous

Used to remember: The typical distribution of ulcerative colitis

Uniform	Mucosal inflammation
Continuous	Continuous involvement beginning at rectum

Skip = Crohn; Continuous = UC

Used to remember: The distribution pattern of inflammatory bowel disease

Crohn	Skip lesions
Ulcerative colitis	Continuous disease

Councilman Bodies = Yellow Fever

Used to remember: A classic histopathological clue in yellow fever

Councilman bodies	Apoptotic hepatocytes

Mallory-Denk Bodies = Alcoholic Hepatitis

Used to remember: The characteristic hepatocyte inclusion

Mallory-Denk bodies	Eosinophilic cytoplasmic keratin aggregates

Ground Glass Hepatocytes = Hepatitis B

Used to remember: The classic light-microscopic hepatocyte appearance in chronic HBV infection

Ground glass	HBsAg accumulation in hepatocyte cytoplasm

Renal Pathology

UIM ORIGINAL

Nephritic = Blood; Nephrotic = Protein

Used to remember: The key clinical-pathological distinction between nephritic and nephrotic syndromes

Nephritic	Haematuria with inflammatory glomerular injury
Nephrotic	Heavy proteinuria from podocyte/filtration barrier injury

PSGN = Lumpy-Bumpy

Used to remember: The classic immunofluorescence pattern in post-streptococcal glomerulonephritis

Lumpy-bumpy	Granular immune-complex deposition

Goodpasture = Linear

Used to remember: The immunofluorescence pattern in anti-GBM disease

Linear	Smooth linear IgG deposition along glomerular basement membrane

IgA = Synpharyngitic

Used to remember: The timing of haematuria in IgA nephropathy

Synpharyngitic	Haematuria occurs around the time of an upper respiratory infection

Diabetes = Kimmelstiel-Wilson

Used to remember: The classic nodular glomerulosclerosis lesion of diabetic nephropathy

Kimmelstiel-Wilson nodules	Nodular mesangial sclerosis

Endocrine Pathology

Orphan Annie Eyes = Papillary Thyroid Carcinoma

Used to remember: The classic nuclear morphology of papillary thyroid carcinoma

Orphan Annie nuclei	Optically clear nuclei
Other clues	Nuclear grooves, pseudoinclusions, psammoma bodies

Amyloid = Medullary Thyroid Carcinoma

Used to remember: The characteristic stromal deposition in medullary thyroid carcinoma

Amyloid	Derived from calcitonin peptides in tumour stroma

Salt and Pepper = Neuroendocrine

Used to remember: The classic chromatin pattern in neuroendocrine tumours

Salt-and-pepper chromatin	Finely stippled nuclear chromatin

Zellballen = Phaeochromocytoma

Used to remember: The classic architectural pattern of phaeochromocytoma

Zellballen	Nested tumour-cell pattern

Neuropathology

UIM ORIGINAL

Red Neurons = Dead Neurons

Used to remember: The acute neuronal change after irreversible ischaemic injury

Red neurons	Eosinophilic cytoplasm with pyknotic nuclei

Lewy Bodies = Parkinson

Used to remember: The classic inclusion of Parkinson disease

Lewy bodies	Alpha-synuclein-rich cytoplasmic inclusions

Plaques + Tangles = Alzheimer

Used to remember: The two classic pathological lesions of Alzheimer disease

Plaques	Extracellular beta-amyloid plaques
Tangles	Intracellular hyperphosphorylated tau tangles

Prions = Spongiform

Used to remember: The defining histopathological pattern of prion disease

Spongiform	Vacuolation giving a sponge-like appearance

Rosenthal Fibres = Pilocytic Astrocytoma

Used to remember: The classic histological feature of pilocytic astrocytoma

Rosenthal fibres	Elongated eosinophilic corkscrew-like structures

Bone & Joint Pathology

Osteosarcoma = Sunburst + Codman Triangle

Used to remember: The classic radiological-pathological associations of osteosarcoma

Sunburst	Aggressive periosteal bone formation
Codman triangle	Elevated periosteum at tumour margin

Ewing = Onion Skin

Used to remember: The classic periosteal reaction in Ewing sarcoma

Onion skin	Layered periosteal reaction

Giant Cell Tumour = Soap Bubble

Used to remember: The classic radiographic appearance of giant cell tumour

Soap bubble	Expansile lytic lesion, typically epiphyseal

Gout = Needle, Negative

Used to remember: The crystal morphology and birefringence of monosodium urate

Needle	Needle-shaped crystals
Negative	Strongly negatively birefringent

Pseudogout = Rhomboid, Positive

Used to remember: The crystal morphology and birefringence of calcium pyrophosphate

Rhomboid	Rhomboid-shaped crystals
Positive	Weakly positively birefringent

Rapid Reference

Mnemonic	What it recalls
Size Up; Number Up; Shrink; Switch	Hypertrophy, hyperplasia, atrophy and metaplasia
Necrosis Nasty; Apoptosis Orderly	Cell death
RUBOR CALOR TUMOR DOLOR FUNCTIO LAESA	Five signs of inflammation
Neutrophils Now; Macrophages Later	Inflammatory cells
Virchow's Triad	Thrombosis
Lines of Zahn = Layers of Life	Antemortem thrombus
TNM	Cancer staging
Auer Rods = AML	AML
t(15;17) = APL	APL
t(9;22) = Philadelphia = CML	CML
Starry Sky = Burkitt	Burkitt lymphoma
Reed-Sternberg = Owl Eyes	Hodgkin lymphoma
Fish-Mouth Mitral = Rheumatic	Rheumatic valve disease
Emphysema = Enlarged Empty Spaces	Enlargement and wall destruction without obvious fibrosis
Asbestos Bodies = Iron-Coated Asbestos Fibres	Specific asbestos marker
Crohn = Cracks, Cobblestones, Transmural	Crohn disease
UC = Uniform and Continuous	Ulcerative colitis
Nephritic = Blood; Nephrotic = Protein	Glomerular syndromes
PSGN = Lumpy-Bumpy	Post-streptococcal GN
Goodpasture = Linear	Anti-GBM disease
Orphan Annie Eyes	Papillary thyroid carcinoma
Plaques + Tangles = Alzheimer	Alzheimer disease
Gout = Needle, Negative	Monosodium urate
Pseudogout = Rhomboid, Positive	CPPD

Principal verification references

1. Kumar V, Abbas AK, Aster JC. Robbins & Cotran Pathologic Basis of Disease. 11th ed. Elsevier; 2025.
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Corrected entries and UIM Original labels were rechecked against mainstream pathology references.

PART I | BASIC MEDICAL SCIENCES

PHARMACOLOGY MNEMONICS

A comprehensive system-based collection of genuine pharmacology memory aids

Editorial approach
Only actual memory devices are included: phrases, meaningful acronyms, rhymes, word associations and number patterns. Drug lists are not included unless the mnemonic itself provides a useful recall structure.

Contents

General Pharmacology & Receptors
Autonomic Pharmacology
Cardiovascular Drugs
Diuretics
Antimicrobials
Tuberculosis Drugs
CNS & Psychiatric Drugs
Analgesics & Anaesthetics
Endocrine Pharmacology
Respiratory & GI Drugs
Anticancer & Immunomodulatory Drugs
Toxicology & Antidotes
Rapid Reference

General Pharmacology & Receptors

QISS

Used to remember: G-protein coupling of major adrenergic receptors

Q	alpha1 = Gq
I	alpha2 = Gi
S	beta1 = Gs
S	beta2/beta3 = Gs

Odd Muscarinics = Gq; Even = Gi

Used to remember: Muscarinic receptor G-protein coupling

M1, M3, M5	Gq
M2, M4	Gi

UIM ORIGINAL

Agonist Adds; Antagonist Against

Used to remember: The basic difference between agonists and antagonists

Agonist	Activates a receptor
Antagonist	Blocks receptor activation

UIM ORIGINAL

First Pass = Liver First

Used to remember: Why some orally administered drugs have reduced bioavailability

Liver first	Drug is metabolised in gut wall/portal circulation and liver before reaching systemic blood

Autonomic Pharmacology

SLUDGE

Used to remember: Muscarinic manifestations of cholinergic excess

S	Salivation
L	Lacrimation
U	Urination
D	Defecation
G	Gastrointestinal upset
E	Emesis

DUMBELS

Used to remember: A broader cholinergic toxicity mnemonic

D	Diarrhoea/Defecation
U	Urination
M	Miosis
B	Bronchospasm/Bradycardia
E	Emesis
L	Lacrimation
S	Salivation/Sweating

Hot as a Hare, Blind as a Bat, Dry as a Bone, Red as a Beet, Mad as a Hatter

Used to remember: The classic antimuscarinic toxidrome

Hot	Hyperthermia
Blind	Mydriasis/cycloplegia
Dry	Dry skin/mouth
Red	Flushed skin
Mad	Delirium/agitation

UIM ORIGINAL

Atropine Dries; Pralidoxime Revives the Enzyme

Used to remember: The complementary roles in organophosphate poisoning

Atropine	Blocks muscarinic effects
Pralidoxime	Reactivates acetylcholinesterase if given before ageing

UIM ORIGINAL

Alpha1 Squeezes; Beta2 Breathes

Used to remember: The main smooth-muscle effects of alpha1 and beta2 stimulation

Alpha1	Vasoconstriction
Beta2	Bronchodilation and smooth-muscle relaxation

Cardiovascular Drugs

Double Quarter Pounder, Lettuce, Mayo, Fries Please

Used to remember: Class I antiarrhythmic drugs

Double	Disopyramide - IA
Quarter	Quinidine - IA
Pounder	Procainamide - IA
Lettuce	Lidocaine - IB
Mayo	Mexiletine - IB
Fries	Flecainide - IC
Please	Propafenone - IC

A Single Drop of Ibutilide

Used to remember: Common Class III antiarrhythmic drugs

A	Amiodarone
Single	Sotalol
Drop	Dofetilide
Ibutilide	Ibutilide

UIM ORIGINAL

ACE = Angioedema, Cough, Elevated Potassium

Used to remember: Three high-yield adverse effects of ACE inhibitors

A	Angioedema
C	Cough
E	Elevated potassium

ACE inhibitors are also contraindicated in pregnancy and can worsen renal function in bilateral renal artery stenosis.

UIM ORIGINAL

Statins Hurt Muscles and Liver

Used to remember: Two important adverse-effect domains of statins

Muscles	Myalgia/myopathy; rarely rhabdomyolysis
Liver	Transaminase elevation may occur

UIM ORIGINAL

Digoxin = GI, Green/Yellow Vision, Rhythm

Used to remember: Classic manifestations of digoxin toxicity

GI	Nausea, vomiting, anorexia
Vision	Colour disturbance/blurred vision
Rhythm	Brady- or tachyarrhythmias

UIM ORIGINAL

Nitrates = Headache + Hypotension

Used to remember: The most memorable adverse effects of nitrates

Headache	Vasodilation
Hypotension	Systemic venodilation/vasodilation

Diuretics

Loops Lose Calcium; Thiazides Save Calcium

Used to remember: The opposite effects of loop and thiazide diuretics on urinary calcium

Loop diuretics	Increase calcium excretion
Thiazides	Reduce calcium excretion

UIM ORIGINAL

Loop = LOH

Used to remember: The site of action of loop diuretics

LOH	Thick ascending Limb Of Henle

UIM ORIGINAL

Thiazides Save Ca, Spend Na

Used to remember: The characteristic electrolyte effect of thiazides

Save Ca	Decrease urinary calcium
Spend Na	Increase sodium excretion

Potassium-Sparing = Saves K

Used to remember: The defining electrolyte effect of potassium-sparing diuretics

K	Reduce potassium excretion

UIM ORIGINAL

Spironolactone = Spares K, Spills Hormones

Used to remember: Key adverse-effect pattern of spironolactone

Spares K	Hyperkalaemia risk
Hormonal effects	Gynaecomastia, menstrual disturbance, sexual adverse effects

Antimicrobials

UIM ORIGINAL

Penicillins Punch the Wall

Used to remember: The target of beta-lactam antibiotics

Wall	Inhibit bacterial cell-wall peptidoglycan cross-linking

UIM ORIGINAL

Cephalosporins Climb Generations

Used to remember: The broad teaching concept across cephalosporin generations

Generations	Spectrum and beta-lactamase stability generally change across generations

Specific antimicrobial spectra should always be learned from current local guidance.

UIM ORIGINAL

Aminoglycosides = Ears + Kidneys

Used to remember: The two major organ toxicities of aminoglycosides

Ears	Ototoxicity
Kidneys	Nephrotoxicity

Tetracyclines = Teeth; Doxycycline Treats Rickettsiae

Used to remember: The developmental risk of older tetracyclines and the essential doxycycline exception

Older tetracyclines	Can discolour developing teeth and affect bone
Doxycycline	Recommended short courses do not cause permanent tooth staining
Rickettsial disease	Do not withhold doxycycline from children of any age when disease is suspected

Safety: delayed doxycycline treatment in suspected rickettsial disease can be fatal.

UIM ORIGINAL

MACROlides Make the Gut Move

Used to remember: The prokinetic effect associated especially with erythromycin

Gut move	Motilin-receptor agonism can increase GI motility

UIM ORIGINAL

FLOX Can Flex the Tendon

Used to remember: The tendon toxicity associated with fluoroquinolones

Flex / tendon	Tendinitis and tendon-rupture risk

Vancomycin Infusion Reaction if Run Rapidly

Used to remember: The infusion-rate-related reaction associated with vancomycin

Infusion reaction	Non-IgE-mediated histamine release, more likely with rapid infusion

Use the specific term “vancomycin infusion reaction”; the former colour-based name is retired.

UIM ORIGINAL

Metronidazole + Alcohol = Miserable

Used to remember: The traditional counselling point regarding alcohol with metronidazole

Miserable	Nausea, flushing and other unpleasant symptoms have been reported

Evidence for a classic disulfiram-like interaction is inconsistent, but many formularies still advise avoidance.

Clindamycin = C. difficile

Used to remember: The strong association between clindamycin and antibiotic-associated colitis

C. difficile	Important risk of C. difficile infection

Tuberculosis Drugs

RIPE

Used to remember: The standard four-drug first-line tuberculosis regimen

R	Rifampicin
I	Isoniazid
P	Pyrazinamide
E	Ethambutol

UIM ORIGINAL

RIF = Red Fluids + Inducer

Used to remember: Two classic rifampicin associations

Red fluids	Orange-red discolouration of body fluids
Inducer	Potent hepatic enzyme inducer

UIM ORIGINAL

INH Injures Nerves and Hepatocytes

Used to remember: The two high-yield toxicities of isoniazid

Nerves	Peripheral neuropathy - reduced with pyridoxine
Hepatocytes	Hepatotoxicity

Ethambutol = Eye

Used to remember: The key toxicity of ethambutol

Eye	Optic neuritis with impaired visual acuity/red-green colour discrimination

UIM ORIGINAL

Pyrazinamide = Painful Joints + Uric Acid

Used to remember: The classic adverse-effect associations of pyrazinamide

Painful joints	Arthralgia
Uric acid	Hyperuricaemia

CNS & Psychiatric Drugs

UIM ORIGINAL

Phenytoin = Hair, Gums, Nerves, Bones

Used to remember: Classic chronic adverse effects of phenytoin

Hair	Hirsutism
Gums	Gingival hyperplasia
Nerves	Peripheral neuropathy/ataxia
Bones	Osteomalacia risk

UIM ORIGINAL

Valproate = Liver, Pancreas, Baby

Used to remember: Three major safety concerns with valproate

Liver	Hepatotoxicity
Pancreas	Pancreatitis
Baby	Major teratogenic and neurodevelopmental risk in pregnancy

UIM ORIGINAL

Carbamazepine = Low Sodium + Low Cells

Used to remember: Two important toxicity domains of carbamazepine

Low sodium	SIADH/hyponatraemia
Low cells	Bone-marrow suppression can occur

UIM ORIGINAL

Lithium = Thyroid, Kidneys, Tremor

Used to remember: The classic long-term adverse-effect pattern of lithium

Thyroid	Hypothyroidism
Kidneys	Nephrogenic diabetes insipidus/chronic renal effects
Tremor	Fine tremor

UIM ORIGINAL

Clozapine = Counts, Cardiac, Convulsions

Used to remember: Three major monitoring concerns with clozapine

Counts	Neutropenia/agranulocytosis
Cardiac	Myocarditis/cardiomyopathy
Convulsions	Dose-related seizure risk

UIM ORIGINAL

SSRIs = Sexual + Serotonin

Used to remember: Two well-known SSRI adverse-effect domains

Sexual	Sexual dysfunction
Serotonin	Serotonin syndrome risk, especially with interacting serotonergic drugs

UIM ORIGINAL

MAOI + Tyramine = Pressure Climbs

Used to remember: The classic food-drug interaction with non-selective MAO inhibitors

Tyramine	Can precipitate severe hypertension

Analgesics & Anaesthetics

UIM ORIGINAL

Opioid Overdose = CPR

Used to remember: The classic opioid toxidrome

C	Coma/CNS depression
P	Pinpoint pupils
R	Respiratory depression

UIM ORIGINAL

NSAIDs = Stomach + Kidney + Bleeding

Used to remember: The main toxicity domains of NSAIDs

Stomach	Gastritis/ulceration
Kidney	AKI and sodium retention
Bleeding	Platelet inhibition, particularly aspirin

UIM ORIGINAL

Paracetamol = Liver; NAC = Rescue

Used to remember: The principal organ toxicity and antidote in paracetamol overdose

Liver	Dose-dependent hepatotoxicity
NAC	N-acetylcysteine replenishes glutathione and is the antidote

UIM ORIGINAL

Local Anaesthetic Toxicity = Brain then Heart

Used to remember: The typical progression of severe local anaesthetic systemic toxicity

Brain	Perioral numbness, tinnitus, seizures/CNS toxicity
Heart	Conduction disturbance, arrhythmias, cardiovascular collapse

Endocrine Pharmacology

UIM ORIGINAL

Insulin Drives Glucose and Potassium In

Used to remember: Two key acute physiological effects of insulin

Glucose	Promotes cellular uptake/storage
Potassium	Shifts potassium into cells

UIM ORIGINAL

Sulfonylureas = Sugar Too Low

Used to remember: The major adverse effect of sulfonylureas

Sugar too low	Hypoglycaemia

UIM ORIGINAL

Metformin = Minimal Hypoglycaemia, Mind the Kidneys

Used to remember: A practical high-yield metformin safety association

Minimal hypoglycaemia	Low risk when used alone
Mind kidneys	Renal function matters because accumulation increases lactic acidosis risk

UIM ORIGINAL

SGLT2 = Sugar Goes Through the Toilet

Used to remember: The mechanism of SGLT2 inhibitors

Sugar through toilet	Increase urinary glucose excretion

UIM ORIGINAL

GLP-1 = Glucose Lower, Pounds Lost

Used to remember: Two hallmark clinical effects of GLP-1 receptor agonists

Glucose lower	Glucose-dependent glucose lowering
Pounds lost	Weight reduction is common

Hypoglycaemia risk is low when used alone, but rises with insulin or insulin secretagogues.

Steroids = CUSHINGOID

Used to remember: The broad adverse-effect pattern of chronic systemic glucocorticoids

C	Cataracts
U	Ulcers and GI effects
S	Skin thinning
H	Hypertension and hyperglycaemia
I	Infection risk
N	Necrosis - avascular necrosis
G	Growth suppression
O	Osteoporosis
I	Iatrogenic Cushing features
D	Diabetes

Mnemonic expansions vary; this is a broad recall structure rather than an exhaustive list.

Respiratory & GI Drugs

UIM ORIGINAL

SABA = Save a Breath Acutely

Used to remember: The role of short-acting beta2 agonists

Acutely	Rapid bronchodilation for symptom relief

UIM ORIGINAL

LABA Lasts; Asthma Adds ICS

Used to remember: The prolonged bronchodilator role and the asthma safety rule

LABA lasts	Provides prolonged bronchodilation
Asthma adds ICS	LABA must not be used without inhaled corticosteroid in asthma

LABA monotherapy may be used in COPD when otherwise indicated; asthma or asthma+COPD requires ICS-containing treatment.

UIM ORIGINAL

Inhaled Steroids = Rinse After

Used to remember: How to reduce local adverse effects of inhaled corticosteroids

Rinse	Mouth rinsing after use reduces oral candidiasis/dysphonia risk

UIM ORIGINAL

PPIs = Proton Pump Is Silenced

Used to remember: The mechanism of proton-pump inhibitors

Pump silenced	Irreversibly inhibit gastric H+/K+ ATPase

UIM ORIGINAL

H2 Blockers = Histamine Two Is Blocked

Used to remember: The mechanism of H2-receptor antagonists

H2	Block histamine H2 receptors on parietal cells

UIM ORIGINAL

Metoclopramide = Moves the Gut, May Move the Muscles

Used to remember: The prokinetic action and extrapyramidal risk of metoclopramide

Moves gut	Prokinetic/antiemetic
Moves muscles	Dystonia and other extrapyramidal reactions can occur

Anticancer & Immunomodulatory Drugs

Bleomycin Blows the Lungs

Used to remember: The hallmark toxicity of bleomycin

Lungs	Pulmonary fibrosis/pneumonitis

UIM ORIGINAL

Doxorubicin Damages the Heart

Used to remember: The hallmark cumulative toxicity of doxorubicin

Heart	Dose-related cardiomyopathy

UIM ORIGINAL

Cyclophosphamide Causes Cystitis; MESNA Mends

Used to remember: The classic urotoxicity and protective agent

Cystitis	Haemorrhagic cystitis from acrolein
MESNA	Binds urotoxic metabolites in urine

VinCRIstine Cripples Nerves; VinBLAStine Blasts Marrow

Used to remember: The contrasting toxicities of the vinca alkaloids

Vincristine	Peripheral/autonomic neurotoxicity
Vinblastine	Myelosuppression

UIM ORIGINAL

Methotrexate = Folate Block; Leucovorin Unlocks

Used to remember: The antifolate mechanism and rescue strategy

Methotrexate	Inhibits dihydrofolate reductase
Leucovorin	Folinic acid rescue in selected regimens/toxicity

UIM ORIGINAL

Cisplatin = Kidneys + Ears

Used to remember: The classic organ toxicities of cisplatin

Kidneys	Nephrotoxicity
Ears	Ototoxicity

Toxicology & Antidotes

UIM ORIGINAL

Naloxone Knocks Out Opioids

Used to remember: The antidote for opioid toxicity

Naloxone	Competitive opioid receptor antagonist

UIM ORIGINAL

Flumazenil Flips Benzodiazepines

Used to remember: The benzodiazepine receptor antagonist

Flumazenil	Reverses benzodiazepine effects in selected situations

Can precipitate seizures in dependent patients or mixed overdoses; use requires caution.

NAC = N-Acetylcysteine for Acetaminophen

Used to remember: The antidote for paracetamol/acetaminophen poisoning

NAC	Replenishes glutathione and limits hepatic injury

UIM ORIGINAL

Fomepizole Fights Toxic Alcohols

Used to remember: The antidote for methanol and ethylene glycol poisoning

Methanol	Alcohol dehydrogenase inhibition
Ethylene glycol	Alcohol dehydrogenase inhibition

UIM ORIGINAL

Digoxin Antibodies Bind Digoxin

Used to remember: The antidote for severe digoxin toxicity

Digoxin-specific Fab	Binds circulating digoxin

Hydroxocobalamin = Cyanide

Used to remember: A major antidote for cyanide poisoning

Hydroxocobalamin	Binds cyanide to form cyanocobalamin

Methylene Blue = Methemoglobinaemia

Used to remember: The classic antidote for significant acquired methaemoglobinaemia

Methylene blue	Promotes reduction of methaemoglobin

Use may be problematic in G6PD deficiency and certain serotonergic contexts.

Rapid Reference

Mnemonic	What it recalls
QISS	Adrenergic G proteins
SLUDGE / DUMBELS	Cholinergic toxicity
Hot as a Hare...	Antimuscarinic toxidrome
Double Quarter Pounder...	Class I antiarrhythmics
A Single Drop of Ibutilide	Class III antiarrhythmics
Loops Lose Ca; Thiazides Save Ca	Diuretics
Aminoglycosides = Ears + Kidneys	Aminoglycoside toxicity
Tetracyclines = Teeth; Doxycycline Treats Rickettsiae	Do not delay doxycycline in children with suspected rickettsial disease
Vancomycin Infusion Reaction if Run Rapidly	Rate-related vancomycin reaction
RIPE	First-line TB drugs
RIF = Red Fluids + Inducer	Rifampicin
INH Injures Nerves and Hepatocytes	Isoniazid
Ethambutol = Eye	Ethambutol
Opioid Overdose = CPR	Opioid toxidrome
Paracetamol = Liver; NAC = Rescue	Paracetamol overdose
SGLT2 = Sugar Goes Through the Toilet	SGLT2 inhibitors
GLP-1 = Glucose Lower, Pounds Lost	Glucose lowering and weight reduction
LABA Lasts; Asthma Adds ICS	Never use LABA without ICS in asthma
Bleomycin Blows the Lungs	Bleomycin
Doxorubicin Damages the Heart	Doxorubicin
VinCRIstine / VinBLAStine	Vinca toxicities
Cyclophosphamide Causes Cystitis; MESNA Mends	Cyclophosphamide
Naloxone Knocks Out Opioids	Naloxone
Fomepizole Fights Toxic Alcohols	Methanol and ethylene glycol

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Safety-critical exceptions and revised terminology were rechecked before publication.

PART I | BASIC MEDICAL SCIENCES

MICROBIOLOGY MNEMONICS

A comprehensive, verified collection of genuine microbiology memory aids

Editorial approach
Only true memory aids are included. Established short mnemonics are retained where useful; newly written memory devices are labelled UIM Original. The microbiological facts behind every entry were independently checked before inclusion.

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Rapid Reference

Bacterial Foundations

UIM ORIGINAL

Staph Stacks; Strep Strings

Used to remember: The typical arrangement of the two major Gram-positive coccal genera

Staph stacks	Staphylococci typically form clusters
Strep strings	Streptococci typically form pairs or chains

UIM ORIGINAL

Staph Has Catalase; Strep Hasn't

Used to remember: The catalase distinction between staphylococci and streptococci

Staphylococcus	Catalase-positive
Streptococcus	Catalase-negative

UIM ORIGINAL

Purple Positive; Pink Negative

Used to remember: The colour retained on Gram staining

Gram-positive	Purple/blue
Gram-negative	Pink/red

UIM ORIGINAL

Bacillus and Clostridia Build Spores

Used to remember: The major clinically important Gram-positive spore-forming bacilli

Bacillus	Spore-forming Gram-positive rods
Clostridia/Clostridioides	Spore-forming Gram-positive rods

Gram-Positive Cocci

UIM ORIGINAL

Aureus Clots

Used to remember: The coagulase reaction of Staphylococcus aureus

Aureus	Coagulase-positive
Epidermidis / saprophyticus	Coagulase-negative

NO StRESs

Used to remember: Novobiocin susceptibility of common coagulase-negative staphylococci

Staph saprophyticus	RESistant
Staph epidermidis	Sensitive

A classic laboratory teaching distinction.

UIM ORIGINAL

Epidermidis = Equipment

Used to remember: The association of Staphylococcus epidermidis with implanted material

Equipment	Prosthetic devices and catheters; biofilm formation is important

UIM ORIGINAL

Saprophyticus = Sexually Active Student's UTI

Used to remember: The classic clinical association of Staphylococcus saprophyticus

UTI	Important cause of uncomplicated urinary infection in young women

A = Bacitracin Sensitive; B = CAMP Positive

Used to remember: Classic laboratory differentiation of Group A and Group B beta-haemolytic streptococci

Group A - S. pyogenes	Classically bacitracin sensitive
Group B - S. agalactiae	CAMP test positive

Modern laboratories commonly use more specific identification methods.

UIM ORIGINAL

Pneumococcus Stops with Optochin; Viridans Ventures On

Used to remember: Classic optochin differentiation of alpha-haemolytic streptococci

S. pneumoniae	Optochin sensitive
Viridans streptococci	Optochin resistant

UIM ORIGINAL

Pneumococcus = Lancet + Capsule

Used to remember: Two classic morphological features of Streptococcus pneumoniae

Lancet	Lancet-shaped diplococci
Capsule	Polysaccharide capsule

UIM ORIGINAL

Enterococci Enter the Bowel

Used to remember: The normal ecological niche of enterococci

Enterococci	Part of gastrointestinal flora

Gram-Positive Bacilli

UIM ORIGINAL

Bacillus Breathes; Clostridia Avoid Air

Used to remember: The broad oxygen relationship of the major spore-forming Gram-positive rods

Bacillus	Usually aerobic or facultatively anaerobic
Clostridia	Classically obligate anaerobes

Anthrax = Black Eschar

Used to remember: The classic cutaneous lesion of Bacillus anthracis

Black eschar	Painless necrotic eschar with surrounding oedema

Cereus = Reheated Rice

Used to remember: The classic food association of Bacillus cereus

Reheated rice	Typical association with the emetic syndrome

UIM ORIGINAL

Listeria Loves the Cold

Used to remember: A distinctive laboratory and food association of Listeria monocytogenes

Cold	Can grow at refrigeration temperatures
Clinical association	Pregnancy, neonates, older or immunocompromised patients

Listeria Tumbles

Used to remember: The characteristic motility of Listeria monocytogenes

Tumbling	Tumbling motility on microscopy; umbrella motility in semisolid media

UIM ORIGINAL

Diphtheria = Pseudomembrane + Heart + Nerves

Used to remember: The major toxin-mediated complications of Corynebacterium diphtheriae

Pseudomembrane	Pharyngeal pseudomembrane
Heart	Myocarditis
Nerves	Neuropathy

UIM ORIGINAL

Nocardia Needs Oxygen; Actinomyces Avoids It

Used to remember: The broad oxygen distinction between two branching Gram-positive organisms

Nocardia	Aerobic
Actinomyces	Anaerobic/microaerophilic

UIM ORIGINAL

Nocardia = Nearly Acid-Fast

Used to remember: The modified acid-fast property of Nocardia

Nearly	Weakly/partially acid-fast because of mycolic acids

Gram-Negative Cocci & Coccobacilli

MEN Gets Maltose; GON Gets Glucose Only

Used to remember: The traditional carbohydrate utilisation distinction between pathogenic Neisseria

N. meningitidis	Glucose + maltose
N. gonorrhoeae	Glucose only

A classic teaching distinction; modern identification is generally not based on sugar fermentation alone.

UIM ORIGINAL

Neisseria = Negative Diplococci

Used to remember: The Gram-stain morphology of pathogenic Neisseria

Neisseria	Gram-negative diplococci; oxidase-positive

UIM ORIGINAL

Haemophilus Needs eXtra Vitamins - X and V

Used to remember: The growth-factor requirements of Haemophilus influenzae

X factor	Hemin
V factor	NAD

Pertussis = Whoop

Used to remember: The classic cough associated with Bordetella pertussis

Whoop	Paroxysmal cough with inspiratory whoop, particularly in classic disease

UIM ORIGINAL

Brucella = Brucellosis from Beasts

Used to remember: The zoonotic nature of Brucella infection

Beasts	Livestock exposure and unpasteurised animal products

Enteric Gram-Negative Bacilli

UIM ORIGINAL

Klebsiella, E. coli and Enterobacter Eat Lactose

Used to remember: The classic rapid lactose-fermenting enteric Gram-negative bacilli

Klebsiella	Lactose fermenter
E. coli	Lactose fermenter
Enterobacter	Usually lactose fermenting

UIM ORIGINAL

Salmonella, Shigella and Proteus Stay Pale

Used to remember: Common non-lactose-fermenting enteric bacilli on MacConkey agar

Salmonella	Non-lactose fermenter
Shigella	Non-lactose fermenter
Proteus	Non-lactose fermenter

Pee CHiPS

Used to remember: A classic group of clinically important urease-positive organisms

P	Proteus
C	Cryptococcus
H	Helicobacter pylori
S	Staphylococcus saprophyticus

Urease is also produced by several other organisms; this mnemonic is not exhaustive.

UIM ORIGINAL

Proteus Produces Stones

Used to remember: The relationship between urease-producing Proteus and urinary calculi

Urease	Alkalinises urine
Stones	Promotes struvite stone formation

UIM ORIGINAL

Salmonella Swims; Shigella Sits

Used to remember: The classic motility difference

Salmonella	Motile
Shigella	Non-motile

UIM ORIGINAL

EHEC = Bloody, Little Fever

Used to remember: The classic presentation of enterohaemorrhagic E. coli

Bloody	Haemorrhagic colitis
Little fever	Fever is often absent or low-grade
Complication	Haemolytic uraemic syndrome may occur

Other Gram-Negative Bacilli

UIM ORIGINAL

Pseudomonas = Pigment + Perfume + Positive Oxidase

Used to remember: Three classic laboratory clues to Pseudomonas aeruginosa

Pigment	Blue-green pigments may be produced
Perfume	Characteristic fruity/grape-like odour
Positive oxidase	Oxidase-positive

UIM ORIGINAL

Vibrio = Comma in the Water

Used to remember: The morphology and epidemiological association of Vibrio cholerae

Comma	Curved/comma-shaped Gram-negative rod
Water	Classically water-borne infection

UIM ORIGINAL

Campylobacter = Campfire Gull Wings

Used to remember: The characteristic curved appearance of Campylobacter

Gull wings	Curved/S-shaped rods may resemble gull wings
Campfire	Thermophilic C. jejuni grows well at 42 C

UIM ORIGINAL

Helicobacter Hides in Acid with Urease

Used to remember: The key gastric survival mechanism of H. pylori

Urease	Generates ammonia and buffers the local acidic environment

HACEK

Used to remember: Fastidious Gram-negative organisms classically associated with infective endocarditis

H	Haemophilus species
A	Aggregatibacter
C	Cardiobacterium
E	Eikenella
K	Kingella

Atypical & Intracellular Bacteria

UIM ORIGINAL

My Chicken Loves Atypical Pneumonia

Used to remember: The three classic bacterial causes of atypical pneumonia

My	Mycoplasma pneumoniae
Chicken	Chlamydia/Chlamydophila pneumoniae
Loves	Legionella species

UIM ORIGINAL

Mycoplasma = Missing Wall

Used to remember: The defining structural feature of Mycoplasma

Missing wall	No peptidoglycan cell wall

UIM ORIGINAL

Rickettsia, Chlamydia and Coxiella Crave Cells

Used to remember: Important obligate intracellular bacterial groups

Rickettsia	Obligate intracellular
Chlamydia	Obligate intracellular
Coxiella	Obligate intracellular

Q Fever = Coxiella

Used to remember: The organism causing Q fever

Coxiella burnetii	Cause of Q fever

Psittaci = Parrots

Used to remember: The classic animal association of Chlamydia psittaci

Parrots/birds	Psittacosis associated with bird exposure

Mycobacteria & Spirochaetes

UIM ORIGINAL

Mycobacteria = Mycolic Acid = Acid-Fast

Used to remember: Why mycobacteria retain acid-fast stains

Mycolic acids	Lipid-rich cell wall contributes to acid-fastness

TB = Caseating Granulomas

Used to remember: The classic histopathological pattern associated with tuberculosis

Caseating	Necrotising/caseating granulomatous inflammation is characteristic, though not unique to TB

UIM ORIGINAL

Leprosy: T = Tough Immunity, L = Lots of Bacilli

Used to remember: The polar forms of leprosy

Tuberculoid	Strong cell-mediated immunity; few organisms
Lepromatous	Weak cell-mediated immunity; numerous organisms

UIM ORIGINAL

Too Bendy to Gram: Treponema, Borrelia, Leptospira

Used to remember: The three classic medically important spirochaete genera

Treponema	Syphilis and related treponematoses
Borrelia	Lyme disease and relapsing fever
Leptospira	Leptospirosis

Bacterial Toxins & Virulence

UIM ORIGINAL

Exotoxin Exits; Endotoxin Is Embedded

Used to remember: The basic distinction between exotoxin and endotoxin

Exotoxin	Secreted protein toxin
Endotoxin	LPS/LOS component of the Gram-negative outer membrane

A-B Toxin = A Acts, B Binds

Used to remember: The roles of A and B subunits in classic A-B exotoxins

A	Active enzymatic component
B	Binding component

UIM ORIGINAL

Tetanus = Tight; Botulism = Floppy

Used to remember: The opposing neuromuscular phenotypes of tetanus and botulism

Tetanus	Spastic paralysis
Botulism	Descending flaccid paralysis

UIM ORIGINAL

Cholera = Chloride Out, Water Follows

Used to remember: The secretory mechanism of cholera diarrhoea

Chloride	CFTR-mediated chloride secretion rises
Water	Follows osmotically into the intestinal lumen

DNA Viruses

HHAPPPPy

Used to remember: The major medically important DNA virus families

H	Herpesviridae
H	Hepadnaviridae
A	Adenoviridae
P	Poxviridae
P	Parvoviridae
P	Papillomaviridae
Py	Polyomaviridae

UIM ORIGINAL

Pox Parks in the Cytoplasm

Used to remember: The major exception to nuclear replication among DNA viruses

Poxvirus	Replicates in the cytoplasm
Most other DNA viruses	Replicate primarily in the nucleus

UIM ORIGINAL

Parvo = Petite DNA Virus

Used to remember: A defining feature of parvovirus

Petite	Very small, non-enveloped single-stranded DNA virus

UIM ORIGINAL

Adenovirus = Adenoids + Eyes

Used to remember: Two common clinical sites affected by adenovirus

Adenoids/airways	Pharyngitis and respiratory disease
Eyes	Conjunctivitis/epidemic keratoconjunctivitis

RNA Viruses

BOAR Has Segments

Used to remember: The classic segmented RNA virus groups

B	Bunyavirus group
O	Orthomyxoviridae
A	Arenaviridae
R	Reoviridae

Taxonomy has evolved, but BOAR remains a useful teaching mnemonic for these segmented RNA-virus groups.

UIM ORIGINAL

Negative RNA Must Bring Polymerase

Used to remember: A key replication requirement of negative-sense RNA viruses

Negative-sense RNA	Virions must carry RNA-dependent RNA polymerase

Orthomyxo = Influenza

Used to remember: The family association of influenza viruses

Orthomyxoviridae	Influenza A, B and C viruses

UIM ORIGINAL

Retrovirus = RNA Goes Back to DNA

Used to remember: The defining replication strategy of retroviruses

Reverse transcriptase	Copies viral RNA into DNA

UIM ORIGINAL

Reovirus = Really Double RNA

Used to remember: The defining genome type of reoviruses

Double RNA	Double-stranded RNA genome

Hepatitis & Herpes Viruses

UIM ORIGINAL

A and E = Alimentary; B, C, D = Blood

Used to remember: The broad transmission patterns of viral hepatitis

A, E	Primarily faecal-oral
B, C, D	Primarily blood/body-fluid transmission

D Depends on B

Used to remember: The dependence of hepatitis D virus on hepatitis B

HDV	Requires HBsAg supplied by HBV for productive infection

UIM ORIGINAL

Herpes Hides

Used to remember: The defining biological behaviour of herpesviruses

Hides	Establish lifelong latency after primary infection

1 Mouth, 2 Genitals, 3 Zoster, 4 EBV, 5 CMV

Used to remember: A high-yield numerical map of human herpesviruses 1-5

HHV-1	HSV-1
HHV-2	HSV-2
HHV-3	Varicella-zoster virus
HHV-4	Epstein-Barr virus
HHV-5	Cytomegalovirus

Anatomical tropism is not absolute: HSV-1 and HSV-2 can infect either oral or genital sites.

Fungi

Mold in the Cold, Yeast in the Heat

Used to remember: The classic temperature-dependent morphology of many dimorphic fungi

Cold/environment	Mould form
Heat/tissue	Yeast form

Coccidioides is an important exception: it forms spherules rather than yeast in tissue.

UIM ORIGINAL

Histo Hides in Macrophages

Used to remember: The characteristic intracellular location of Histoplasma capsulatum

Macrophages	Small budding yeasts are classically found within macrophages

Blasto = Broad-Based Budding

Used to remember: The classic morphology of Blastomyces

Broad-based	Broad-based budding yeast

UIM ORIGINAL

Coccidioides = Spherules in the Southwest

Used to remember: The tissue morphology and classic geographical association of Coccidioides

Spherules	Spherules containing endospores in tissue
Southwest	Classically associated with arid regions of the Americas

UIM ORIGINAL

Sporothrix = Rose Gardener + Cigar Yeast

Used to remember: The classic exposure and morphology of Sporothrix schenckii

Rose gardener	Inoculation from plant material
Cigar yeast	Cigar-shaped yeast forms may be seen

Candida = Germ Tubes

Used to remember: A classic laboratory clue for Candida albicans

Germ tubes	C. albicans classically germ-tube positive

UIM ORIGINAL

Cryptococcus = Capsule + CNS

Used to remember: Two major high-yield features of Cryptococcus

Capsule	Prominent polysaccharide capsule
CNS	Important cause of meningitis, especially in immunocompromised patients

UIM ORIGINAL

Aspergillus Acute; Mucor Makes 90

Used to remember: The contrasting hyphal branching patterns

Aspergillus	Septate hyphae with acute-angle branching
Mucorales	Broad pauciseptate/nonseptate hyphae with wide/right-angle branching

Protozoa

UIM ORIGINAL

Toxo = CHI

Used to remember: The classic triad of congenital toxoplasmosis

C	Chorioretinitis
H	Hydrocephalus
I	Intracranial calcifications

UIM ORIGINAL

Giardia = Gas + Grease

Used to remember: The characteristic intestinal symptoms of giardiasis

Gas	Bloating/flatulence
Grease	Greasy, foul-smelling diarrhoea from malabsorption

Entamoeba = Flask Ulcers

Used to remember: The classic colonic ulcer morphology of Entamoeba histolytica

Flask	Flask-shaped colonic ulcers

UIM ORIGINAL

Falciparum = Fatal; Vivax/Ovale = Vacation in Liver

Used to remember: Severe malaria and the hypnozoite-forming species

Falciparum	Most associated with severe/fatal malaria
Vivax/Ovale	Can form dormant liver hypnozoites causing relapse

Babesia = Maltese Cross

Used to remember: The characteristic erythrocyte morphology in babesiosis

Maltese cross	Tetrads may be visible in red cells

Helminths

UIM ORIGINAL

Nematodes = Noodles; Cestodes = Tape; Trematodes = Leaves

Used to remember: The gross shapes of the three major helminth groups

Nematodes	Roundworms - cylindrical/noodle-like
Cestodes	Tapeworms - flat segmented ribbons
Trematodes	Flukes - flat leaf-shaped worms

UIM ORIGINAL

Enterobius = Evening Itch

Used to remember: The classic symptom timing of pinworm infection

Evening/night	Perianal pruritus often worse at night

UIM ORIGINAL

Ascaris = Airway then Abdomen

Used to remember: The larval migration and intestinal adult stages of Ascaris

Airway	Larvae migrate through lungs
Abdomen	Adults inhabit small intestine

UIM ORIGINAL

Hookworms Hook to Blood

Used to remember: The mechanism behind iron-deficiency anaemia in hookworm disease

Blood	Ancylostoma/Necator attach to intestinal mucosa and cause chronic blood loss

UIM ORIGINAL

Strongyloides = Self-Reinfects

Used to remember: The distinctive autoinfection cycle of Strongyloides stercoralis

Self-reinfection	Autoinfection allows persistent infection and hyperinfection in immunosuppression

UIM ORIGINAL

Echinococcus = Dog-Sheep Hydatid

Used to remember: The classic lifecycle association of cystic echinococcosis

Dog	Definitive host
Sheep	Typical intermediate host
Hydatid	Hydatid cyst disease in humans

Congenital Infection & High-Yield Groups

TORCH

Used to remember: The traditional group of important congenital infections

T	Toxoplasmosis
O	Other congenital infections
R	Rubella
C	Cytomegalovirus
H	Herpes simplex

'Other' varies by source and can include syphilis, varicella, parvovirus B19, HIV and others.

UIM ORIGINAL

Some Helpful Nurses Prevent Meningitis

Used to remember: The three principal encapsulated bacterial threats in asplenia

Some	Streptococcus pneumoniae
Helpful	Haemophilus influenzae type b
Nurses	Neisseria meningitidis
Prevent Meningitis	A cue to remember the clinical importance of vaccination

UIM ORIGINAL

Encapsulated Bugs Need the Spleen

Used to remember: Why asplenic patients are particularly vulnerable to encapsulated bacteria

Spleen	Important for clearance of opsonised encapsulated organisms

UIM ORIGINAL

HACEK Hangs on Heart Valves

Used to remember: The clinical association of HACEK organisms

Heart valves	Fastidious Gram-negative organisms classically associated with infective endocarditis

Rapid Reference

Mnemonic	What it recalls
Staph Stacks; Strep Strings	Cocci arrangement
Staph Has Catalase; Strep Hasn't	Catalase
Aureus Clots	Coagulase
NO StRESs	Novobiocin
A = Bacitracin; B = CAMP	Group A/B strep
Pneumococcus Stops with Optochin	Alpha-haemolytic strep
Bacillus Breathes; Clostridia Avoid Air	Spore-forming GP rods
Listeria Loves the Cold	Listeria
Nocardia = Nearly Acid-Fast	Nocardia
MEN Maltose; GON Glucose Only	Neisseria
Haemophilus Needs X and V	H. influenzae
Klebsiella, E. coli, Enterobacter Eat Lactose	Lactose fermenters
Salmonella, Shigella, Proteus Stay Pale	Non-lactose fermenters
Pee CHiPS	Urease-positive organisms
Salmonella Swims; Shigella Sits	Motility
Pseudomonas = Pigment + Perfume + Oxidase	Pseudomonas
HACEK	Endocarditis group
My Chicken Loves Atypical Pneumonia	Atypical pneumonia
Mycoplasma = Missing Wall	Mycoplasma
Too Bendy to Gram	Spirochaetes
Exotoxin Exits; Endotoxin Embedded	Toxins
Tetanus Tight; Botulism Floppy	Neurotoxins
HHAPPPPy	DNA viruses
Pox Parks in Cytoplasm	Poxvirus
BOAR Has Segments	Segmented RNA viruses
A/E Alimentary; B/C/D Blood	Hepatitis transmission
Mold in Cold, Yeast in Heat	Dimorphic fungi
Blasto = Broad-Based Budding	Blastomyces
Aspergillus Acute; Mucor 90	Hyphal branching
Toxo = CHI	Congenital toxoplasmosis

Mnemonic	What it recalls
Giardia = Gas + Grease	Giardiasis
Vivax/Ovale = Vacation in Liver	Malaria hypnozoites
Nematodes Noodles; Cestodes Tape; Trematodes Leaves	Helminth groups
TORCH	Congenital infections

Discovery Sources

Mnemonic candidates were identified from Geeky Medics, Epomedicine, the public Picmonic microbiology index, Clinical Microbiology Made Ridiculously Simple bibliographic/preview material, and targeted educational-resource searches. These sources were used for discovery only; proprietary visual stories were not reproduced.

Independent Medical Verification

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Additional targeted verification used expert-reviewed StatPearls and PubMed reviews, plus DermNet for TORCH terminology. Sources accessed 23 September 2026.

Editorial conclusion: all 85 microbiology mnemonics remain unchanged. UIM Original entries remain clearly labelled.

PART I | BASIC MEDICAL SCIENCES

IMMUNOLOGY MNEMONICS

A comprehensive, verified collection of genuine immunology memory aids

Editorial approach
Only true memory devices are included. Established short mnemonics are used where helpful; newly created devices are labelled UIM Original. Core immunological facts were independently checked against authoritative sources.

Contents

Immune System Organisation
Antigen Presentation & T Cells
Immunoglobulins
Complement
Cytokines & T-Helper Responses
Hypersensitivity
Primary Immunodeficiencies
Autoimmunity & HLA Associations
Transplant Immunology
Vaccines & Immune Memory
Rapid Reference

Immune System Organisation

B = Bone Marrow; T = Thymus

Used to remember: Where B and T lymphocytes complete their primary maturation

B cells	Bone marrow
T cells	Thymus

UIM ORIGINAL

Innate = Immediate; Adaptive = After

Used to remember: The broad timing distinction between innate and adaptive immunity

Innate	Rapid, non-clonal first-line response
Adaptive	Antigen-specific response with clonal expansion and memory

UIM ORIGINAL

Neutrophils = Now; Lymphocytes = Long-Term

Used to remember: A broad functional contrast between rapid innate defence and adaptive lymphocyte responses

Neutrophils	Rapid phagocytic responders
Lymphocytes	Adaptive specificity and immune memory

UIM ORIGINAL

NK = No MHC? Kill

Used to remember: The tendency of natural killer cells to attack cells with reduced MHC class I

NK cells	Detect altered balance of activating/inhibitory signals
Low MHC I	Can favour NK-cell activation

This is a simplification: NK-cell activation depends on the integrated balance of multiple receptors.

Antigen Presentation & T Cells

One Times Eight = Eight; Two Times Four = Eight

Used to remember: The MHC-CD pairing rule

MHC I x CD8	1 x 8 = 8
MHC II x CD4	2 x 4 = 8

UIM ORIGINAL

Class I = Inside; Class II = Ingested

Used to remember: The usual antigen source presented by MHC classes

MHC I	Endogenous/intracellular peptides
MHC II	Exogenous peptides taken up by antigen-presenting cells

UIM ORIGINAL

MHC I Is on Nearly Every Nucleated Cell

Used to remember: The broad distribution of MHC class I

MHC I	Expressed on virtually all nucleated cells

UIM ORIGINAL

MHC II = Professional Presenters

Used to remember: The main cells expressing MHC class II

Professional APCs	Dendritic cells, macrophages and B cells

UIM ORIGINAL

CD8 Kills; CD4 Helps

Used to remember: The broad functions of the two major T-cell subsets

CD8	Cytotoxic T cells kill infected or abnormal cells
CD4	Helper T cells coordinate immune responses

Immunoglobulins

UIM ORIGINAL

IgG = Goes through the placenta

Used to remember: The immunoglobulin class that crosses the placenta

G	Goes across placenta
Role	Major antibody of secondary systemic responses

UIM ORIGINAL

IgA = At the entrances

Used to remember: The immunoglobulin concentrated at mucosal surfaces

A	Airways, alimentary tract and other mucosae
Secretions	Present in saliva, tears and breast milk

UIM ORIGINAL

IgM = Massive and Made First

Used to remember: Two defining features of IgM

Massive	Secreted IgM is mainly pentameric
Made first	First antibody class produced in a primary response

UIM ORIGINAL

IgE = Allergy and Eosinophils

Used to remember: The classic roles associated with IgE

Allergy	Binds mast cells/basophils in immediate hypersensitivity
Eosinophils	Important in anti-helminth responses

UIM ORIGINAL

IgD = Displayed on naive B cells

Used to remember: The principal high-yield location of IgD

Displayed	Co-expressed with IgM as a B-cell antigen receptor on naive mature B cells

GM Makes the Classical Pathway

Used to remember: The antibody classes that efficiently activate classical complement

G	IgG - especially certain subclasses
M	IgM

Complement

UIM ORIGINAL

C3b = Binds Bugs

Used to remember: The major opsonising role of C3b

Binds bugs	C3b coats microbial surfaces and promotes phagocytosis

UIM ORIGINAL

C5a = Attracts

Used to remember: The major chemotactic role of C5a

Attracts	Potent neutrophil chemotaxis and activation

C3a and C5a = Anaphylatoxins

Used to remember: The complement fragments that promote mast-cell mediated inflammation

C3a	Anaphylatoxin
C5a	Anaphylatoxin and powerful chemoattractant

UIM ORIGINAL

Five to Nine Punch the Membrane

Used to remember: The terminal complement membrane attack complex

C5b-C9	Assemble into the membrane attack complex and form pores

UIM ORIGINAL

Classical = Antibody; Lectin = Mannose; Alternative = Automatic

Used to remember: The three complement activation pathways

Classical	Often initiated by antigen-bound IgM or IgG
Lectin	Mannose-binding lectin recognises microbial carbohydrates
Alternative	Antibody-independent spontaneous/amplification pathway

Cytokines & T-Helper Responses

Hot T-Bone stEAK

Used to remember: A classic recall aid for major actions of IL-1 through IL-6

Hot - IL-1	Fever/inflammation
T - IL-2	T-cell proliferation and activation
Bone - IL-3	Supports bone-marrow haematopoietic progenitors
E - IL-4	Th2 differentiation and IgE class switching
A - IL-5	Eosinophil growth/activation and promotes IgA responses
K - IL-6	Acute-phase response and inflammation

The mnemonic is deliberately approximate; each cytokine has additional actions.

UIM ORIGINAL

IL-8 Brings Neutrophils to the Gate

Used to remember: The major chemotactic role of IL-8/CXCL8

IL-8	Strong neutrophil chemoattractant

UIM ORIGINAL

IL-10 Turns Inflammation Down

Used to remember: The major anti-inflammatory role of IL-10

IL-10	Suppresses macrophage and Th1-type inflammatory activity

UIM ORIGINAL

IL-12 Builds Th1

Used to remember: The role of IL-12 in cellular immunity

IL-12	Promotes Th1 differentiation and activates NK cells

UIM ORIGINAL

Th1 = One Intracellular Fight

Used to remember: The dominant role of Th1 responses

Th1	Cell-mediated immunity against intracellular pathogens
Key cytokine	IFN-gamma

UIM ORIGINAL

Th2 = Two A's: Allergy and Animals

Used to remember: The dominant roles of Th2 responses

Allergy	Promotes IgE-associated allergic responses
Animals	Helminth/parasite defence via eosinophil-rich responses
Key cytokines	IL-4, IL-5, IL-13

UIM ORIGINAL

Th17 = Barriers + Neutrophils

Used to remember: The key function of Th17 responses

Barriers	Mucosal/epithelial defence
Neutrophils	IL-17 promotes neutrophil recruitment

Hypersensitivity

ACID

Used to remember: The four Gell-Coombs hypersensitivity types

A - Type I	Anaphylactic / allergic - IgE, mast cells, immediate
C - Type II	Cytotoxic/antibody-mediated - IgG or IgM against cell or matrix antigens
I - Type III	Immune-complex deposition
D - Type IV	Delayed, T-cell mediated

UIM ORIGINAL

One Is Immediate; Four Is Delayed

Used to remember: The timing extremes of hypersensitivity

Type I	Minutes after re-exposure in classic immediate reactions
Type IV	Usually develops over 24-72 hours

UIM ORIGINAL

Type II Targets; Type III Travels

Used to remember: The difference between Type II and Type III hypersensitivity

Type II targets	Antibodies bind fixed cell-surface or extracellular-matrix antigens
Type III travels	Circulating immune complexes deposit in tissues

UIM ORIGINAL

Type IV = T Cells, No Antibody

Used to remember: The unique mediator of delayed hypersensitivity

T cells	CD4 and/or CD8 T-cell mechanisms
Antibody	Not the primary mediator

Primary Immunodeficiencies

CATCH-22

Used to remember: Major features associated with 22q11.2 deletion / DiGeorge syndrome

C	Cardiac abnormalities
A	Abnormal facies
T	Thymic hypoplasia/aplasia
C	Cleft palate
H	Hypocalcaemia
22	22q11.2 deletion

UIM ORIGINAL

Bruton = B Cells Blocked

Used to remember: The central defect in X-linked agammaglobulinaemia

B cells blocked	BTK deficiency prevents normal B-cell maturation
Result	Very low mature B cells and immunoglobulins

UIM ORIGINAL

SCID = Severe Combined: B and T Are in Trouble

Used to remember: The defining concept of severe combined immunodeficiency

Combined	Profound T-cell dysfunction with secondary/associated B-cell dysfunction

UIM ORIGINAL

Wiskott-Aldrich = Eczema + Infections + Tiny Platelets

Used to remember: The classic triad of Wiskott-Aldrich syndrome

Eczema	Eczematous dermatitis
Infections	Immunodeficiency
Tiny platelets	Thrombocytopenia with small platelets

UIM ORIGINAL

CGD Can't Generate the Respiratory Burst

Used to remember: The central defect in chronic granulomatous disease

CGD	NADPH oxidase pathway defect
Consequence	Impaired respiratory burst and killing of certain catalase-positive organisms

UIM ORIGINAL

Chediak-Higashi = Giant Granules

Used to remember: The characteristic cellular clue in Chediak-Higashi syndrome

Giant granules	Abnormal lysosomal trafficking causes giant cytoplasmic granules

Autoimmunity & HLA Associations

B27 = PAIR

Used to remember: Classic HLA-B27 associated inflammatory diseases

P	Psoriatic arthritis
A	Ankylosing spondylitis
I	IBD-associated arthritis
R	Reactive arthritis

I Ate 2 Much Gluten at DQ8

Used to remember: The major HLA association of coeliac disease

DQ2	Strong association
DQ8	Also associated

UIM ORIGINAL

DR4 Opens the Door to Rheumatoid Arthritis and Type 1 Diabetes

Used to remember: Two classic HLA-DR4 associations

Rheumatoid arthritis	Associated with HLA-DRB1 alleles commonly grouped under DR4
Type 1 diabetes	Associated with certain DR4 haplotypes

HLA disease associations are population-dependent and often involve specific alleles/haplotypes rather than a single broad serotype.

UIM ORIGINAL

Autoimmunity = Self Seen as Stranger

Used to remember: The central concept of loss of self-tolerance

Self	Autoantigens
Seen as stranger	Failure of central and/or peripheral tolerance permits autoreactivity

Transplant Immunology

UIM ORIGINAL

Hyperacute = Here in Minutes; Acute = After; Chronic = Creeps

Used to remember: The broad timing pattern of graft rejection

Hyperacute	Minutes to hours - pre-existing antibodies
Acute	Days to months or later episodes - cellular and/or antibody-mediated
Chronic	Months to years - progressive vascular/interstitial injury

UIM ORIGINAL

GVHD = Graft Goes after Host

Used to remember: The direction of immune attack in graft-versus-host disease

Graft immune cells	Attack recipient tissues
Classic targets	Skin, gastrointestinal tract and liver

UIM ORIGINAL

Host Rejection = Host Hits the Graft

Used to remember: The direction of conventional transplant rejection

Host immune system	Attacks donor graft

Vaccines & Immune Memory

UIM ORIGINAL

Live Learns Loudly

Used to remember: Why live attenuated vaccines often produce strong immune responses

Live attenuated	Mimic natural infection more closely and stimulate humoral plus cellular immunity

Live vaccines are generally avoided in significant immunocompromise and in pregnancy depending on vaccine-specific guidance.

UIM ORIGINAL

Booster = Memory Gets a Reminder

Used to remember: The purpose of a booster dose

Booster	Re-exposes the immune system to antigen and expands/refreshes memory responses

UIM ORIGINAL

Primary = IgM First; Secondary = IgG Grows

Used to remember: The broad antibody pattern of primary versus secondary responses

Primary response	IgM appears first before class-switched antibodies dominate
Secondary response	Faster, higher-affinity response often dominated by IgG or another class-switched isotype

Rapid Reference

Mnemonic	What it recalls
B = Bone Marrow; T = Thymus	Lymphocyte maturation
1 x 8 = 8; 2 x 4 = 8	MHC-CD pairing
Class I = Inside; Class II = Ingested	Antigen presentation
CD8 Kills; CD4 Helps	T-cell roles
IgG Goes; IgA Entrances; IgM First	Immunoglobulins
GM Makes the Classical Pathway	Classical complement
C3b = Binds Bugs	Opsonisation
C5a = Attracts	Chemotaxis
Five to Nine Punch the Membrane	MAC
Hot T-Bone stEAK	IL-1 to IL-6
IL-8 Brings Neutrophils	IL-8
Th1 = Intracellular Fight	Th1
Th2 = Allergy + Animals	Th2
ACID	Hypersensitivity I-IV
Type II Targets; Type III Travels	Hypersensitivity II vs III
CATCH-22	DiGeorge syndrome
Bruton = B Cells Blocked	XLA
Wiskott = Eczema + Infections + Tiny Platelets	WAS
B27 = PAIR	HLA-B27
I Ate 2 Much Gluten at DQ8	Coeliac HLA
GVHD = Graft Goes after Host	GVHD

Discovery & Verification Sources

Mnemonic discovery: Epomedicine; Geeky Medics; Picmonic public topic pages; First Aid-derived mnemonics visible in public educational references; targeted mnemonic literature and teaching resources.

Independent verification: NCBI Bookshelf / Immunobiology; NCBI Medical Microbiology; StatPearls; Merck Manual Professional; EBMT Handbook for HLA biology; standard texts including Abbas, Lichtman & Pillai's Cellular and Molecular Immunology.

Proprietary visual mnemonic stories were not reproduced. UIM Original entries are clearly labelled.

PART II | CLINICAL MEDICINE

CARDIOLOGY MNEMONICS

A comprehensive, clinically verified collection of cardiovascular memory aids

Editorial approach
Only genuine memory devices are included. Diagnostic criteria and scores are not reproduced merely because they have acronyms. Where a mnemonic overlaps with modern diagnostic criteria, important contemporary qualifications are stated.

Contents

Cardiovascular Examination
Heart Sounds & Murmurs
Murmur Manoeuvres
ECG Basics
Conduction Blocks & Arrhythmias
Myocardial Ischaemia & Infarction
Heart Failure
Valvular Heart Disease
Infective Endocarditis
Pericardial Disease
Rheumatic Fever
Congenital Heart Disease
Aortic & Vascular Disease
Rapid Reference

Cardiovascular Examination

APE To Man

Used to remember: The standard cardiac auscultation areas from upper right to apex

A	Aortic area - right 2nd intercostal space
P	Pulmonary area - left 2nd intercostal space
E	Erb's point - left 3rd intercostal space
T	Tricuspid area - lower left sternal border
M	Mitral area - apex, usually left 5th intercostal space near midclavicular line

UIM ORIGINAL

Right Murmurs Rise with Respiration

Used to remember: The effect of inspiration on most right-sided murmurs

Right-sided murmurs	Usually become louder with inspiration
Reason	Inspiration increases venous return to the right heart

This is a useful rule rather than an absolute law; auscultatory responses can be variable.

UIM ORIGINAL

Osler Ouches; Janeway Just Doesn't

Used to remember: The tenderness distinction between Osler nodes and Janeway lesions

Osler nodes	Tender/painful nodules, usually on fingers/toes
Janeway lesions	Typically painless macules on palms/soles

Heart Sounds & Murmurs

S1 = M1 T1; S2 = A2 P2

Used to remember: The valve closures producing the first and second heart sounds

S1	Mitral then tricuspid closure components
S2	Aortic then pulmonary closure components

S3 = Kentucky; S4 = Tennessee

Used to remember: The classic cadence of third and fourth heart sounds

S3	Ken-TUCK-y - extra sound after S2
S4	TEN-nes-see - extra sound before S1

MR AS in Systole; MS AR in Diastole

Used to remember: The timing of four classic left-sided valve murmurs

MR	Mitral regurgitation - systolic
AS	Aortic stenosis - systolic
MS	Mitral stenosis - diastolic
AR	Aortic regurgitation - diastolic

UIM ORIGINAL

AS = Aortic to Arteries

Used to remember: The characteristic radiation of aortic stenosis

Aortic stenosis	Ejection systolic murmur radiates to the carotid arteries

UIM ORIGINAL

MR = Mitral to Mid-Axilla

Used to remember: The characteristic radiation of mitral regurgitation

Mitral regurgitation	Pansystolic murmur often radiates toward the left axilla

UIM ORIGINAL

MS = Mitral Snap then Rumble

Used to remember: The classic auscultatory pattern of mitral stenosis

Snap	Opening snap after S2 may be heard
Rumble	Low-pitched mid-diastolic rumble at the apex

UIM ORIGINAL

AR = Away from the Aorta, Early Diastolic

Used to remember: The classic pattern of aortic regurgitation

AR	High-pitched early diastolic decrescendo murmur, often along the left sternal edge

Murmur Manoeuvres

UIM ORIGINAL

Handgrip Holds Blood Back

Used to remember: The effect of increased afterload during sustained handgrip

Louder	Mitral regurgitation, aortic regurgitation and VSD often become louder
Softer	Hypertrophic obstructive cardiomyopathy and often aortic stenosis become softer

UIM ORIGINAL

Valsalva = Volume Down; HCM and MVP Turn Up

Used to remember: The effect of reduced ventricular filling with Valsalva strain/standing

Volume down	Venous return and LV volume fall
HCM	Murmur usually becomes louder
MVP	Click occurs earlier and murmur may lengthen

UIM ORIGINAL

Squat = Volume Up; HCM Hushes

Used to remember: The effect of squatting on preload/afterload and HCM

Volume up	Venous return and systemic vascular resistance rise
HCM	Murmur generally becomes softer
MVP	Click becomes later

ECG Basics

UIM ORIGINAL

P Before QRS, T After

Used to remember: The basic sequence of normal electrical activity on ECG

P wave	Atrial depolarisation
QRS	Ventricular depolarisation
T wave	Ventricular repolarisation

300, 150, 100, 75, 60, 50

Used to remember: The rapid large-square method for estimating a regular heart rate

1 large square	300/min
2	150/min
3	100/min
4	75/min
5	60/min
6	50/min

Applicable when rhythm is regular and paper speed is 25 mm/s.

William Marrow

Used to remember: The classic QRS morphology mnemonic for bundle branch block

WiLLiaM	LBBB: W-shaped complex in V1, M-shaped in V6
MaRRoW	RBBB: M-shaped complex in V1, W-shaped in V6

Morphology may not always form perfect letters; formal QRS criteria should be used for diagnosis.

UIM ORIGINAL

PR Down, ST Up = Pericarditis

Used to remember: The classic ECG direction of PR and ST changes in acute pericarditis

PR	PR-segment depression in many leads
ST	Diffuse concave ST elevation in the typical early stage

Reciprocal PR elevation/ST depression may occur in aVR; not every case follows the textbook sequence.

Conduction Blocks & Arrhythmias

Longer, Longer, Longer, Drop - Wenckebach

Used to remember: The classic ECG pattern of Mobitz I second-degree AV block

Longer	Progressive PR prolongation
Drop	A P wave is eventually not followed by a QRS complex

UIM ORIGINAL

Mobitz II = PR Stays, QRS Strays

Used to remember: The characteristic pattern of Mobitz II AV block

PR stays	PR intervals of conducted beats are usually constant
QRS strays	Intermittent non-conducted P waves cause dropped QRS complexes

UIM ORIGINAL

Third Degree = P and QRS Divorce

Used to remember: Complete AV dissociation

P waves	Follow an atrial rhythm
QRS complexes	Follow an independent escape rhythm

UIM ORIGINAL

AF = Absolutely Irregular

Used to remember: The ventricular rhythm of atrial fibrillation

Absolutely irregular	Irregularly irregular ventricular response
P waves	Discrete sinus P waves are absent

Flutter = Saw Teeth

Used to remember: The classic atrial flutter appearance

Saw teeth	Regular flutter waves, classically most evident in inferior leads

UIM ORIGINAL

Torsades = Twisting Points

Used to remember: The characteristic appearance of torsades de pointes

Twisting	Polymorphic QRS complexes appear to twist around the baseline
Association	Usually occurs in the setting of QT prolongation

Myocardial Ischaemia & Infarction

II, III, aVF = Inferior

Used to remember: The classic inferior ECG territory

Inferior leads	II, III and aVF

I, aVL, V5, V6 = Lateral

Used to remember: The classic lateral ECG territory

Lateral leads	I, aVL, V5 and V6

UIM ORIGINAL

V1 to V4 = Anterior Door

Used to remember: The principal anterior/septal precordial territory

V1-V2	Septal
V3-V4	Anterior

UIM ORIGINAL

RCA Runs Inferior; LAD Leads Anterior; Circumflex Circles Lateral

Used to remember: Typical coronary-territory associations in myocardial infarction

RCA	Common culprit in inferior MI
LAD	Common culprit in anterior/septal MI
LCx	Can produce lateral/posterior infarction

Coronary anatomy and dominance vary; ECG territory does not identify the culprit artery with absolute certainty.

UIM ORIGINAL

ST Elevation = Injury Looking Acute

Used to remember: A simple conceptual association for acute transmural injury patterns

ST elevation	May indicate acute myocardial injury in an appropriate clinical context

ST elevation has many non-ischaemic causes; diagnosis of MI requires clinical and biomarker integration.

Heart Failure

UIM ORIGINAL

Left = Lungs; Right = Rest of the Body

Used to remember: The dominant congestion patterns of left- and right-sided heart failure

Left	Pulmonary congestion - dyspnoea, orthopnoea, crackles
Right	Systemic venous congestion - raised JVP, oedema, hepatic congestion

UIM ORIGINAL

S3 = Volume

Used to remember: The association of an S3 with increased ventricular filling/volume states

S3	Can be heard with increased filling and systolic heart failure; may be physiological in younger people

UIM ORIGINAL

JVP Up, Ankles Up, Liver Up = Right Heart Back-Up

Used to remember: Typical signs of systemic venous congestion

JVP	Raised
Ankles	Peripheral oedema
Liver	Hepatomegaly/congestion

UIM ORIGINAL

BNP = Badly stretched cardiac chambers

Used to remember: Why natriuretic peptides rise in heart failure

BNP/NT-proBNP	Released in response to myocardial wall stress; useful in assessing suspected HF

Levels are influenced by age, renal function, atrial fibrillation, obesity and other factors.

Valvular Heart Disease

UIM ORIGINAL

Pressure Problem = Stenosis; Volume Problem = Regurgitation

Used to remember: The broad haemodynamic burden of valve lesions

Stenosis	Creates a pressure load across an obstructed valve
Regurgitation	Creates volume overload from backward flow

AS = Syncope, Angina, Dyspnoea

Used to remember: The classic symptom triad of severe symptomatic aortic stenosis

Syncope	Often exertional
Angina	Can occur without epicardial CAD
Dyspnoea	Heart failure symptom

UIM ORIGINAL

Mitral Stenosis = LA First

Used to remember: The chamber most directly affected by mitral stenosis

LA	Left atrial pressure and enlargement increase; pulmonary hypertension and AF may follow

UIM ORIGINAL

Mitral Regurgitation = LA + LV Volume

Used to remember: The chambers exposed to chronic volume overload in MR

LA	Receives regurgitant systolic volume
LV	Handles increased diastolic volume on subsequent filling

Infective Endocarditis

FROM JANE

Used to remember: Classic clinical clues to infective endocarditis

F	Fever
R	Roth spots
O	Osler nodes
M	Murmur
J	Janeway lesions
A	Anaemia
N	Nail-bed splinter haemorrhages
E	Embolic phenomena

Many patients do not have the classic peripheral stigmata; diagnosis relies on microbiology, imaging and contemporary diagnostic criteria.

UIM ORIGINAL

Osler Ouches; Janeway Just Doesn't

Used to remember: The tenderness difference in classic endocarditis lesions

Osler	Tender
Janeway	Painless

UIM ORIGINAL

Right Heart Throws to Lungs; Left Heart Throws Systemic

Used to remember: The embolic destinations of right- versus left-sided endocarditis

Right-sided IE	Septic pulmonary emboli
Left-sided IE	Systemic emboli including cerebral and splenic emboli

Pericardial Disease

UIM ORIGINAL

Pericarditis Pain = Better Forward, Worse Flat

Used to remember: The classic positional character of acute pericarditic chest pain

Better	Sitting up/leaning forward
Worse	Supine; often pleuritic

UIM ORIGINAL

Beck's 3 Ds: Dropping Pressure, Distended Veins, Distant Sounds

Used to remember: The classic triad of cardiac tamponade

Dropping pressure	Hypotension
Distended veins	Raised JVP
Distant sounds	Muffled heart sounds

The complete triad is insensitive and may be absent; echocardiographic and haemodynamic assessment are important.

UIM ORIGINAL

Tamponade = Heart Trapped by Fluid

Used to remember: The basic mechanism of cardiac tamponade

Fluid	Pericardial pressure impairs cardiac filling
Result	Reduced stroke volume and obstructive shock physiology

Rheumatic Fever

JONES

Used to remember: The five classic major manifestations of acute rheumatic fever

J	Joints - arthritis
O	O - heart: carditis
N	Nodules - subcutaneous
E	Erythema marginatum
S	Sydenham chorea

Use only as a memory aid for the major manifestations. Modern Jones criteria vary by population risk: joint criteria differ between low-risk and moderate/high-risk populations, and diagnosis also requires evidence of preceding group A streptococcal infection in most presentations.

UIM ORIGINAL

Joints, Heart, Skin, Brain

Used to remember: The major organ systems represented in acute rheumatic fever

Joints	Arthritis/arthralgia
Heart	Carditis
Skin	Erythema marginatum and nodules
Brain	Sydenham chorea

Congenital Heart Disease

The 5 Ts of Cyanotic Heart Disease

Used to remember: The classic cyanotic congenital heart lesions

T1	Tetralogy of Fallot
T2	Transposition of the great arteries
T3	Tricuspid atresia
T4	Truncus arteriosus
T5	Total anomalous pulmonary venous return

UIM ORIGINAL

PROVe the Tetralogy

Used to remember: The four anatomical components of Tetralogy of Fallot

P	Pulmonary stenosis / RV outflow obstruction
R	Right ventricular hypertrophy
O	Overriding aorta
V	Ventricular septal defect

UIM ORIGINAL

VSD = Very Common Septal Defect

Used to remember: A simple association for ventricular septal defect

VSD	Among the most common congenital cardiac defects; haemodynamic significance depends on size and location

PDA = Continuous Machinery

Used to remember: The classic murmur of patent ductus arteriosus

Continuous	Murmur spans systole and diastole
Machinery	Traditional description, often best heard in the left infraclavicular area

ASD = Fixed Split S2

Used to remember: The classic auscultatory clue of an atrial septal defect

Fixed split	Wide fixed splitting of S2 due to relatively constant increased right-sided flow

Aortic & Vascular Disease

UIM ORIGINAL

Aortic Dissection = Sudden, Severe, Shooting to the Back

Used to remember: The classic pain pattern of acute aortic dissection

Sudden	Abrupt onset
Severe	Often maximal at onset
Back	May radiate to back/interscapular region

Presentations vary; absence of the classic pain description does not exclude dissection.

UIM ORIGINAL

AAA = Abdomen, Aorta, Aneurysm - Pulsatile

Used to remember: The classic examination association of abdominal aortic aneurysm

Pulsatile	A pulsatile abdominal mass may be present

Many AAAs are asymptomatic and not palpable; imaging is diagnostic.

Six Ps = Pain, Pallor, Pulselessness, Paraesthesia, Paralysis, Poikilothermia

Used to remember: The classic features of acute limb ischaemia

Pain	Acute limb pain
Pallor	Pale limb
Pulselessness	Absent pulses
Paraesthesia	Sensory deficit
Paralysis	Motor deficit
Poikilothermia	Cold limb

Rapid Reference

Mnemonic	What it recalls
APE To Man	Auscultation areas
S3 = Kentucky; S4 = Tennessee	Gallop rhythm cadence
MR AS systole; MS AR diastole	Valve murmur timing
Valsalva Volume Down; HCM/MVP Up	Murmur manoeuvres
William Marrow	Bundle branch block
Longer, Longer, Longer, Drop	Wenckebach
P and QRS Divorce	Complete heart block
AF = Absolutely Irregular	Atrial fibrillation
Flutter = Saw Teeth	Atrial flutter
II, III, aVF = Inferior	Inferior MI
I, aVL, V5, V6 = Lateral	Lateral MI
Left = Lungs; Right = Rest of Body	Heart failure
AS = Syncope, Angina, Dyspnoea	Aortic stenosis
FROM JANE	Endocarditis
Osler Ouches; Janeway Doesn't	Endocarditis lesions
PR Down, ST Up	Pericarditis
Beck's 3 Ds	Tamponade
JONES	Rheumatic fever major manifestations
5 Ts	Cyanotic congenital heart disease
PROVe	Tetralogy of Fallot
PDA = Continuous Machinery	Patent ductus arteriosus
ASD = Fixed Split S2	Atrial septal defect
Six Ps	Acute limb ischaemia

Discovery & Verification Sources

Mnemonic discovery: resources in the Updates in Medicine mnemonic-book source list, including Geeky Medics, Epomedicine, LITFL, Zero to Finals, Kenhub and other established medical-education mnemonic collections.

Independent verification: NCBI Bookshelf/StatPearls cardiovascular chapters; Merck Manual Professional; WHO guidance for rheumatic fever; current standard cardiology references. Classic examination mnemonics were retained only when their underlying clinical statements remained accurate. Diagnostic criteria and treatment algorithms were not converted into mnemonics.

UIM Original entries are clearly labelled and should undergo final editorial review before publication.

PART II | CLINICAL MEDICINE

RESPIRATORY MEDICINE MNEMONICS

A comprehensive, clinically verified collection of respiratory memory aids

Editorial approach
Only genuine memory devices are included. Clinical scores and guideline algorithms are not reproduced merely because they have acronyms. UIM Original entries are used only when a memorable, clinically accurate device adds genuine recall value.

Contents

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Bronchiectasis & Cystic Fibrosis
Interstitial Lung Disease
Pulmonary Hypertension
Sleep-Disordered Breathing
Respiratory Failure & Acid-Base
Chest Imaging
Rapid Reference

Respiratory Examination

IPPA

Used to remember: The core sequence of the respiratory physical examination

I	Inspection
P	Palpation
P	Percussion
A	Auscultation

JACCOL

Used to remember: General physical signs commonly sought before the chest examination

J	Jaundice
A	Anaemia
C	Cyanosis
C	Clubbing
O	Oedema
L	Lymphadenopathy

UIM ORIGINAL

Clubbing = Window Closes

Used to remember: The Schamroth sign of digital clubbing

Normal	A diamond-shaped window is usually visible when corresponding terminal phalanges oppose
Clubbing	The window is reduced or absent

UIM ORIGINAL

Trachea Pulls to Loss, Pushes from Pressure

Used to remember: The broad interpretation of tracheal deviation

Pulls toward	Volume loss such as lobar collapse/fibrosis
Pushes away	Large pleural effusion, tension pneumothorax or mass effect

Small deviations can be non-pathological; interpret with the rest of the examination and imaging.

UIM ORIGINAL

COPD = Barrel; Fibrosis = Small

Used to remember: Typical chest-shape tendencies in hyperinflation versus restrictive volume loss

COPD/emphysema	Hyperinflation may increase anteroposterior diameter
Fibrotic restriction	Reduced lung volumes may produce a small-volume chest

Breath Sounds & Percussion

UIM ORIGINAL

Air = Hyper; Fluid or Solid = Dull

Used to remember: The key percussion patterns in common chest pathology

Hyperresonant	Excess air - e.g. pneumothorax or marked hyperinflation
Dull	Fluid or consolidated/solid tissue - e.g. effusion or consolidation

UIM ORIGINAL

Pneumonia = Dull but Noisy; Effusion = Dull and Quiet

Used to remember: The bedside distinction between consolidation and pleural effusion

Consolidation	Dull percussion with bronchial breathing / increased vocal resonance
Pleural effusion	Stony dull percussion with reduced breath sounds and vocal resonance

UIM ORIGINAL

Pneumothorax = Hyper and Hushed

Used to remember: The classic examination pattern of pneumothorax

Hyper	Hyperresonant percussion
Hushed	Reduced/absent breath sounds

UIM ORIGINAL

Consolidation Conducts

Used to remember: Why vocal resonance and bronchial breathing increase in consolidation

Conducts	Dense airless lung transmits higher-frequency sounds more effectively than aerated lung

UIM ORIGINAL

Wheeze = Narrow Airways; Crackles = Opening or Fluid

Used to remember: The broad mechanism behind common adventitious lung sounds

Wheeze	Airflow through narrowed airways
Crackles	Sudden airway/alveolar opening or air moving through abnormal secretions/fluid

Dyspnoea & Hypoxaemia

UIM ORIGINAL

AIR HEART

Used to remember: A broad differential framework for acute breathlessness

A	Asthma / anaphylaxis
I	Infection
R	Respiratory failure / airway obstruction
H	Heart failure / acute coronary syndrome
E	Embolism - pulmonary
A	Air in pleura - pneumothorax
R	Restrictive/neuromuscular causes
T	Tamponade / toxic-metabolic causes

UIM ORIGINAL

Five Causes of Hypoxaemia = Low Air, Low Ventilation, V/Q, Shunt, Diffusion

Used to remember: The major physiological mechanisms of hypoxaemia

Low inspired oxygen	Reduced inspired oxygen tension
Hypoventilation	Reduced alveolar ventilation
V/Q mismatch	Ventilation-perfusion mismatch
Shunt	Perfusion without ventilation
Diffusion	Impaired diffusion across alveolar-capillary membrane

UIM ORIGINAL

V/Q Mismatch Likes Oxygen; Shunt Resists

Used to remember: The typical response of major hypoxaemic mechanisms to supplemental oxygen

V/Q mismatch	Usually improves substantially
True right-to-left shunt	May respond poorly compared with V/Q mismatch

Asthma

UIM ORIGINAL

Asthma = Variable, Reversible, Wheezy

Used to remember: The core clinical-physiological concept of asthma

Variable	Symptoms and airflow limitation vary over time
Reversible	Airflow obstruction is often reversible/spontaneously variable
Wheezy	Wheeze is common but not universal

Current asthma diagnosis requires characteristic symptoms plus objective evidence of variable expiratory airflow limitation where possible.

UIM ORIGINAL

Night, Exercise, Allergens, Viral - Asthma Likes NEAV

Used to remember: Common triggers or patterns suggesting asthma

N	Night/early-morning symptoms
E	Exercise
A	Allergens
V	Viral respiratory infections

Clubbing Is Not Asthma

Used to remember: A physical sign that should prompt consideration of another diagnosis

Clubbing	Suggests alternatives such as bronchiectasis, interstitial lung disease or malignancy rather than uncomplicated asthma

UIM ORIGINAL

Silent Chest = Severe Threat

Used to remember: Why reduced wheeze can be ominous in a severe asthma attack

Silent chest	May reflect critically reduced airflow rather than improvement

COPD

UIM ORIGINAL

COPD = Cough, Obstruction, Phlegm, Dyspnoea

Used to remember: A simple symptom-and-physiology reminder

C	Chronic cough
O	Persistent airflow Obstruction
P	Phlegm/sputum
D	Dyspnoea

COPD diagnosis requires appropriate clinical context and post-bronchodilator spirometric airflow obstruction.

UIM ORIGINAL

Emphysema = Empty Enlarged Airspaces

Used to remember: The pathological concept of emphysema

Empty/enlarged	Permanent enlargement of distal airspaces with alveolar-wall destruction

UIM ORIGINAL

Chronic Bronchitis = Cough + Sputum for Months, Repeated Years

Used to remember: The classic epidemiological definition of chronic bronchitis

Months	At least 3 months in a year
Repeated years	For 2 consecutive years after excluding other causes

UIM ORIGINAL

COPD Exacerbation = More Breathlessness, More Sputum, More Purulence

Used to remember: The classic Anthonisen symptom triad

Breathlessness	Increased dyspnoea
Sputum	Increased volume
Purulence	Increased sputum purulence

Modern exacerbation definitions and treatment decisions use broader clinical assessment; this triad remains a useful historical recall aid.

Pneumonia & Infection

UIM ORIGINAL

Pneumonia = Fever, Cough, Crackles, Consolidation

Used to remember: A classic clinical pattern of pneumonia

Fever	May be present
Cough	Often productive
Crackles	Common auscultatory finding
Consolidation	Focal radiographic/physical signs may occur

Older, immunocompromised and severely ill patients may lack classic features.

UIM ORIGINAL

Atypical = Dry, Diffuse, Extra-Pulmonary

Used to remember: The traditional pattern of atypical pneumonia

Dry	Cough may be non-productive
Diffuse	Patchy/diffuse radiographic pattern may occur
Extra-pulmonary	Headache, myalgia, GI or neurological features may accompany illness

'Typical' versus 'atypical' is an imperfect clinical distinction and should not be used alone to infer the pathogen.

UIM ORIGINAL

Aspiration Goes Down to Dependent Zones

Used to remember: The usual distribution of aspiration-related lung disease

Dependent zones	Location depends on body position; commonly posterior upper lobes/superior lower lobes when supine and basal lower lobes when upright

UIM ORIGINAL

TB = Cough, Weight Loss, Night Sweats, Blood

Used to remember: Classic symptoms of pulmonary tuberculosis

Cough	Persistent cough
Weight loss	Constitutional symptom
Night sweats	Constitutional symptom
Blood	Haemoptysis can occur

Pleural Disease

UIM ORIGINAL

Pleural Effusion = Stony Dull, Silent, Reduced Fremitus

Used to remember: The classic physical signs of a sizeable pleural effusion

Stony dull	Percussion
Silent	Reduced breath sounds
Reduced fremitus	Reduced tactile/vocal fremitus/resonance

UIM ORIGINAL

Transudate = Pressure Problem; Exudate = Pleural Problem

Used to remember: The broad pathophysiological distinction between transudative and exudative effusions

Transudate	Systemic hydrostatic/oncotic imbalance
Exudate	Local pleural inflammation, infection, malignancy or vascular injury

Classification should be made with validated biochemical criteria such as Light's criteria, not the mnemonic alone.

UIM ORIGINAL

Blood, Pus, Milk, Air - Pleura Can Fill with More Than Water

Used to remember: Special pleural collections

Blood	Haemothorax
Pus	Empyema
Milk	Chylothorax
Air	Pneumothorax

Pneumothorax

UIM ORIGINAL

Pneumothorax = Hyper, Hushed, Hollow

Used to remember: The classic examination triad

Hyper	Hyperresonant percussion
Hushed	Reduced/absent breath sounds
Hollow	Loss of normal lung density/air in pleural space

UIM ORIGINAL

Tension = Pressure Pushes Trachea Away

Used to remember: The mechanism and late physical sign of tension pneumothorax

Pressure	Increasing intrapleural pressure impairs venous return
Pushes away	Tracheal/mediastinal deviation away may occur in advanced tension

Tension pneumothorax is a clinical emergency; do not wait for tracheal deviation or imaging when the diagnosis is strongly suspected.

UIM ORIGINAL

Tall, Thin, Young = Primary Spontaneous Pneumothorax

Used to remember: The classic patient phenotype associated with primary spontaneous pneumothorax

Tall/thin/young	Classic epidemiological association, especially in males and smokers

Pulmonary Embolism

UIM ORIGINAL

PE = Pleuritic Pain + Pulse Up + Breathlessness

Used to remember: A classic symptom/sign cluster of acute pulmonary embolism

Pleuritic pain	Common presentation
Pulse up	Tachycardia may occur
Breathlessness	Often acute or unexplained

Pulmonary embolism has highly variable presentations; no symptom cluster is sufficiently sensitive to exclude it.

UIM ORIGINAL

DVT Makes PE

Used to remember: The most common thromboembolic source of pulmonary emboli

DVT	Most pulmonary emboli arise from venous thrombosis, usually in the deep veins of the legs/pelvis

Virchow = Stasis, Injury, Hypercoagulability

Used to remember: The three broad contributors to venous thrombosis

Stasis	Immobility/venous stasis
Injury	Endothelial injury
Hypercoagulability	Inherited or acquired

Haemoptysis

UIM ORIGINAL

Haemoptysis = ABC-T

Used to remember: Major diagnostic categories for coughing blood

A	Airway disease - bronchiectasis, bronchitis, tumour
B	Blood vessels - pulmonary embolism, pulmonary hypertension
C	Cavities/infection - TB, abscess, fungal disease
T	Tumour

UIM ORIGINAL

Bright, Bubbly, Coughed = Lung; Dark, Vomited = Gut

Used to remember: A bedside distinction between haemoptysis and haematemesis

Lung	Typically coughed, bright red and may be frothy
Gut	Typically vomited, darker/coffee-ground and mixed with gastric contents

Real presentations can overlap; airway protection and haemodynamic assessment take priority in major bleeding.

Bronchiectasis & Cystic Fibrosis

UIM ORIGINAL

Bronchiectasis = Big Bronchi + Daily Sputum

Used to remember: The core structural and clinical concept of bronchiectasis

Big bronchi	Permanent abnormal bronchial dilatation
Daily sputum	Chronic productive cough is common

UIM ORIGINAL

Bronchiectasis Causes = POST CARD

Used to remember: A broad aetiological checklist for bronchiectasis

P	Post-infectious
O	Obstruction
S	Systemic/autoimmune
T	Traction from fibrosis
C	Ciliary disorders / cystic fibrosis
A	Allergic bronchopulmonary aspergillosis
R	Reflux/aspiration
D	Deficiency - immunodeficiency

UIM ORIGINAL

CF = Chloride Failure

Used to remember: The basic ion-transport defect in cystic fibrosis

CFTR	Defective epithelial chloride/bicarbonate transport causes dehydrated secretions

UIM ORIGINAL

CF = Chest, Gut, Fertility, Salt

Used to remember: Four major organ-system clues in cystic fibrosis

Chest	Bronchiectasis/chronic airway infection
Gut	Pancreatic insufficiency/malabsorption
Fertility	Male infertility commonly due to congenital bilateral absence of vas deferens
Salt	High sweat chloride

Interstitial Lung Disease

UIM ORIGINAL

ILD = Inflammation/Fibrosis in the Interstitium

Used to remember: The broad pathological concept of interstitial lung disease

Interstitium	Diffuse parenchymal disorders commonly impair gas transfer and reduce compliance

UIM ORIGINAL

ILD Causes = CONNECT

Used to remember: A broad clinical cause checklist for diffuse interstitial lung disease

C	Connective-tissue disease
O	Occupational exposure
N	No known cause - idiopathic
N	Neoplastic/infiltrative
E	Environmental/antigen exposure - hypersensitivity pneumonitis
C	Culprit drugs
T	Treatment/radiation

UIM ORIGINAL

Fibrosis = Fine Crackles + Firm Lungs

Used to remember: Two classic associations of pulmonary fibrosis

Fine crackles	Bibasal end-inspiratory 'Velcro-like' crackles may occur
Firm lungs	Reduced compliance/restrictive physiology

UIM ORIGINAL

Honeycomb = End-Stage Fibrotic Architecture

Used to remember: The meaning of honeycombing on HRCT

Honeycomb	Clustered subpleural cystic airspaces reflecting established fibrosis

Pulmonary Hypertension

UIM ORIGINAL

PH Groups = Arteries, Left Heart, Lungs, Clots, Mixed

Used to remember: The five clinical groups of pulmonary hypertension

1 - Arteries	Pulmonary arterial hypertension
2 - Left heart	PH associated with left-heart disease
3 - Lungs	PH associated with lung disease and/or hypoxia
4 - Clots	Chronic thromboembolic/pulmonary artery obstruction
5 - Mixed	Unclear and/or multifactorial mechanisms

UIM ORIGINAL

Loud P2 = Pulmonary Pressure

Used to remember: A classic auscultatory clue to pulmonary hypertension

P2	Accentuated pulmonary component of the second heart sound may occur

UIM ORIGINAL

Right Heart Fails When Pulmonary Pressure Prevails

Used to remember: The long-term consequence of severe pulmonary hypertension

Right ventricle	Pressure overload can lead to RV hypertrophy, dilatation and failure

Sleep-Disordered Breathing

UIM ORIGINAL

OSA = Obstruction During Sleep

Used to remember: The core pathophysiology of obstructive sleep apnoea

Obstruction	Recurrent upper-airway collapse despite ongoing respiratory effort
Sleep	Events occur during sleep

UIM ORIGINAL

OSA Clues = Snore, Stop, Sleepy

Used to remember: Three classic history clues for obstructive sleep apnoea

Snore	Loud habitual snoring
Stop	Witnessed apnoeas/gasping
Sleepy	Daytime sleepiness or fatigue

UIM ORIGINAL

Central Apnoea = No Airflow, No Effort

Used to remember: The defining physiological distinction of central sleep apnoea

No airflow	Apnoea
No effort	Absent respiratory effort during the event

Respiratory Failure & Acid-Base

UIM ORIGINAL

Type 1 = Oxygen Low; Type 2 = Oxygen Low + CO2 High

Used to remember: The classic physiological distinction between type 1 and type 2 respiratory failure

Type 1	Hypoxaemic respiratory failure
Type 2	Hypercapnic respiratory failure, usually with hypoxaemia

UIM ORIGINAL

Hypercapnia = Ventilation Problem

Used to remember: The key physiological meaning of elevated PaCO2

CO2 high	Alveolar ventilation is inadequate relative to CO2 production

ROME

Used to remember: The basic direction of primary respiratory acid-base disturbances

R	Respiratory
O	Opposite - pH and PaCO2 move in opposite directions
M	Metabolic
E	Equal - pH and bicarbonate move together

Compensation and mixed disturbances require formal interpretation.

UIM ORIGINAL

Chronic CO2 = Kidneys Keep Bicarbonate

Used to remember: The renal compensation of chronic respiratory acidosis

Kidneys	Increase bicarbonate retention and net acid excretion over time

Chest Imaging

ABCDEFG on the Chest X-Ray

Used to remember: A systematic chest radiograph review

A	Airway
B	Breathing/lungs and pleura
C	Cardiac silhouette
D	Diaphragm
E	Everything else / Effusions
F	Fields / bones / soft tissues
G	Gastric bubble / devices / review for missed findings

There are many legitimate ABCDE/ABCDEFG variants; the important point is a consistent systematic approach.

UIM ORIGINAL

White Pushes = Effusion; White Pulls = Collapse

Used to remember: The direction of mediastinal shift with a large opacity

Pushes away	Large pleural effusion or mass effect
Pulls toward	Lobar/lung collapse due to volume loss

UIM ORIGINAL

Air Bronchograms = Air Tubes Through White Lung

Used to remember: The concept of an air bronchogram

Air-filled bronchi	Remain visible against surrounding airspace opacity

UIM ORIGINAL

Silhouette Sign = Lost Border, Same Location

Used to remember: How loss of a normal interface helps localise lung opacity

Lost border	An opacity touching a structure of similar radiographic density obscures its normal edge
Location	Helps localise the involved lobe/segment

Rapid Reference

Mnemonic	What it recalls
IPPA	Respiratory examination
Trachea Pulls to Loss, Pushes from Pressure	Tracheal deviation
Air = Hyper; Fluid/Solid = Dull	Percussion
Pneumonia Dull but Noisy; Effusion Dull and Quiet	Chest signs
Pneumothorax = Hyper and Hushed	Pneumothorax
AIR HEART	Acute dyspnoea
V/Q Likes Oxygen; Shunt Resists	Hypoxaemia
Clubbing Is Not Asthma	Asthma red flag
Silent Chest = Severe Threat	Severe asthma
COPD = Cough, Obstruction, Phlegm, Dyspnoea	COPD
Aspiration Goes Down to Dependent Zones	Aspiration
Stony Dull, Silent, Reduced Fremitus	Pleural effusion
Tension = Pressure Pushes Trachea Away	Tension pneumothorax
PE = Pleuritic Pain + Pulse Up + Breathlessness	Pulmonary embolism
POST CARD	Bronchiectasis causes
CF = Chest, Gut, Fertility, Salt	Cystic fibrosis
CONNECT	ILD causes
PH = Arteries, Left Heart, Lungs, Clots, Mixed	PH groups
OSA = Snore, Stop, Sleepy	OSA
Type 1 O2 Low; Type 2 O2 Low + CO2 High	Respiratory failure
ABCDEFG	Chest X-ray review
White Pushes = Effusion; White Pulls = Collapse	Mediastinal shift

Discovery & Verification Sources

Mnemonic discovery: Geeky Medics, Epomedicine, LITFL, Zero to Finals and other clinician-education resources listed for the Updates in Medicine mnemonic-book project.

Independent verification: NCBI Bookshelf/Clinical Methods and StatPearls respiratory chapters; current GINA asthma strategy; GOLD COPD strategy; BTS pleural-disease resources; ESC/ERS pulmonary-hypertension classification; standard respiratory texts including Murray & Nadel and West's Respiratory Physiology.

Where traditional teaching phrases were clinically oversimplified, a qualification has been added. UIM Original entries are clearly labelled.

PART II | CLINICAL MEDICINE

GASTROENTEROLOGY & HEPATOLOGY MNEMONICS

A comprehensive, clinically verified collection of gastrointestinal and liver memory aids

Editorial approach

Only genuine memory devices are included. Scores and diagnostic criteria are not presented merely because they form acronyms. Traditional mnemonics are retained only when they remain clinically useful; important limitations are stated.

Contents

Abdominal Examination
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Cirrhosis & Portal Hypertension
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Viral & Metabolic Liver Disease
Gallbladder & Biliary Disease
Pancreatitis
Colorectal Disease
Rapid Reference

Abdominal Examination

6 Fs = Fat, Fluid, Flatus, Faeces, Fetus, Fulminant Mass

Used to remember: The classic causes of abdominal distension

Fat	Adiposity
Fluid	Ascites
Flatus	Gaseous bowel distension
Faeces	Constipation/faecal loading
Fetus	Pregnancy
Fulminant mass	Large intra-abdominal/pelvic mass

The final F varies in teaching sources; 'mass' is the important clinical category.

UIM ORIGINAL

Look, Listen, Feel, Percuss - Abdomen in That Order

Used to remember: A practical abdominal-examination sequence

Look	Inspection
Listen	Auscultation
Feel	Palpation
Percuss	Percussion

Many clinical schools auscultate before palpation/percussion to avoid theoretically altering bowel sounds.

UIM ORIGINAL

Asterixis = Liver, Kidney, CO2

Used to remember: Three classic metabolic causes of asterixis

Liver	Hepatic encephalopathy
Kidney	Uraemia
CO2	Hypercapnic respiratory failure

UIM ORIGINAL

Spider, Palms, Breasts, Testes - Think Chronic Liver

Used to remember: Classic peripheral endocrine/vascular stigmata of chronic liver disease

Spider	Spider naevi
Palms	Palmar erythema
Breasts	Gynaecomastia
Testes	Testicular atrophy/hypogonadism

These signs are neither sensitive nor specific and should be interpreted in clinical context.

Abdominal Pain & Distension

UIM ORIGINAL

Foregut High, Midgut Middle, Hindgut Low

Used to remember: The broad location of visceral pain by embryological origin

Foregut	Upper abdomen/epigastrium
Midgut	Periumbilical
Hindgut	Lower abdomen/suprapubic

UIM ORIGINAL

Appendix Starts Central, Settles Right

Used to remember: The classic migration of appendicitis pain

Central	Early visceral pain is often periumbilical
Right	Later parietal irritation localises pain to the right lower quadrant

UIM ORIGINAL

Colic Comes in Cramping Waves

Used to remember: The characteristic pain pattern of hollow-viscus obstruction

Colic	Intermittent cramping pain related to peristaltic contractions

UIM ORIGINAL

Peritonitis = Pain with Movement

Used to remember: A practical bedside clue to parietal peritoneal irritation

Movement	Patients may lie still because coughing, movement and percussion worsen pain

Dysphagia & Upper GI Disease

UIM ORIGINAL

Solids First = Structure; Solids + Liquids = Motility

Used to remember: A classic way to separate mechanical obstruction from motility disorders in dysphagia

Solids first	Suggests progressive mechanical narrowing
Solids + liquids from onset	Suggests oesophageal motility disorder

UIM ORIGINAL

GERD = Goes up after Grub, Gets worse lying Down

Used to remember: The typical reflux pattern

After grub	Often post-prandial
Lying down	Symptoms may worsen supine
Goes up	Acid regurgitation/heartburn

UIM ORIGINAL

Peptic Pain = Acid Meets Mucosa

Used to remember: The core mechanism of peptic ulcer symptoms

Acid	Gastric acid/pepsin exposure
Mucosa	Breakdown of gastroduodenal mucosal defence

UIM ORIGINAL

H. pylori Hides with Urease

Used to remember: The key survival mechanism of Helicobacter pylori

Urease	Produces ammonia locally and buffers gastric acidity

GI Bleeding

UIM ORIGINAL

Haematemesis = Mouth; Melaena = Midnight Black; Haematochezia = Red Below

Used to remember: The classic clinical forms of gastrointestinal bleeding

Haematemesis	Vomited blood - usually upper GI source
Melaena	Black tarry stool, usually upper GI bleeding
Haematochezia	Fresh red blood per rectum, usually lower GI but can occur with brisk upper GI bleeding

UIM ORIGINAL

Varices = Portal Pressure Pipes

Used to remember: Why oesophageal/gastric varices form

Portal pressure	Portal hypertension diverts blood through portosystemic collaterals
Pipes	Dilated submucosal veins may rupture and bleed

UIM ORIGINAL

Pain + Bleeding + Jaundice = Think Haemobilia

Used to remember: Quincke's classic triad for haemobilia

Pain	Right upper quadrant/biliary pain
Bleeding	GI bleeding
Jaundice	Biliary obstruction by blood/clot

The complete triad is uncommon, so its absence does not exclude haemobilia.

Diarrhoea & Malabsorption

UIM ORIGINAL

Watery, Fatty, Bloody - Three Useful Buckets

Used to remember: A practical first-pass classification of chronic diarrhoea

Watery	Secretory, osmotic or functional
Fatty	Malabsorption/maldigestion
Bloody/inflammatory	Inflammatory or invasive disease

UIM ORIGINAL

Osmotic Stops with Starving; Secretory Stays

Used to remember: The typical response of osmotic and secretory diarrhoea to fasting

Osmotic	Usually improves substantially with fasting
Secretory	Persists despite fasting

UIM ORIGINAL

Coeliac = Gut, Iron, Weight, Bone

Used to remember: Common clinical consequences of coeliac disease

Gut	Diarrhoea/bloating
Iron	Iron-deficiency anaemia
Weight	Weight loss or poor growth
Bone	Osteopenia/osteoporosis from malabsorption

Coeliac disease can be asymptomatic or present with non-GI features.

UIM ORIGINAL

Lactose = Milk Makes Gas

Used to remember: The classic symptom association of lactose malabsorption

Milk/lactose	Can trigger bloating, gas, abdominal discomfort and osmotic diarrhoea

Inflammatory Bowel Disease

UIM ORIGINAL

Crohn = Cracks, Cobblestones, Creeps Through the Wall

Used to remember: Classic pathological features of Crohn disease

Cracks	Deep fissuring ulcers
Cobblestones	Cobblestone mucosa
Creeps through wall	Transmural inflammation

UIM ORIGINAL

Crohn Skips; UC Sticks

Used to remember: The distribution pattern of Crohn disease and ulcerative colitis

Crohn skips	Discontinuous skip lesions
UC sticks	Continuous disease extending proximally from rectum

UIM ORIGINAL

UC = Uniform, Continuous, Colon

Used to remember: The typical pattern of ulcerative colitis

Uniform/continuous	Continuous mucosal inflammation
Colon	Disease confined to colon

UIM ORIGINAL

PSC Likes UC

Used to remember: The important association between primary sclerosing cholangitis and inflammatory bowel disease

PSC	Strongly associated with ulcerative colitis and other IBD

UIM ORIGINAL

Crohn Can Go Anywhere; UC Uses the Colon

Used to remember: The anatomical distribution of the two major IBDs

Crohn	May affect any part of GI tract from mouth to anus
UC	Confined to the colon, beginning at the rectum

Liver Disease & Jaundice

UIM ORIGINAL

Jaundice = Before, Within, Beyond the Liver

Used to remember: The three anatomical categories of jaundice

Before	Pre-hepatic - e.g. haemolysis/increased bilirubin production
Within	Hepatocellular or intrahepatic cholestatic disease
Beyond	Extrahepatic biliary obstruction

UIM ORIGINAL

Dark Urine = Direct Bilirubin

Used to remember: Why conjugated hyperbilirubinaemia darkens urine

Direct/conjugated bilirubin	Water-soluble and can appear in urine
Unconjugated bilirubin	Albumin-bound and not filtered into urine

UIM ORIGINAL

AST Above ALT = Alcohol

Used to remember: The classic aminotransferase pattern that may suggest alcohol-associated hepatitis

AST	Often higher than ALT
Pattern	AST:ALT ratio >2 can support the diagnosis in the right clinical context

This is not diagnostic and many patients do not show a ratio >2.

UIM ORIGINAL

ALP = Plumbing Problem

Used to remember: The association of alkaline phosphatase with cholestatic/biliary patterns

Plumbing	ALP often rises disproportionately in cholestasis or bile-duct obstruction

ALP also originates from bone and other tissues; GGT or isoenzymes may help confirm hepatic origin.

Cirrhosis & Portal Hypertension

AHOY

Used to remember: Four key features of decompensated cirrhosis

A	Ascites
H	Hepatic encephalopathy
O	Oesophageal variceal bleeding
Y	Yellow - jaundice

UIM ORIGINAL

Portal Pressure = Ascites, Varices, Spleen

Used to remember: Three major manifestations of portal hypertension

Ascites	Fluid accumulation
Varices	Portosystemic collateral formation
Spleen	Splenomegaly/hypersplenism

UIM ORIGINAL

Ascites = Liver, Heart, Kidney, Cancer

Used to remember: Major clinical categories causing ascites

Liver	Cirrhosis/portal hypertension - most common
Heart	Right heart failure/constrictive physiology
Kidney	Nephrotic/renal fluid-retaining states
Cancer	Peritoneal malignancy

Other causes include tuberculosis, pancreatic and chylous ascites.

UIM ORIGINAL

Caput Medusae = Portal Blood Finds a New Path

Used to remember: The mechanism of abdominal wall collaterals in portal hypertension

Portal blood	Recanalised paraumbilical and collateral veins enlarge with portal hypertension

Hepatic Encephalopathy

UIM ORIGINAL

Liver Fails, Brain Fogs

Used to remember: The core concept of hepatic encephalopathy

Liver/portosystemic shunting	Impaired detoxification and altered nitrogen handling
Brain	Reversible neuropsychiatric dysfunction ranging from subtle cognitive change to coma

UIM ORIGINAL

HE Triggers = Bleed, Bugs, Bowel, Drugs, Dry

Used to remember: Common precipitants of hepatic encephalopathy

Bleed	GI bleeding
Bugs	Infection
Bowel	Constipation
Drugs	Sedatives and other contributors
Dry	Dehydration/overdiuresis and electrolyte disturbance

Renal failure, excess nitrogen load and other precipitants should also be considered.

UIM ORIGINAL

Asterixis = Flap from Metabolic Failure

Used to remember: The meaning of asterixis in hepatic encephalopathy

Flap	Negative myoclonus causing intermittent loss of sustained posture
Metabolic failure	Also occurs in uraemia and hypercapnia

Viral & Metabolic Liver Disease

UIM ORIGINAL

A and E = Alimentary; B, C, D = Blood

Used to remember: The broad routes of transmission of viral hepatitis

A and E	Primarily faecal-oral
B, C and D	Primarily blood/body-fluid transmission

D Depends on B

Used to remember: The dependence of hepatitis D on hepatitis B

HDV	Requires HBsAg from HBV for productive infection

UIM ORIGINAL

Wilson = Young Liver + Neuro + Rings

Used to remember: The classic clinical domains of Wilson disease

Young liver	Hepatic disease often presents in children/young adults
Neuro	Neurological/psychiatric manifestations
Rings	Kayser-Fleischer rings may be present

UIM ORIGINAL

Haemochromatosis = Bronze, Sugar, Liver, Joints, Heart

Used to remember: Major clinical manifestations of iron overload

Bronze	Skin hyperpigmentation
Sugar	Diabetes mellitus
Liver	Fibrosis/cirrhosis and HCC risk
Joints	Arthropathy
Heart	Cardiomyopathy/arrhythmias

UIM ORIGINAL

PBC = Pruritic Bile Disease in Women

Used to remember: The typical clinical pattern of primary biliary cholangitis

Pruritic	Pruritus is common
Bile disease	Cholestatic autoimmune small-duct disease
Women	Strong female predominance

UIM ORIGINAL

PSC = Pipes Scar + Colitis

Used to remember: The defining associations of primary sclerosing cholangitis

Pipes scar	Inflammatory fibrosis/strictures of intra- and/or extrahepatic bile ducts
Colitis	Strong association with IBD, particularly ulcerative colitis

Gallbladder & Biliary Disease

UIM ORIGINAL

Murphy = Inspiration Stops

Used to remember: The bedside Murphy sign of acute cholecystitis

Inspiration	Deep inspiration causes the inflamed gallbladder to descend onto the examiner's hand
Stops	Pain may abruptly halt inspiration

UIM ORIGINAL

Charcot = Pain, Pyrexia, Pigment

Used to remember: The classic triad of acute cholangitis

Pain	Right upper quadrant abdominal pain
Pyrexia	Fever
Pigment	Jaundice

Charcot's triad is specific but insensitive; many patients with cholangitis do not have all three features.

UIM ORIGINAL

Reynolds Adds Pressure and Personality

Used to remember: The two additional severe features added to Charcot's triad

Pressure	Hypotension/shock
Personality	Altered mental status

The classic Reynolds pentad suggests severe cholangitis but is uncommon.

UIM ORIGINAL

Gallstone Pain = Fatty Food, RUQ, Right Shoulder

Used to remember: The classic biliary-colic pattern

Fatty food	May precipitate gallbladder contraction and symptoms
RUQ	Right upper quadrant/epigastric pain
Right shoulder	Pain may radiate to right scapular/shoulder region

Meal association is variable; persistent pain, fever or jaundice should prompt assessment for complications.

Pancreatitis

I GET SMASHED

Used to remember: Important causes of acute pancreatitis

I	Idiopathic
G	Gallstones
E	Ethanol
T	Trauma
S	Steroids
M	Mumps/other infections
A	Autoimmune
S	Scorpion sting
H	Hypertriglyceridaemia / hypercalcaemia
E	ERCP
D	Drugs

Gallstones and alcohol are the commonest causes in many populations. The mnemonic is a cause checklist, not a ranking.

UIM ORIGINAL

Pancreas Pain = Epigastrium to Back

Used to remember: The classic pain radiation of acute pancreatitis

Epigastrium	Severe upper abdominal pain
Back	Often radiates through to the back

UIM ORIGINAL

Cullen at the Centre; Grey Turner at the Sides

Used to remember: The locations of two rare haemorrhagic signs in severe pancreatitis

Cullen	Periumbilical ecchymosis
Grey Turner	Flank ecchymosis

Both signs are uncommon and indicate retroperitoneal/haemorrhagic leakage rather than being specific to pancreatitis.

UIM ORIGINAL

Acute Recovers; Chronic Remodels

Used to remember: The major pathological distinction between acute and chronic pancreatitis

Acute	Inflammation may resolve without permanent structural change
Chronic	Progressive irreversible fibrosis with exocrine and endocrine dysfunction

Colorectal Disease

UIM ORIGINAL

Right Colon = Anaemia; Left Colon = Altered Bowel + Obstruction

Used to remember: Typical contrasting presentations of right- and left-sided colorectal cancer

Right	Occult blood loss, iron-deficiency anaemia, weight loss
Left	Change in bowel habit, visible blood and obstructive symptoms more likely

There is substantial overlap; tumour location does not guarantee a particular presentation.

UIM ORIGINAL

Diverticular Disease = Left Lower Quadrant in the West

Used to remember: The common pain location of sigmoid diverticulitis in Western populations

LLQ	Sigmoid colon is the commonest site in Western populations

Right-sided diverticulitis is more common in some Asian populations.

UIM ORIGINAL

Colon Alarm = Blood, Anaemia, Weight Loss, Change

Used to remember: High-yield red flags that should raise concern for colorectal malignancy

Blood	Rectal bleeding
Anaemia	Iron-deficiency anaemia
Weight loss	Unintentional weight loss
Change	Persistent change in bowel habit

Rapid Reference

Mnemonic	What it recalls
6 Fs	Abdominal distension
Foregut High, Midgut Middle, Hindgut Low	Visceral pain
Solids First = Structure; Solids + Liquids = Motility	Dysphagia
Watery, Fatty, Bloody	Diarrhoea classification
Osmotic Stops; Secretory Stays	Diarrhoea physiology
Crohn Skips; UC Sticks	IBD distribution
Crohn = Cracks, Cobblestones, Transmural	Crohn disease
Jaundice = Before, Within, Beyond	Jaundice
Dark Urine = Direct Bilirubin	Conjugated bilirubin
AST Above ALT = Alcohol	Alcohol-associated hepatitis clue
AHOY	Decompensated cirrhosis
Bleed, Bugs, Bowel, Drugs, Dry	HE precipitants
A/E Alimentary; B/C/D Blood	Hepatitis transmission
Wilson = Young Liver + Neuro + Rings	Wilson disease
PBC = Pruritic Bile Disease in Women	PBC
PSC = Pipes Scar + Colitis	PSC
Murphy = Inspiration Stops	Cholecystitis
Pain, Pyrexia, Pigment	Cholangitis
Pressure + Personality	Reynolds pentad additions
I GET SMASHED	Pancreatitis causes
Cullen Centre; Grey Turner Sides	Haemorrhagic signs
Right Colon Anaemia; Left Colon Obstruction	Colorectal cancer

Discovery & Verification Sources

Mnemonic discovery: Geeky Medics, Epomedicine, Zero to Finals, TeachMeSurgery, LITFL, Picmonic public pages and the other educational resources specified for the Updates in Medicine mnemonic-book project.

Independent verification: Merck Manual Professional; NCBI Bookshelf/StatPearls; standard gastroenterology and hepatology references. Pancreatitis causes were cross-checked against TeachMeSurgery and Merck. Cirrhosis and ascites content was checked against current hepatology references. Charcot/Reynolds features were checked against NCBI/StatPearls and contemporary cholangitis literature.

The traditional gallstone '5 Fs' was deliberately not used as a major clinical mnemonic because it is an unreliable diagnostic shortcut. UIM Original entries are clearly labelled.

PART II | CLINICAL MEDICINE

NEUROLOGY MNEMONICS

A comprehensive, clinically verified collection of neurological memory aids

Editorial approach
Only genuine memory aids are included. Scores and diagnostic criteria are not presented merely because they have acronyms. Traditional mnemonics are kept only when clinically useful, and important modern caveats are stated.

Contents

Neurological Examination
Cranial Nerves & Localisation
Stroke & TIA
Headache
Seizures & Epilepsy
Cerebellar Disease
Parkinsonism & Movement Disorders
Multiple Sclerosis & Demyelination
Peripheral Neuropathy
Neuromuscular Junction
Spinal Cord Syndromes
Meningitis & CNS Infection
Dementia & Cognitive Disorders
Raised Intracranial Pressure & Coma
Rapid Reference

Neurological Examination

UIM ORIGINAL

Mental, Cranial, Motor, Sensory, Reflexes, Coordination, Gait

Used to remember: A systematic sequence for the bedside neurological examination

Mental	Consciousness and cognition
Cranial	Cranial nerves
Motor	Bulk, tone and power
Sensory	Modalities and distribution
Reflexes	Deep tendon and plantar responses
Coordination	Cerebellar testing
Gait	Standing and walking pattern

UIM ORIGINAL

UP = UMN: Up Tone, Up Reflexes, Plantar Up

Used to remember: The classic upper motor neurone pattern

Up tone	Spasticity/increased tone
Up reflexes	Hyperreflexia
Plantar up	Extensor plantar response may occur

UIM ORIGINAL

LOW = LMN: Low Tone, Low Reflexes, Wasting

Used to remember: The classic lower motor neurone pattern

Low tone	Flaccidity/hypotonia
Low reflexes	Hyporeflexia/areflexia
Wasting	Denervation atrophy; fasciculations may occur

UIM ORIGINAL

Romberg = Remove Vision

Used to remember: What a positive Romberg test mainly assesses

Remove vision	Instability that appears/worsens after eye closure suggests impaired proprioceptive or vestibular input rather than pure cerebellar ataxia

Cranial Nerves & Localisation

LR6 SO4 - All the Rest 3

Used to remember: Motor innervation of the extraocular muscles

LR6	Lateral rectus - CN VI
SO4	Superior oblique - CN IV
All the rest 3	Remaining extraocular muscles - CN III

UIM ORIGINAL

Forehead Spared = Central; Forehead Fallen = Facial Nerve

Used to remember: A common distinction between central and peripheral facial weakness

Central	Supranuclear lesions usually spare forehead movement because of bilateral cortical innervation
Peripheral	Facial nerve lesion weakens upper and lower face on the affected side

Forehead sparing is a useful rule, but exceptions occur.

UIM ORIGINAL

Tongue Toward the Trouble in LMN XII

Used to remember: Tongue deviation in a lower motor neurone hypoglossal lesion

Toward trouble	On protrusion, the tongue deviates toward the weak side in a peripheral CN XII lesion

UIM ORIGINAL

Uvula Away from Vagus Weakness

Used to remember: The typical palate/uvula asymmetry in a unilateral vagal lesion

Weak side	Palate droops
Uvula	Pulled toward the stronger side

Stroke & TIA

BE FAST

Used to remember: Common sudden warning signs of stroke

B	Balance loss
E	Eye/vision disturbance
F	Face droop
A	Arm weakness
S	Speech disturbance
T	Time - urgent emergency assessment

A recognition mnemonic, not a diagnostic rule; stroke can present with other focal deficits.

UIM ORIGINAL

Left Brain = Language; Right Brain = Neglect

Used to remember: Two common hemispheric localisation clues

Left/dominant hemisphere	Aphasia is common
Right/non-dominant hemisphere	Visuospatial neglect is common

Language dominance varies, though it is left-sided in most people.

UIM ORIGINAL

MCA = Face and Arm More

Used to remember: The classic motor/sensory distribution of a middle cerebral artery stroke

MCA	Face and upper limb deficits often exceed lower-limb involvement

UIM ORIGINAL

ACA = Leg Leads

Used to remember: The classic motor/sensory distribution of an anterior cerebral artery stroke

ACA	Contralateral leg weakness/sensory loss is often prominent

UIM ORIGINAL

PCA = Picture Problem

Used to remember: The classic visual association of posterior cerebral artery stroke

PCA	Contralateral homonymous visual field loss is common

Headache

SNOOP

Used to remember: Red flags suggesting secondary headache

S	Systemic symptoms/signs or systemic disease
N	Neurological deficit/dysfunction
O	Onset sudden/abrupt
O	Older age at new onset
P	Pattern change or other concerning pattern features

Modern expanded versions such as SNNOOP10 add pregnancy, positional/precipitated headache, papilloedema, progressive pattern and other red flags.

UIM ORIGINAL

Thunderclap = Think Bleed Until Proven Otherwise

Used to remember: A high-risk headache presentation

Thunderclap	Headache reaching maximal intensity very rapidly should prompt urgent evaluation for subarachnoid haemorrhage and other vascular causes

Migraine = POUND

Used to remember: Classic migraine features

P	Pulsatile
O	Duration 4-72 h
U	Unilateral
N	Nausea/vomiting
D	Disabling intensity

A useful memory aid, but migraine diagnosis follows formal clinical criteria and may be bilateral/non-pulsatile.

UIM ORIGINAL

Cluster = Clockwork, One Eye, Autonomic

Used to remember: The typical clinical pattern of cluster headache

Clockwork	Short, severe attacks often recur in bouts and at similar times
One eye	Strictly unilateral orbital/supraorbital/temporal pain
Autonomic	Ipsilateral tearing, conjunctival injection, nasal symptoms or ptosis/miosis

Seizures & Epilepsy

UIM ORIGINAL

Focal Starts in One; Generalised Starts in Both

Used to remember: The broad distinction between focal and generalised seizure onset

Focal	Begins in networks limited to one hemisphere
Generalised	Rapidly engages bilaterally distributed networks

UIM ORIGINAL

Tongue Side + Confusion After = Seizure Clues

Used to remember: Two features that can support a generalised tonic-clonic seizure over syncope

Tongue side	Lateral tongue biting is relatively specific
Confusion after	Postictal confusion supports seizure

Neither feature is perfectly sensitive; diagnosis depends on the full history and witness account.

UIM ORIGINAL

Todd = Tired Limb After the Fit

Used to remember: Todd paresis

After seizure	Transient focal weakness may follow a seizure and usually resolves

UIM ORIGINAL

Provoked Seizure = Sugar, Salt, Drugs, Fever, Withdrawal

Used to remember: Common acute reversible seizure precipitants

Sugar	Hypoglycaemia/hyperglycaemia
Salt	Sodium disturbance
Drugs	Toxins/medications
Fever	CNS/systemic infection
Withdrawal	Alcohol or sedative withdrawal

Cerebellar Disease

DANISH

Used to remember: Classic signs of cerebellar dysfunction

D	Dysdiadochokinesia or dysmetria
A	Ataxia
N	Nystagmus
I	Intention tremor
S	Slurred/scanning speech
H	Hypotonia

UIM ORIGINAL

Cerebellum = Same Side Signs

Used to remember: The usual side of limb cerebellar deficits

Same side	A cerebellar hemisphere lesion commonly causes ipsilateral limb incoordination

UIM ORIGINAL

Midline = Gait; Hemisphere = Hand

Used to remember: A simple localisation rule within the cerebellum

Midline/vermis	Truncal and gait ataxia
Hemisphere	Ipsilateral limb dysmetria/incoordination

Parkinsonism & Movement Disorders

TRAP

Used to remember: The traditional cardinal motor features of parkinsonism

T	Resting tremor
R	Rigidity
A	Akinesia/bradykinesia
P	Postural instability

Bradykinesia is required to define parkinsonism in modern MDS criteria; postural instability is often a later feature and early prominence suggests an alternative parkinsonian disorder.

UIM ORIGINAL

Parkinson = Small, Slow, Stiff, Shaky

Used to remember: The characteristic motor pattern

Small	Micrographia/short steps
Slow	Bradykinesia
Stiff	Rigidity
Shaky	Rest tremor may occur

UIM ORIGINAL

Huntington = Moves, Mood, Mind

Used to remember: Three major clinical domains of Huntington disease

Moves	Chorea and other movement abnormalities
Mood	Psychiatric symptoms
Mind	Cognitive decline

UIM ORIGINAL

Essential Tremor = Action, Alcohol May Ease

Used to remember: Two classic associations of essential tremor

Action	Postural/action tremor rather than classic rest tremor
Alcohol	May transiently reduce tremor in some patients

Alcohol is not recommended as treatment.

Multiple Sclerosis & Demyelination

UIM ORIGINAL

MS = Multiple Places, Multiple Times

Used to remember: The core diagnostic concept of dissemination in space and time

Multiple places	Lesions in distinct CNS regions
Multiple times	Evidence that inflammatory demyelinating activity occurred at different times

UIM ORIGINAL

Uhthoff = Heat Hurts

Used to remember: Transient worsening of neurological symptoms with increased body temperature

Heat	Exercise, fever or hot environments can temporarily worsen old MS symptoms

UIM ORIGINAL

Lhermitte = Lightning on Neck Flexion

Used to remember: The classic Lhermitte phenomenon

Lightning	Electric shock-like sensation down the spine/limbs
Neck flexion	Common trigger

UIM ORIGINAL

INO = Inward Eye Won't Go

Used to remember: The defining ocular motor deficit of internuclear ophthalmoplegia

Adduction	Affected eye has impaired adduction
Other eye	Abducting nystagmus may occur

Peripheral Neuropathy

UIM ORIGINAL

Stocking-Glove = Length-Dependent Nerves

Used to remember: The typical distribution of distal symmetrical polyneuropathy

Stocking-glove	Distal sensory loss begins in feet and later hands as the longest axons are affected first

UIM ORIGINAL

Neuropathy Causes = DIABETES

Used to remember: A high-yield cause checklist for peripheral neuropathy

D	Diabetes
I	Infections / inflammatory
A	Alcohol
B	B12 and other nutritional deficiency
E	Endocrine / renal
T	Toxins / drugs
E	Entrapment / hereditary
S	Systemic/paraprotein disorders

UIM ORIGINAL

Axonal = Amplitude Down; Demyelinating = Delay

Used to remember: The broad nerve-conduction distinction

Axonal	Reduced response amplitudes predominate
Demyelinating	Slowed conduction, prolonged latencies and/or conduction block

Neuromuscular Junction

UIM ORIGINAL

Myasthenia = Muscles Tire with Use

Used to remember: The hallmark fatigability of myasthenia gravis

Use	Weakness worsens with sustained/repetitive activity and improves with rest

UIM ORIGINAL

Myasthenia Looks Up: Eyes and Bulbar

Used to remember: Common early muscle groups affected in myasthenia gravis

Eyes	Ptosis/diplopia
Bulbar	Dysarthria, dysphagia and fatigable speech may occur

UIM ORIGINAL

LEMS = Legs, Autonomic, Gets Stronger

Used to remember: Classic clinical clues to Lambert-Eaton myasthenic syndrome

Legs	Proximal lower-limb weakness
Autonomic	Dry mouth and other autonomic symptoms
Gets stronger	Strength/reflexes may transiently facilitate after exercise

UIM ORIGINAL

Botulism = Descends; GBS = Ascends

Used to remember: The classic direction of weakness in two acute paralytic disorders

Botulism	Descending flaccid paralysis
GBS	Usually ascending symmetric weakness

Spinal Cord Syndromes

UIM ORIGINAL

Brown-Sequard: Same Power & Position, Opposite Pain & Temperature

Used to remember: The classic pattern of spinal cord hemisection

Same side	Weakness plus loss of vibration/proprioception below lesion
Opposite side	Loss of pain and temperature beginning below the lesion

UIM ORIGINAL

Anterior Cord = Motor + Pain Gone, Position Preserved

Used to remember: The classic anterior cord syndrome pattern

Lost	Motor function and pain/temperature below lesion
Preserved	Dorsal-column vibration/proprioception relatively spared

UIM ORIGINAL

Central Cord = Arms More Than Legs

Used to remember: The classic motor pattern of central cord syndrome

Arms	Upper limbs typically more affected than lower limbs

UIM ORIGINAL

Cauda Equina = Saddle, Sphincter, Sciatica

Used to remember: Three high-yield red flags for cauda equina compression

Saddle	Saddle sensory loss
Sphincter	Bladder/bowel/sexual dysfunction
Sciatica	Often bilateral radicular pain/weakness

Meningitis & CNS Infection

UIM ORIGINAL

Meningitis = Fever, Headache, Neck

Used to remember: The classic meningitis symptom/sign triad

Fever	Common
Headache	Common
Neck	Neck stiffness/meningism may occur

The complete triad is often absent, especially in older, immunocompromised or very young patients.

UIM ORIGINAL

Encephalitis = Meningitis Plus Mind

Used to remember: A practical distinction between meningitis and encephalitis

Mind	Altered behaviour, consciousness, cognition or focal cerebral dysfunction suggests encephalitis

UIM ORIGINAL

HSV Loves the Temporal Lobes

Used to remember: The classic neuroanatomical predilection of HSV encephalitis

Temporal lobes	HSV-1 encephalitis classically affects temporal and inferior frontal regions

Dementia & Cognitive Disorders

DEMENTIA

Used to remember: Potentially reversible or treatable contributors to cognitive impairment

D	Drugs
E	Eyes/ears or emotional disorder
M	Metabolic
E	Endocrine
N	Normal-pressure hydrocephalus
T	Tumour/trauma
I	Infection
A	Alcohol/anaemia/autoimmune

Published expansions vary. Use this only as a prompt to search for treatable contributors; most progressive dementias are not reversible.

NPH = Wet, Wobbly, Wacky

Used to remember: The classic triad of normal-pressure hydrocephalus

Wet	Urinary urgency/incontinence
Wobbly	Gait disturbance
Wacky	Cognitive impairment

Gait disturbance is often the earliest and most prominent feature.

UIM ORIGINAL

Alzheimer = Memory First; Frontotemporal = Behaviour/Language First

Used to remember: A broad clinical distinction between two common dementia patterns

Alzheimer disease	Episodic memory impairment often dominates early
Frontotemporal dementia	Early behavioural or language change is typical

UIM ORIGINAL

Lewy = Fluctuations, Visual Hallucinations, Parkinsonism

Used to remember: Three core clinical features strongly associated with dementia with Lewy bodies

Fluctuations	Cognitive fluctuations
Visual hallucinations	Recurrent, well-formed
Parkinsonism	Spontaneous parkinsonian motor features

Raised Intracranial Pressure & Coma

UIM ORIGINAL

Cushing = Pressure Up, Pulse Down, Breathing Odd

Used to remember: The classic Cushing response in markedly raised intracranial pressure

Pressure up	Hypertension/widened pulse pressure
Pulse down	Bradycardia
Breathing odd	Irregular respirations

A late and ominous sign; absence does not exclude raised intracranial pressure.

UIM ORIGINAL

ICP = Headache, Vomit, Papilloedema

Used to remember: Three classic manifestations of raised intracranial pressure

Headache	Often worse with manoeuvres that increase ICP
Vomit	Nausea/vomiting may occur
Papilloedema	Optic disc swelling from raised ICP

Papilloedema can be absent, including in acute rises in ICP.

AEIOU TIPS

Used to remember: A broad differential for coma or altered consciousness

A	Alcohol/acidosis
E	Epilepsy/electrolytes/encephalopathy
I	Insulin - glucose disturbance
O	Opiates/oxygen
U	Uraemia
T	Trauma/temperature
I	Infection
P	Poisoning/psychiatric
S	Stroke/shock/subarachnoid haemorrhage

A screening mnemonic only; immediate ABC assessment and glucose testing remain priorities.

Rapid Reference

Mnemonic	What it recalls
UP = UMN	Upper motor neurone signs
LOW = LMN	Lower motor neurone signs
BE FAST	Stroke recognition
MCA = Face and Arm More	MCA stroke
ACA = Leg Leads	ACA stroke
PCA = Picture Problem	PCA stroke
SNOOP	Headache red flags
POUND	Migraine
Todd = Tired Limb After the Fit	Todd paresis
DANISH	Cerebellar signs
TRAP	Parkinsonism
Moves, Mood, Mind	Huntington disease
MS = Multiple Places, Multiple Times	Dissemination in space/time
Uhthoff = Heat Hurts	MS
Lhermitte = Lightning	MS/cervical cord sign
Stocking-Glove	Polyneuropathy
Myasthenia = Muscles Tire	Myasthenia gravis
LEMS = Legs, Autonomic, Gets Stronger	LEMS
Botulism Descends; GBS Ascends	Weakness pattern
Same Power & Position, Opposite Pain/Temp	Brown-Sequard
Cauda Equina = Saddle, Sphincter, Sciatica	Cauda equina
Wet, Wobbly, Wacky	NPH
Cushing = Pressure Up, Pulse Down, Breathing Odd	Raised ICP

Discovery & Verification Sources

Mnemonic discovery: Geeky Medics, Epomedicine, Zero to Finals, LITFL, Kenhub, TeachMeAnatomy and targeted medical-mnemonic sources from the Updates in Medicine project list.

Independent verification: NCBI Bookshelf/StatPearls neurological examination, cerebellar dysfunction, multiple sclerosis, Guillain-Barre syndrome and spinal-cord syndrome resources; Merck Manual Professional; contemporary headache literature including SNOOP/SNNOOP10; and standard neurology texts.

The traditional TRAP mnemonic is retained with a caveat because postural instability is usually a later Parkinson disease feature and is not part of the modern MDS core definition of parkinsonism. UIM Original entries are clearly labelled.

PART II | CLINICAL MEDICINE

NEPHROLOGY MNEMONICS

A comprehensive, clinically verified collection of renal medicine memory aids

Editorial approach
Only genuine memory devices are included. Scores, staging systems and equations are not included simply because they use abbreviations. Traditional mnemonics are retained only when the underlying renal physiology and clinical interpretation remain accurate.

Contents

Kidney Functions & Renal Examination
Acute Kidney Injury
Chronic Kidney Disease
Urinalysis & Urine Sediment
Nephritic & Nephrotic Syndromes
Glomerulonephritis
Renal Tubular Acidosis
Electrolyte Disorders
Acid-Base Disorders
Dialysis & Renal Replacement Therapy
Renal Stones
Tubulointerstitial Disease
Inherited & Cystic Kidney Disease
Renovascular Disease
Rapid Reference

Kidney Functions & Renal Examination

A WET BED

Used to remember: The major functions of the kidney and consequences when they fail

A	Acid-base balance
W	Water removal
E	Erythropoietin production
T	Toxin removal
B	Blood-pressure regulation
E	Electrolyte balance
D	Vitamin D activation

UIM ORIGINAL

Kidneys Keep SALT

Used to remember: A compact reminder of major renal physiological roles

S	Salt and water balance
A	Acid-base control
L	Long-term blood-pressure regulation
T	Toxin excretion and endocrine functions

UIM ORIGINAL

Kidney Disease = Puffy, Pale, Pressure Up

Used to remember: Three common bedside consequences of renal disease

Puffy	Oedema/fluid retention
Pale	Anaemia of CKD
Pressure up	Hypertension

Acute Kidney Injury

UIM ORIGINAL

Pre, Renal, Post = Before, Within, Beyond

Used to remember: The three anatomical categories of acute kidney injury

Pre-renal	Reduced renal perfusion
Renal/intrinsic	Disease within kidney parenchyma
Post-renal	Urinary outflow obstruction

ABCDE for AKI

Used to remember: A practical initial approach to acute kidney injury

A	Address nephrotoxic drugs
B	Boost/optimise blood pressure and perfusion
C	Calculate and monitor fluid balance
D	Dip urine and examine sediment
E	Exclude obstruction

A teaching mnemonic only; management must be individualised to cause and volume status.

UIM ORIGINAL

Pre-renal = Dry Pipes; Post-renal = Blocked Pipes

Used to remember: A simple mechanistic distinction in AKI

Dry pipes	Reduced effective renal perfusion
Blocked pipes	Obstruction to urinary drainage

UIM ORIGINAL

ATN = Tubules Take the Hit

Used to remember: The basic lesion in acute tubular injury/necrosis

Tubules	Tubular epithelial injury causes impaired reabsorption and filtration dynamics

UIM ORIGINAL

Muddy Brown = Tubular Down

Used to remember: The classic urine sediment clue to acute tubular injury

Muddy brown casts	Granular casts are strongly associated with acute tubular injury

Chronic Kidney Disease

UIM ORIGINAL

CKD = EPO Down, Phosphate Up, Bicarbonate Down

Used to remember: Three characteristic biochemical/endocrine consequences of advanced CKD

EPO down	Anaemia
Phosphate up	Phosphate retention contributes to CKD-mineral bone disorder
Bicarbonate down	Metabolic acidosis may develop

UIM ORIGINAL

Kidney Failure Keeps K

Used to remember: Why hyperkalaemia becomes a concern in advanced kidney dysfunction

K	Reduced renal potassium excretion predisposes to hyperkalaemia

UIM ORIGINAL

CKD Bone = Phosphate High, Calcium Low, PTH High

Used to remember: The broad pattern of secondary hyperparathyroidism in CKD

Phosphate	Retention tends to increase serum phosphate
Calcium	May fall
PTH	Rises in response to disordered mineral metabolism

Actual biochemical patterns vary with CKD stage, treatment and FGF23/vitamin D physiology.

Urinalysis & Urine Sediment

UIM ORIGINAL

RBC Cast = Glomerulus Bleeds

Used to remember: The significance of red blood cell casts

RBC casts	Strongly suggest glomerular bleeding/inflammation

UIM ORIGINAL

WBC Cast = Kidney Inflammation or Infection

Used to remember: The significance of white blood cell casts

WBC casts	Suggest tubulointerstitial inflammation, including pyelonephritis or interstitial nephritis

UIM ORIGINAL

Fatty Cast = Nephrotic Fat

Used to remember: The classic urine sediment finding in nephrotic syndrome

Fatty casts/oval fat bodies	Can occur with heavy proteinuria and lipiduria

UIM ORIGINAL

Hyaline Can Be Fine

Used to remember: The relatively non-specific nature of hyaline casts

Hyaline casts	May occur in healthy people, dehydration, fever or exercise and are not necessarily pathological

UIM ORIGINAL

Dysmorphic RBCs = Glomerular Source

Used to remember: The implication of dysmorphic erythrocytes in haematuria

Dysmorphic RBCs	Support a glomerular source of bleeding

Nephritic & Nephrotic Syndromes

UIM ORIGINAL

Nephritic = Blood, Pressure, Less Urine

Used to remember: The classic nephritic syndrome pattern

Blood	Haematuria; RBC casts may occur
Pressure	Hypertension/fluid retention
Less urine	Oliguria may occur
Protein	Usually less prominent than in nephrotic syndrome

UIM ORIGINAL

Nephrotic = Protein, Puffy, Poor Albumin, Plenty Lipid

Used to remember: The classic nephrotic syndrome pattern

Protein	Heavy proteinuria
Puffy	Oedema
Poor albumin	Hypoalbuminaemia
Plenty lipid	Hyperlipidaemia/lipiduria

UIM ORIGINAL

NephRITIC = RBCs; NephROTIC = prOtein

Used to remember: A spelling cue for the dominant urinary abnormality

RITIC	Think RBCs/haematuria
ROTIC	Think proteinuria

UIM ORIGINAL

Nephrotic Loses Protein, Gains Clots and Infection

Used to remember: Two important complications of nephrotic syndrome

Clots	Urinary loss of anticoagulant proteins and other changes increase thrombosis risk
Infection	Loss of immunoglobulins/complement factors can increase infection susceptibility

Glomerulonephritis

UIM ORIGINAL

PSGN = Lumpy-Bumpy after Strep

Used to remember: The classic immune-complex pattern in post-streptococcal glomerulonephritis

After strep	Occurs after certain streptococcal infections
Lumpy-bumpy	Granular immunofluorescence pattern

UIM ORIGINAL

IgA = Infection and Haematuria Arrive Together

Used to remember: The timing of haematuria in IgA nephropathy

Together	Haematuria often occurs during or within a few days of an upper respiratory infection

UIM ORIGINAL

Goodpasture = Good Linear Lines

Used to remember: The immunofluorescence pattern in anti-GBM disease

Linear lines	Linear IgG deposition along the glomerular basement membrane

Lupus = Full House

Used to remember: The classic immunofluorescence pattern of lupus nephritis

Full house	IgG, IgA, IgM, C3 and C1q deposition may all be present

UIM ORIGINAL

Pauci = Poor Deposits

Used to remember: The immunofluorescence pattern in pauci-immune crescentic GN

Poor deposits	Little or no immune deposition despite severe glomerular inflammation

UIM ORIGINAL

RPGN = Crescents Come Quickly

Used to remember: The pathological and clinical concept of rapidly progressive glomerulonephritis

Crescents	Crescent formation in Bowman's space
Quickly	Rapid decline in kidney function over days to weeks

Renal Tubular Acidosis

UIM ORIGINAL

RTA = Normal Gap, Chloride Up

Used to remember: The typical acid-base pattern of renal tubular acidosis

Normal gap	Normal-anion-gap metabolic acidosis
Chloride up	Hyperchloraemia

UIM ORIGINAL

Type 1 = Distal Can't Dump H+

Used to remember: The fundamental defect in distal RTA

Distal	Impaired distal hydrogen-ion secretion
Consequences	Alkaline urine, hypokalaemia and nephrolithiasis/nephrocalcinosis can occur

UIM ORIGINAL

Type 2 = Proximal Loses Bicarbonate

Used to remember: The fundamental defect in proximal RTA

Proximal	Reduced bicarbonate reabsorption
Association	May occur as part of Fanconi syndrome

UIM ORIGINAL

Type 4 = Four Has More K

Used to remember: The distinctive potassium pattern of type 4 RTA

More K	Hyperkalaemia
Mechanism	Hypoaldosteronism or aldosterone resistance with impaired distal acid secretion

UIM ORIGINAL

1 and 2 Lose K; 4 Keeps K

Used to remember: The broad potassium distinction across major RTAs

Type 1	Usually hypokalaemic
Type 2	Usually hypokalaemic
Type 4	Hyperkalaemic

Electrolyte Disorders

UIM ORIGINAL

Hyperkalaemia = T Peaks, P Fades, QRS Widens

Used to remember: The classic progression of ECG abnormalities in significant hyperkalaemia

T peaks	Tall peaked T waves may appear first
P fades	P-wave flattening/widening and PR prolongation may develop
QRS widens	Progressive conduction slowing can produce a broad QRS and ultimately sine-wave pattern

ECG severity correlates poorly with serum potassium; dangerous hyperkalaemia can occur with few ECG changes.

UIM ORIGINAL

Hypokalaemia = U Goes Up

Used to remember: The classic ECG association of hypokalaemia

U wave	Prominent U waves may occur
Other	T-wave flattening, ST depression and arrhythmias may occur

UIM ORIGINAL

Hyponatraemia Hurts the Head

Used to remember: The neurological danger of severe or rapidly developing hyponatraemia

Head	Cerebral oedema can cause headache, confusion, seizures and coma

UIM ORIGINAL

Hypernatraemia = Water Went Away

Used to remember: The common physiological basis of hypernatraemia

Water away	Usually reflects water deficit relative to body sodium

Calcium High = Stones, Bones, Groans, Moans

Used to remember: Classic manifestations of hypercalcaemia

Stones	Nephrolithiasis
Bones	Bone pain/resorption
Groans	GI symptoms
Moans	Neuropsychiatric symptoms

Acid-Base Disorders

ROME

Used to remember: The direction of primary respiratory versus metabolic acid-base disorders

R	Respiratory
O	Opposite - pH and $PaCO_2$ move in opposite directions
M	Metabolic
E	Equal - pH and bicarbonate move in the same direction

Useful only for the primary directional pattern; compensation and mixed disorders require full interpretation.

GOLD MARK

Used to remember: Modern causes of high-anion-gap metabolic acidosis

G	Glycols
O	Oxoproline
L	L-lactate
D	D-lactate
M	Methanol
A	Aspirin/salicylates
R	Renal failure
K	Ketoacidosis

HARDUP

Used to remember: Common causes of normal-anion-gap metabolic acidosis

H	Hyperchloraemic states / acid administration
A	Acetazolamide
R	Renal tubular acidosis
D	Diarrhoea
U	Ureteric diversion
P	Pancreatic fistula

Published expansions vary slightly.

UIM ORIGINAL

Kidney Keeps Bicarbonate in Chronic CO2

Used to remember: Renal compensation for chronic respiratory acidosis

Kidney	Increases bicarbonate reabsorption and net acid excretion over time

Dialysis & Renal Replacement Therapy

AEIOU

Used to remember: Classic urgent indications for renal replacement therapy

A	Refractory severe Acidosis
E	Dangerous Electrolyte disturbance, especially hyperkalaemia
I	Selected dialysable Intoxications
O	Refractory fluid Overload
U	Uraemic complications such as encephalopathy or pericarditis

The decision is clinical and should not be based on a single creatinine or urea threshold.

UFAKE

Used to remember: Another mnemonic for major dialysis indications

U	Uraemia
F	Fluid overload
A	Acidosis
K	Hyperkalaemia
E	Exposure to selected dialysable toxins

UIM ORIGINAL

Dialysis Removes Small, Water-Soluble, Unbound

Used to remember: Features that favour extracorporeal toxin removal

Small	Low molecular weight
Water-soluble	Limited lipid/tissue sequestration
Unbound	Low protein binding
Small volume	Low volume of distribution also favours dialysis

Renal Stones

UIM ORIGINAL

Calcium = Most Common; Uric Acid = Radiolucent

Used to remember: Two high-yield renal stone facts

Calcium stones	Most common overall and usually radiopaque
Uric acid	Classically radiolucent on plain radiography but visible on CT

UIM ORIGINAL

Struvite = Staghorn + Urease

Used to remember: The classic association of infection stones

Staghorn	Can form large branching calculi
Urease	Associated with urease-producing organisms and alkaline urine

Cystine = Hexagons

Used to remember: The classic urinary crystal shape in cystinuria

Hexagons	Flat hexagonal cystine crystals

Stone Pain = Loin to Groin

Used to remember: The classic radiation of ureteric colic

Loin	Flank pain
Groin	Pain may radiate to groin/genitals as the stone descends

Tubulointerstitial Disease

UIM ORIGINAL

AIN = Fever, Rash, Eosinophils

Used to remember: The classic hypersensitivity-type triad of acute interstitial nephritis

Fever	May occur
Rash	May occur
Eosinophils	Peripheral eosinophilia may occur

The complete triad is uncommon; absence does not exclude acute interstitial nephritis.

UIM ORIGINAL

Pyelonephritis = Fever + Flank + Urine

Used to remember: The classic pattern of upper urinary tract infection

Fever	Systemic infection
Flank	Costovertebral/flank pain
Urine	Pyuria/bacteriuria and urinary symptoms may occur

UIM ORIGINAL

Analgesics Scar Papillae

Used to remember: The papillary injury associated with chronic analgesic nephropathy

Papillae	Papillary necrosis and chronic tubulointerstitial injury can occur

Inherited & Cystic Kidney Disease

UIM ORIGINAL

ADPKD = Kidneys + Liver + Brain Vessels

Used to remember: Major extra-renal associations of autosomal dominant polycystic kidney disease

Kidneys	Bilateral renal cysts and progressive CKD
Liver	Hepatic cysts are common
Brain vessels	Intracranial aneurysms occur more often than in the general population

UIM ORIGINAL

Alport = Kidneys, Ears, Eyes

Used to remember: The classic organ systems affected in Alport syndrome

Kidneys	Hereditary nephritis/haematuria
Ears	Sensorineural hearing loss
Eyes	Ocular abnormalities may occur

UIM ORIGINAL

Thin Basement Membrane = Thin Problem, Blood Only

Used to remember: The usual clinical pattern of thin basement membrane nephropathy

Blood	Persistent/recurrent microscopic haematuria
Thin problem	Often preserved renal function, though some genetic forms can progress

Renovascular Disease

UIM ORIGINAL

Renal Artery Stenosis = Pressure Up, Kidney Down

Used to remember: The classic physiological effect of significant renal artery stenosis

Pressure up	Renin-angiotensin activation can cause difficult hypertension
Kidney down	Renal function may worsen, especially with bilateral severe disease

UIM ORIGINAL

Flash Lungs + Resistant Pressure = Think Renal Arteries

Used to remember: A clue to renovascular hypertension

Flash lungs	Recurrent flash pulmonary oedema can occur in severe bilateral disease
Resistant pressure	Difficult-to-control hypertension is a classic clue

Rapid Reference

Mnemonic	What it recalls
A WET BED	Kidney functions
ABCDE for AKI	Initial AKI approach
Pre, Renal, Post	AKI categories
Muddy Brown = Tubular Down	Acute tubular injury
RBC Cast = Glomerulus Bleeds	Urine sediment
WBC Cast = Kidney Inflammation	Urine sediment
Nephritic = Blood, Pressure, Less Urine	Nephritic syndrome
Nephrotic = Protein, Puffy, Poor Albumin, Plenty Lipid	Nephrotic syndrome
PSGN = Lumpy-Bumpy	Post-streptococcal GN
IgA = Infection and Haematuria Together	IgA nephropathy
Goodpasture = Linear	Anti-GBM disease
Lupus = Full House	Lupus nephritis
RTA = Normal Gap, Chloride Up	Renal tubular acidosis
Type 4 = Four Has More K	Type 4 RTA
T Peaks, P Fades, QRS Widens	Hyperkalaemia
GOLD MARK	High-anion-gap acidosis
HARDUP	Normal-anion-gap acidosis
AEIOU	Urgent dialysis indications
UFAKE	Dialysis indications
Struvite = Staghorn + Urease	Infection stones
Cystine = Hexagons	Cystinuria
Loin to Groin	Ureteric colic
Alport = Kidneys, Ears, Eyes	Alport syndrome

Discovery & Verification Sources

Mnemonic discovery: Geeky Medics renal mnemonics, Zero to Finals renal medicine, LITFL renal/critical-care resources, Epomedicine and other educational sources specified for the Updates in Medicine mnemonic-book project.

Independent verification: NCBI Bookshelf/StatPearls on acute kidney injury, nephritic syndrome, chronic kidney disease and renal tubular acidosis; Merck Manual Professional; standard nephrology texts and contemporary renal teaching references. Hyperkalaemia ECG progression was checked against LITFL ECG Library and renal physiology sources.

The AEIOU mnemonic is presented as a clinical prompt rather than a rigid threshold-based rule. UIM Original entries are clearly labelled.

PART II | CLINICAL MEDICINE

ENDOCRINOLOGY & DIABETES MNEMONICS

A comprehensive, clinically verified collection of endocrine and diabetes memory aids

Editorial approach

Only genuine memory devices are included. Diagnostic thresholds, staging systems and treatment algorithms are not turned into mnemonics merely because they use abbreviations. Endocrine emergency content is kept conceptual so that changing guideline thresholds do not make the memory aid unsafe.

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Hypoglycaemia
Diabetes Complications
Diabetes Insipidus & SIADH
MEN Syndromes
Reproductive Endocrinology
Rapid Reference

Pituitary Hormones

FLAT PiG

Used to remember: The anterior pituitary hormones

F	FSH
L	LH
A	ACTH
T	TSH
P	Prolactin
G	Growth hormone

'Pi' is a linking device rather than a separate hormone.

FLAT = Tropic; PiG = Direct

Used to remember: A useful functional division of anterior pituitary hormones

FLAT	FSH, LH, ACTH and TSH predominantly act on other endocrine glands/gonads
PiG	Prolactin and GH have major direct peripheral actions

UIM ORIGINAL

Posterior = ADH + Oxytocin

Used to remember: The two hormones released from the posterior pituitary

ADH	Water balance and vasoconstrictor actions
Oxytocin	Uterine contraction and milk ejection

Both hormones are synthesised in the hypothalamus and transported to the posterior pituitary for release.

UIM ORIGINAL

Prolactin = Milk; Dopamine = Don't Milk

Used to remember: Dopaminergic inhibition of prolactin

Prolactin	Promotes lactation
Dopamine	Tonically inhibits prolactin secretion

Pituitary Disorders

UIM ORIGINAL

Prolactinoma = Milk, Missed Periods, Missing Libido

Used to remember: Common manifestations of hyperprolactinaemia

Milk	Galactorrhoea may occur
Missed periods	Oligo/amenorrhoea from hypogonadism
Missing libido	Reduced libido and sexual dysfunction

UIM ORIGINAL

Acromegaly = Hands, Feet, Face Grow

Used to remember: The characteristic somatic changes of growth hormone excess after epiphyseal closure

Hands	Enlarged hands/rings become tight
Feet	Increasing shoe size
Face	Coarsened facial features and jaw enlargement

UIM ORIGINAL

Pituitary Mass = Headache + Fields

Used to remember: Two classic mass-effect symptoms of a pituitary macroadenoma

Headache	May occur
Fields	Optic chiasm compression classically causes bitemporal field loss

UIM ORIGINAL

Pituitary Apoplexy = Headache, Eyes, Hormones

Used to remember: The emergency presentation of pituitary haemorrhage/infarction

Headache	Sudden severe headache
Eyes	Visual loss/ophthalmoplegia may occur
Hormones	Acute ACTH/cortisol deficiency can be life-threatening

Thyroid Physiology & Disease

UIM ORIGINAL

TSH and T4 Oppose in Primary Thyroid Disease

Used to remember: The usual feedback pattern in primary thyroid dysfunction

Primary hypothyroidism	TSH rises while free T4 falls
Primary hyperthyroidism	TSH is suppressed while thyroid hormones rise

Central hypothyroidism and several special clinical states do not follow this simple pattern.

UIM ORIGINAL

Hyperthyroid = Hot, Fast, Thin

Used to remember: The classic metabolic pattern of thyrotoxicosis

Hot	Heat intolerance/sweating
Fast	Tachycardia, tremor, hyperreflexia
Thin	Weight loss despite preserved/increased appetite is common

UIM ORIGINAL

Hypothyroid = Cold, Slow, Heavy

Used to remember: The classic metabolic pattern of hypothyroidism

Cold	Cold intolerance
Slow	Bradycardia, delayed reflex relaxation, slowed cognition
Heavy	Weight gain may occur

UIM ORIGINAL

Graves = Gaze + Goitre

Used to remember: Two highly memorable manifestations of Graves disease

Gaze	Thyroid eye disease may occur
Goitre	Diffuse goitre is common

Eye disease is not present in every patient with Graves hyperthyroidism.

UIM ORIGINAL

Hashimoto = Hypothyroid Autoimmune

Used to remember: The core association of Hashimoto thyroiditis

Autoimmune	Chronic autoimmune thyroiditis
Hypothyroid	A common cause of primary hypothyroidism

UIM ORIGINAL

Thyroid Storm = Fever, Fast Heart, Frantic Brain

Used to remember: The major clinical domains of thyroid storm

Fever	Marked hyperthermia
Fast heart	Severe tachycardia/arrhythmia or heart failure
Frantic brain	Agitation, delirium, psychosis, seizures or coma may occur

Thyroid storm is a clinical diagnosis; hormone levels alone do not distinguish it from uncomplicated thyrotoxicosis.

Adrenal Cortex

GFR = Salt, Sugar, Sex

Used to remember: The adrenal cortical zones and their principal products

G - Glomerulosa	Mineralocorticoids - salt
F - Fasciculata	Glucocorticoids - sugar
R - Reticularis	Androgens - sex

UIM ORIGINAL

Aldosterone Saves Sodium, Sends Potassium

Used to remember: The main renal electrolyte effects of aldosterone

Saves sodium	Increases distal sodium reabsorption
Sends potassium	Increases potassium secretion

UIM ORIGINAL

Cortisol = Stress Sugar

Used to remember: A major metabolic role of cortisol

Stress	Key stress-response glucocorticoid
Sugar	Supports gluconeogenesis and raises glucose availability

Adrenal Disorders

CUSHINGOID

Used to remember: A broad memory aid for chronic glucocorticoid excess

C	Cataracts / central adiposity
U	Ulcers / skin thinning
S	Striae / susceptibility to infection
H	Hypertension / hyperglycaemia
I	Immunosuppression
N	Necrosis of femoral head
G	Growth suppression / gonadal dysfunction
O	Osteoporosis
I	Iatrogenic causes common
D	Diabetes

Expansions vary. This is a recall scaffold, not a diagnostic criterion set.

UIM ORIGINAL

Cushing = Round, Red, Weak, Wide

Used to remember: Four memorable clinical features of cortisol excess

Round	Moon facies/central adiposity
Red	Plethora
Weak	Proximal myopathy
Wide	Wide violaceous striae

UIM ORIGINAL

Addison = Bronze, Low Pressure, Low Sodium, High Potassium

Used to remember: The classic primary adrenal insufficiency pattern

Bronze	Hyperpigmentation from high ACTH can occur
Low pressure	Hypotension/volume depletion
Low sodium	Hyponatraemia
High potassium	Hyperkalaemia from mineralocorticoid deficiency

Hyperkalaemia and prominent mineralocorticoid deficiency are features of primary, not typical secondary, adrenal insufficiency.

UIM ORIGINAL

Primary Addison = ACTH Up; Secondary = No Bronze, K Usually Normal

Used to remember: A useful distinction between primary and secondary adrenal insufficiency

Primary	Adrenal failure -> ACTH rises; hyperpigmentation and hyperkalaemia may occur
Secondary	ACTH deficiency -> no ACTH-driven hyperpigmentation; aldosterone is usually preserved

UIM ORIGINAL

Adrenal Crisis = Pressure Falls, Sugar Falls, Sodium Falls

Used to remember: Three dangerous abnormalities in acute adrenal insufficiency

Pressure falls	Hypotension/shock
Sugar falls	Hypoglycaemia may occur
Sodium falls	Hyponatraemia is common

Phaeochromocytoma

5 Ps = Pressure, Pain, Perspiration, Palpitations, Pallor

Used to remember: Classic catecholamine-related manifestations of phaeochromocytoma

Pressure	Hypertension, sustained or episodic
Pain	Headache
Perspiration	Sweating
Palpitations	Tachycardia/palpitations
Pallor	Pallor may occur

UIM ORIGINAL

Phaeo = Episodic Adrenergic Storm

Used to remember: The classic episodic presentation

Adrenergic	Headache, sweating, palpitations, tremor/anxiety and hypertension
Episodic	Symptoms may occur in paroxysms

Alpha Before Beta in Phaeo

Used to remember: The classic sequencing principle when adrenergic blockade is needed

Alpha first	Establish alpha-adrenergic blockade before beta blockade
Why	Unopposed alpha stimulation after beta blockade can precipitate severe hypertension

Management should follow specialist perioperative/endocrine guidance.

Calcium & Parathyroid

PTH = Phosphate Trashed, Calcium High

Used to remember: The broad biochemical actions of parathyroid hormone

Phosphate trashed	Promotes renal phosphate excretion
Calcium high	Raises serum calcium through bone, kidney and vitamin D effects

Hypercalcaemia = Stones, Bones, Groans, Thrones, Psychiatric Overtones

Used to remember: Classic manifestations of hypercalcaemia

Stones	Nephrolithiasis
Bones	Bone pain/resorption
Groans	GI symptoms
Thrones	Polyuria/constipation in the traditional phrase
Psychiatric overtones	Cognitive or psychiatric changes

CATS Go Numb

Used to remember: Features of hypocalcaemia

C	Convulsions
A	Arrhythmias
T	Tetany
S	Stridor from laryngospasm
Numb	Perioral/acral paraesthesia

A traditional teaching mnemonic; severity and presentation vary.

UIM ORIGINAL

Trousseau = Cuff Triggers Carpal Spasm

Used to remember: The bedside sign of latent tetany in hypocalcaemia

Cuff	Inflating a blood-pressure cuff above systolic pressure can provoke carpal spasm

UIM ORIGINAL

Chvostek = Cheek Tap Contracts

Used to remember: The classic Chvostek sign

Cheek tap	Tapping the facial nerve may provoke ipsilateral facial contraction

Chvostek sign has limited specificity and may occur in healthy individuals.

Diabetes Mellitus

Diabetes = 3 Ps

Used to remember: The classic symptoms of marked hyperglycaemia

Polyuria	Osmotic diuresis
Polydipsia	Thirst from water loss
Polyphagia	Increased hunger may occur, especially with insulin deficiency

UIM ORIGINAL

Type 1 = Insulin Is Absent; Type 2 = Insulin Is Resisted

Used to remember: The core pathophysiological contrast between common diabetes types

Type 1	Autoimmune beta-cell destruction causes absolute insulin deficiency
Type 2	Insulin resistance plus progressive beta-cell dysfunction

UIM ORIGINAL

Insulin Puts Glucose and Potassium IN

Used to remember: Two important acute physiological effects of insulin

Glucose	Promotes uptake/storage and suppresses hepatic glucose output
Potassium	Shifts potassium into cells

UIM ORIGINAL

Micro = Eye, Kidney, Nerve

Used to remember: The major microvascular diabetes complications

Eye	Retinopathy
Kidney	Diabetic kidney disease
Nerve	Peripheral/autonomic neuropathy

UIM ORIGINAL

Macro = Heart, Brain, Legs

Used to remember: The major macrovascular diabetes complications

Heart	Coronary artery disease
Brain	Cerebrovascular disease
Legs	Peripheral arterial disease

Diabetic Emergencies

UIM ORIGINAL

DKA = Ketones + Acidosis + Dehydration

Used to remember: The core clinical-biochemical concept of diabetic ketoacidosis

Ketones	Ketonaemia/ketonuria from insulin deficiency
Acidosis	Metabolic acidosis
Dehydration	Osmotic diuresis produces major fluid and electrolyte losses

UIM ORIGINAL

DKA = Kussmaul, Ketones, Belly Pain

Used to remember: Three classic clinical clues

Kussmaul	Deep rapid breathing as respiratory compensation
Ketones	Ketotic/fruity breath may occur
Belly pain	Abdominal pain, nausea and vomiting are common

UIM ORIGINAL

HHS = Hyperosmolar, Highly Dehydrated, Scant Ketones

Used to remember: The characteristic pattern of hyperglycaemic hyperosmolar state

Hyperosmolar	Marked hyperosmolality
Highly dehydrated	Profound water deficit
Scant ketones	Significant ketoacidosis is absent or mild compared with DKA

UIM ORIGINAL

DKA Potassium = Serum May Look High, Body Stores Are Low

Used to remember: The potassium paradox in DKA

Serum	Initial serum potassium can be normal or high
Body stores	Total-body potassium is depleted from urinary/GI losses
Insulin treatment	Can rapidly lower serum potassium by shifting K into cells

Potassium must be measured and managed carefully during DKA treatment.

Hypoglycaemia

UIM ORIGINAL

Hypoglycaemia = Sweaty Outside, Confused Inside

Used to remember: The autonomic and neuroglycopenic symptom groups

Sweaty outside	Sweating, tremor, palpitations and hunger from autonomic activation
Confused inside	Confusion, behavioural change, seizures or coma from neuroglycopenia

UIM ORIGINAL

Low Sugar = Brain in Danger

Used to remember: Why severe hypoglycaemia is an emergency

Brain	The brain depends heavily on circulating glucose; severe deficiency can cause seizures, coma and injury

Whipple = Symptoms, Low Glucose, Relief with Glucose

Used to remember: Whipple's triad for establishing a hypoglycaemic disorder

Symptoms	Compatible symptoms/signs
Low glucose	Documented low plasma glucose during symptoms
Relief	Symptoms resolve after glucose rises

This is a clinical triad, included because the three-step phrase is itself a useful memory device.

Diabetes Complications

UIM ORIGINAL

Diabetic Foot = Nerves, Blood, Bugs

Used to remember: The three interacting drivers of diabetic foot disease

Nerves	Peripheral neuropathy and loss of protective sensation
Blood	Peripheral arterial disease/ischaemia
Bugs	Infection complicating ulcers/tissue injury

UIM ORIGINAL

Kidney = Albumin; Eye = Retina; Nerve = Stocking

Used to remember: Three common screening/clinical associations of microvascular diabetes

Kidney	Albuminuria and falling eGFR
Eye	Diabetic retinopathy
Nerve	Length-dependent distal symmetrical neuropathy often begins in the feet

UIM ORIGINAL

Autonomic Diabetes = Stomach, Bladder, Sex, Pressure

Used to remember: Common domains of diabetic autonomic neuropathy

Stomach	Gastroparesis
Bladder	Bladder dysfunction
Sex	Erectile/sexual dysfunction
Pressure	Orthostatic hypotension

Diabetes Insipidus & SIADH

UIM ORIGINAL

DI = Dry Inside, Dilute Outside

Used to remember: The core water-balance pattern of diabetes insipidus

Dry inside	Free-water loss can raise plasma osmolality/sodium if intake is inadequate
Dilute outside	Large volumes of dilute urine

UIM ORIGINAL

Central DI = ADH Absent; Nephrogenic DI = Kidney Ignores It

Used to remember: The core distinction between the two main forms of diabetes insipidus

Central	Deficient AVP/ADH secretion
Nephrogenic	Kidneys are resistant to AVP/ADH action

UIM ORIGINAL

SIADH = Saves Inappropriate Amounts of Dilute H2O

Used to remember: The central water-retaining effect of SIADH

Saves water	Inappropriate AVP action retains free water
Result	Hypotonic hyponatraemia with inappropriately concentrated urine in a clinically euvolaemic patient

UIM ORIGINAL

DI = Dry Urine; SIADH = Soaked Body

Used to remember: A contrast between insufficient and excessive ADH effect

DI	Urine is inappropriately dilute for the plasma state
SIADH	Water retention lowers plasma sodium/osmolality

Volume status and laboratory criteria are essential; these phrases are conceptual only.

MEN Syndromes

MEN 1 = 3 Ps

Used to remember: The classic tumour triad in MEN1

P	Parathyroid tumours/hyperparathyroidism
P	Pituitary tumours
P	Pancreatic/duodenal neuroendocrine tumours

UIM ORIGINAL

MEN 2A = Medullary + Phaeo + Parathyroid

Used to remember: The principal endocrine tumours in MEN2A

Medullary	Medullary thyroid carcinoma
Phaeo	Phaeochromocytoma
Parathyroid	Primary hyperparathyroidism

UIM ORIGINAL

MEN 2B = Medullary + Phaeo + Mucosal Neuromas

Used to remember: The hallmark MEN2B pattern

Medullary	Medullary thyroid carcinoma
Phaeo	Phaeochromocytoma
Mucosal neuromas	Often with marfanoid habitus; hyperparathyroidism is not typical

Reproductive Endocrinology

FSH = Follicle and Sertoli

Used to remember: The principal gonadal targets of FSH

Follicle	Supports ovarian follicular development/granulosa function
Sertoli	Supports spermatogenesis via Sertoli cells

LH = Luteum and Leydig

Used to remember: The principal gonadal targets/actions associated with LH

Luteum	Triggers ovulation and supports corpus luteum formation/function
Leydig	Stimulates testosterone production

UIM ORIGINAL

PCOS = Periods, Clinical Androgens, Ovaries

Used to remember: The three broad domains considered in polycystic ovary syndrome

Periods	Ovulatory dysfunction/irregular cycles
Clinical androgens	Clinical or biochemical hyperandrogenism
Ovaries	Polycystic ovarian morphology may be present

PCOS diagnosis uses accepted criteria and exclusion of mimics; ovarian morphology is not required in every diagnostic framework.

UIM ORIGINAL

Menopause = Oestrogen Down, FSH Up

Used to remember: The typical hormonal direction after ovarian follicular failure

Oestrogen	Falls
FSH	Rises because negative feedback is reduced

Rapid Reference

Mnemonic	What it recalls
FLAT PiG	Anterior pituitary hormones
Prolactin = Milk; Dopamine = Don't Milk	Prolactin control
Hyperthyroid = Hot, Fast, Thin	Thyrotoxicosis
Hypothyroid = Cold, Slow, Heavy	Hypothyroidism
GFR = Salt, Sugar, Sex	Adrenal cortex
Addison = Bronze, Low Pressure, Low Na, High K	Primary adrenal insufficiency
5 Ps	Phaeochromocytoma
PTH = Phosphate Trashed, Calcium High	PTH
CATS Go Numb	Hypocalcaemia
3 Ps	Diabetes symptoms
Micro = Eye, Kidney, Nerve	Microvascular complications
Macro = Heart, Brain, Legs	Macrovascular complications
DKA = Ketones + Acidosis + Dehydration	DKA
HHS = Hyperosmolar, Highly Dehydrated, Scant Ketones	HHS
Serum K May Be High, Body K Low	DKA potassium
Sweaty Outside, Confused Inside	Hypoglycaemia
DI = Dry Inside, Dilute Outside	Diabetes insipidus
SIADH = Saves Inappropriate Water	SIADH
MEN 1 = 3 Ps	MEN1
MEN 2A = Medullary + Phaeo + Parathyroid	MEN2A
MEN 2B = Medullary + Phaeo + Mucosal Neuromas	MEN2B
FSH = Follicle and Sertoli	FSH
LH = Luteum and Leydig	LH

Discovery & Verification Sources

Mnemonic discovery: Geeky Medics, Epomedicine, Zero to Finals, Picmonic public topic pages, LITFL and other educational sources specified for the Updates in Medicine mnemonic-book project.

Independent verification: Endotext/NCBI Bookshelf (endocrine emergencies, diabetes insipidus, adrenal insufficiency, diabetes); StatPearls pituitary and vasopressin physiology; Merck Manual Professional; standard endocrinology references.

Emergency mnemonics deliberately avoid fixed biochemical cut-offs that may change with updated consensus definitions. UIM Original entries are clearly labelled.

PART II | CLINICAL MEDICINE

RHEUMATOLOGY MNEMONICS

A comprehensive, clinically verified collection of rheumatology memory aids

Editorial approach
Only genuine memory devices are included. Classification criteria and activity scores are not presented simply because they use acronyms. Traditional phrases are retained only where clinically useful, and newer UIM Original devices are clearly labelled.

Contents

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Fibromyalgia
Rapid Reference

Approach to Joint Pain

UIM ORIGINAL

Inflammatory = Morning, Warm, Swollen; Mechanical = Movement

Used to remember: The broad clinical distinction between inflammatory and mechanical joint pain

Inflammatory	Prolonged morning stiffness, swelling/warmth and improvement with movement are typical
Mechanical	Pain often worsens with use; morning stiffness is usually brief

These are patterns rather than absolute rules; several disorders overlap.

UIM ORIGINAL

Hot Single Joint = Infection or Crystal First

Used to remember: The two diagnoses that require early consideration in acute monoarthritis

Infection	Septic arthritis must be excluded urgently
Crystal	Gout or CPPD commonly cause acute inflammatory monoarthritis

UIM ORIGINAL

Joint Pattern = Number, Symmetry, Size, Spine

Used to remember: Four high-yield dimensions for classifying inflammatory arthritis

Number	Mono-, oligo- or polyarthritis
Symmetry	Symmetric or asymmetric
Size	Small versus large joints
Spine	Axial/sacroiliac involvement

Rheumatoid Arthritis

UIM ORIGINAL

RA = Rest Makes it Rigid

Used to remember: The inflammatory stiffness pattern of rheumatoid arthritis

Rest	Stiffness is often prominent after inactivity
Rigid	Prolonged morning stiffness is characteristic

UIM ORIGINAL

RA = Regularly Around Both Sides

Used to remember: The typical joint distribution of rheumatoid arthritis

Both sides	Symmetric polyarthritis
Typical joints	MCP, PIP and wrist joints are frequently involved

RA can initially be asymmetric and does not always follow the classic pattern.

UIM ORIGINAL

DIP = Doesn't Usually Invite RA

Used to remember: A useful distribution clue in rheumatoid arthritis

DIP joints	Usually spared in classic RA; DIP involvement should prompt consideration of OA or psoriatic arthritis

UIM ORIGINAL

Swan Neck = PIP Back, DIP Down

Used to remember: The direction of deformity in swan-neck deformity

PIP	Hyperextension
DIP	Flexion

UIM ORIGINAL

Boutonnière = PIP Bends, DIP Back

Used to remember: The direction of deformity in boutonnière deformity

PIP	Flexion
DIP	Hyperextension

UIM ORIGINAL

Felty = RA + Spleen + Neutrophils Fall

Used to remember: The classic triad of Felty syndrome

RA	Long-standing rheumatoid arthritis
Spleen	Splenomegaly
Neutrophils fall	Neutropenia

Systemic Lupus Erythematosus

UIM ORIGINAL

LUPUS = Lots of Unusual Problems Under the Sun

Used to remember: The multisystem nature and photosensitivity of SLE

Lots of unusual problems	Skin, joints, kidneys, blood, nervous system, lungs and heart may be involved
Under the sun	Photosensitivity is common

UIM ORIGINAL

Lupus = Skin, Joints, Kidney, Blood, Brain

Used to remember: Five major clinical domains of SLE

Skin	Malar/discoid/photosensitive eruptions
Joints	Non-erosive inflammatory arthritis
Kidney	Lupus nephritis
Blood	Cytopenias and immune haematological disease
Brain	Neuropsychiatric manifestations can occur

UIM ORIGINAL

Anti-dsDNA = DNA Disease in the Kidney

Used to remember: The high-yield association of anti-dsDNA antibodies

Anti-dsDNA	Highly specific for SLE
Kidney	Levels can correlate with lupus nephritis activity in some patients

Antibody titres should not be interpreted in isolation from the clinical picture.

UIM ORIGINAL

Anti-Sm = Specific for SLE

Used to remember: The specificity association of anti-Smith antibodies

Sm	Anti-Smith antibodies are highly specific for SLE, although sensitivity is limited

UIM ORIGINAL

Low Complement = Lupus Consumes

Used to remember: Why complement levels may fall in active immune-complex SLE

Consumes	C3 and C4 can decrease with complement activation, especially in active nephritis

Sjögren Syndrome

Sjögren = Dry Eyes, Dry Mouth

Used to remember: The hallmark sicca symptoms

Eyes	Keratoconjunctivitis sicca
Mouth	Xerostomia

UIM ORIGINAL

SSA = Sicca A; SSB = Sicca B

Used to remember: The classic autoantibodies associated with Sjögren syndrome

Anti-Ro/SSA	Commonly associated
Anti-La/SSB	May also be present

Neither antibody is specific to Sjögren syndrome; anti-Ro is also common in SLE.

UIM ORIGINAL

Dry Glands, Swollen Parotids, Lymphoma Risk

Used to remember: Three important clinical associations of Sjögren syndrome

Dry glands	Lacrimal and salivary dysfunction
Parotids	Persistent/recurrent parotid enlargement may occur
Lymphoma	Increased risk of B-cell non-Hodgkin lymphoma

Systemic Sclerosis

CREST

Used to remember: The classic limited cutaneous systemic sclerosis feature cluster

C	Calcinosis
R	Raynaud phenomenon
E	Oesophageal dysmotility
S	Sclerodactyly
T	Telangiectasia

CREST is a useful clinical phenotype mnemonic; modern classification does not require all five features.

UIM ORIGINAL

Scleroderma = Skin Tight, Vessels Tight, Gut Slow

Used to remember: Three major organ-system themes in systemic sclerosis

Skin tight	Skin thickening/sclerodactyly
Vessels tight	Raynaud phenomenon and vascular disease
Gut slow	Oesophageal and gastrointestinal dysmotility

UIM ORIGINAL

Anti-Centromere = Limited; Scl-70 = Diffuse Lung

Used to remember: Two classic antibody associations in systemic sclerosis

Anti-centromere	Associated with limited cutaneous disease and pulmonary arterial hypertension risk
Anti-topoisomerase I / Scl-70	Associated with diffuse disease and interstitial lung disease

These are associations, not deterministic rules.

UIM ORIGINAL

RNA Polymerase III = Renal Crisis Risk

Used to remember: A high-yield autoantibody association

Anti-RNA polymerase III	Associated with increased risk of scleroderma renal crisis

Inflammatory Myopathies

UIM ORIGINAL

Myositis = Muscles Near the Middle

Used to remember: The typical weakness distribution in inflammatory myopathy

Near the middle	Symmetric proximal weakness - shoulders and hips - is characteristic

UIM ORIGINAL

Dermatomyositis = Muscle + Skin

Used to remember: The defining additional feature of dermatomyositis

Muscle	Inflammatory myopathy
Skin	Characteristic rash such as heliotrope eruption or Gottron papules

UIM ORIGINAL

Gottron = Knuckles; Heliotrope = Eyelids

Used to remember: Two hallmark skin findings of dermatomyositis

Gottron papules	Over extensor MCP/PIP surfaces
Heliotrope	Violaceous periorbital/eyelid eruption

UIM ORIGINAL

Antisynthetase = Myositis, Lungs, Mechanics' Hands

Used to remember: A classic clinical cluster of antisynthetase syndrome

Myositis	Inflammatory muscle disease
Lungs	Interstitial lung disease is common
Mechanics' hands	Hyperkeratotic fissured lateral fingers/palms may occur

Spondyloarthritis

PAIR

Used to remember: Classic HLA-B27-associated spondyloarthropathies

P	Psoriatic arthritis
A	Ankylosing spondylitis / axial spondyloarthritis
I	IBD-associated arthritis
R	Reactive arthritis

UIM ORIGINAL

Inflammatory Back Pain = Better Moving, Worse Resting

Used to remember: The typical mechanical contrast of axial spondyloarthritis

Better moving	Exercise often improves symptoms
Worse resting	Rest does not reliably relieve pain; night pain may occur

UIM ORIGINAL

Psoriatic Arthritis = DIP + Dactylitis + Nails

Used to remember: Three classic clues to psoriatic arthritis

DIP	Distal interphalangeal joints may be involved
Dactylitis	Sausage digits
Nails	Pitting/onycholysis can accompany disease

Reactive Arthritis = Can't See, Can't Pee, Can't Climb a Tree

Used to remember: The traditional clinical triad of reactive arthritis

Can't see	Conjunctivitis/uveitis
Can't pee	Urethritis/cervicitis
Can't climb a tree	Arthritis, typically lower-limb asymmetric oligoarthritis

A classic historical mnemonic; most patients do not present with the complete triad.

UIM ORIGINAL

Ankylosing = Axial, Anterior Uveitis, Aortic

Used to remember: Three extra-articular/axial associations of ankylosing spondylitis

Axial	Sacroiliitis and inflammatory spinal disease
Anterior uveitis	Common extra-articular manifestation
Aortic	Aortic root/valve disease can occur

Crystal Arthritis

Gout = Needle, Negative

Used to remember: The crystal shape and birefringence of monosodium urate

Needle	Needle-shaped crystals
Negative	Strongly negatively birefringent under polarised light

Pseudogout = Rhomboid, Positive

Used to remember: The crystal shape and birefringence of CPP crystals

Rhomboid	Rhomboid-shaped crystals
Positive	Weakly positively birefringent

UIM ORIGINAL

Gout = Great Toe Loves Urate

Used to remember: The classic first-MTP presentation

Great toe	Podagra is a classic presentation of acute gout

UIM ORIGINAL

Hot Red Joint = Tap Before You Label It Gout

Used to remember: The importance of excluding septic arthritis

Tap	Synovial-fluid analysis is important when infection is possible
Reason	Septic arthritis and crystal arthritis can coexist

Vasculitis

UIM ORIGINAL

Large = Giant and Takayasu

Used to remember: The major primary large-vessel vasculitides

Giant	Giant cell arteritis
Takayasu	Takayasu arteritis

UIM ORIGINAL

Medium = PAN + Kawasaki

Used to remember: Two classic medium-vessel vasculitides

PAN	Polyarteritis nodosa
Kawasaki	Kawasaki disease

UIM ORIGINAL

Small ANCA = GPA, MPA, EGPA

Used to remember: The three major ANCA-associated small-vessel vasculitides

GPA	Granulomatosis with polyangiitis
MPA	Microscopic polyangiitis
EGPA	Eosinophilic granulomatosis with polyangiitis

UIM ORIGINAL

GPA = ENT, Lung, Kidney

Used to remember: The classic organ triad of granulomatosis with polyangiitis

ENT	Upper-airway disease
Lung	Pulmonary nodules/capillaritis/haemorrhage
Kidney	Pauci-immune glomerulonephritis

UIM ORIGINAL

EGPA = Asthma + Eosinophils + Vasculitis

Used to remember: The classic clinical pattern of eosinophilic granulomatosis with polyangiitis

Asthma	Adult-onset asthma is characteristic
Eosinophils	Peripheral/tissue eosinophilia
Vasculitis	Systemic small-vessel vasculitis

UIM ORIGINAL

PAN = Medium Arteries, Spares Lungs

Used to remember: A useful distinguishing feature of polyarteritis nodosa

Medium arteries	Necrotising medium/small muscular artery vasculitis
Spares lungs	Pulmonary capillaritis is not a typical feature

Giant Cell Arteritis & PMR

UIM ORIGINAL

GCA = Headache, Jaw, Vision

Used to remember: Three high-risk symptoms of giant cell arteritis

Headache	New temporal/generalised headache
Jaw	Jaw claudication
Vision	Transient or permanent visual symptoms

UIM ORIGINAL

GCA = Treat Before Sight Is Lost

Used to remember: The urgency of suspected giant cell arteritis with visual risk

Treat	Prompt glucocorticoid therapy is required when GCA is strongly suspected
Sight	Delay can lead to irreversible visual loss

Treatment and diagnostic testing should follow current local rheumatology/ophthalmology pathways.

UIM ORIGINAL

PMR = Pain and Morning Rigidity in Shoulders and Hips

Used to remember: The classic symptom pattern of polymyalgia rheumatica

Pain/rigidity	Bilateral shoulder and often hip-girdle pain with prolonged morning stiffness
Strength	True muscle weakness is not the defining feature

UIM ORIGINAL

GCA and PMR Travel Together

Used to remember: The important overlap between giant cell arteritis and polymyalgia rheumatica

Together	A substantial minority of patients have features of both conditions

Antiphospholipid Syndrome

UIM ORIGINAL

APS = Arteries, Pregnancy, Seizure? Think Clots

Used to remember: The thrombotic and obstetric nature of antiphospholipid syndrome

Arteries	Arterial thrombosis can occur
Pregnancy	Pregnancy morbidity is a defining clinical domain
Clots	Venous thrombosis is also common

Neurological manifestations such as stroke or seizures may occur, but classification requires defined thrombotic/obstetric plus laboratory criteria.

UIM ORIGINAL

Antiphospholipid = Clots Despite 'Anticoagulant' Name

Used to remember: The paradoxical thrombosis association of lupus anticoagulant

Lupus anticoagulant	Can prolong phospholipid-dependent clotting assays in vitro yet is associated with thrombosis in vivo

Behçet Disease

UIM ORIGINAL

Behçet = Mouth, Genitals, Eyes

Used to remember: The classic mucocutaneous/ocular triad

Mouth	Recurrent oral aphthous ulcers
Genitals	Recurrent genital ulcers
Eyes	Uveitis/retinal vasculitis can occur

UIM ORIGINAL

Behçet = Vessels of Any Size

Used to remember: The unusually broad vascular involvement in Behçet disease

Any size	Can involve arteries and veins of different calibres, including thrombosis and aneurysm

Sarcoidosis & Other Mimics

UIM ORIGINAL

Sarcoid = Lungs, Nodes, Skin, Eyes

Used to remember: Four common organ systems involved in sarcoidosis

Lungs	Pulmonary parenchymal disease
Nodes	Bilateral hilar/mediastinal lymphadenopathy
Skin	Erythema nodosum or lupus pernio
Eyes	Uveitis

UIM ORIGINAL

Löfgren = Nodes + Ankles + Erythema Nodosum

Used to remember: The classic acute sarcoidosis syndrome

Nodes	Bilateral hilar lymphadenopathy
Ankles	Ankle periarthritis/arthritis
Erythema nodosum	Tender erythematous nodules

UIM ORIGINAL

Haemochromatosis = MCP 2 and 3

Used to remember: A classic arthropathy distribution clue

MCP 2 and 3	Second and third MCP involvement is characteristic and should prompt consideration of haemochromatosis

Fibromyalgia

UIM ORIGINAL

Fibromyalgia = Widespread Pain + Poor Sleep + Fatigue

Used to remember: The characteristic symptom cluster

Widespread pain	Chronic widespread musculoskeletal pain
Poor sleep	Non-restorative sleep is common
Fatigue	Persistent fatigue/cognitive symptoms are common

UIM ORIGINAL

Fibromyalgia Hurts but Doesn't Inflame

Used to remember: The distinction from inflammatory rheumatic disease

Hurts	Pain and tenderness can be substantial
Doesn't inflame	Routine inflammatory markers and joints are not typically inflammatory because fibromyalgia is a pain-processing disorder

Coexisting inflammatory rheumatic disease is possible and should not be dismissed.

Rapid Reference

Mnemonic	What it recalls
Rest Makes it Rigid	Inflammatory stiffness / RA
DIP Doesn't Usually Invite RA	RA distribution
Swan Neck = PIP Back, DIP Down	RA deformity
Boutonnière = PIP Bends, DIP Back	RA deformity
Felty = RA + Spleen + Neutrophils Fall	Felty syndrome
LUPUS = Lots of Unusual Problems Under the Sun	SLE
Anti-dsDNA = DNA Disease in Kidney	SLE/nephritis
Sjögren = Dry Eyes, Dry Mouth	Sjögren
CREST	Limited systemic sclerosis
Scl-70 = Diffuse Lung	Systemic sclerosis
Myositis = Muscles Near the Middle	Inflammatory myopathy
Gottron = Knuckles; Heliotrope = Eyelids	Dermatomyositis
PAIR	Spondyloarthritis
Can't See, Can't Pee, Can't Climb a Tree	Reactive arthritis
Gout = Needle, Negative	MSU crystals
Pseudogout = Rhomboid, Positive	CPP crystals
GPA = ENT, Lung, Kidney	GPA
EGPA = Asthma + Eosinophils + Vasculitis	EGPA
PAN = Medium Arteries, Spares Lungs	PAN
GCA = Headache, Jaw, Vision	GCA
PMR = Shoulders and Hips	PMR
Behçet = Mouth, Genitals, Eyes	Behçet disease
Sarcoid = Lungs, Nodes, Skin, Eyes	Sarcoidosis

Discovery & Verification Sources

Mnemonic discovery: Epomedicine rheumatology mnemonic pages; Zero to Finals rheumatology pages; Geeky Medics and Picmonic public teaching/mnemonic resources where relevant; and other resources in the Updates in Medicine mnemonic-book source list.

Independent verification: NCBI Bookshelf/StatPearls on rheumatoid arthritis, gout, arthritis and vasculitis; current standard rheumatology references and contemporary classification/nomenclature sources. Older classification mnemonics were not used as diagnostic shortcuts where newer criteria have superseded them.

UIM Original entries are clearly labelled. Mnemonics are memory aids, not substitutes for formal diagnostic criteria or specialist assessment.

PART II | CLINICAL MEDICINE

HAEMATOLOGY MNEMONICS

A comprehensive, clinically verified collection of haematology memory aids

Editorial approach

Only genuine memory devices are included. Scores, staging systems and ordinary abbreviations are excluded unless they function as a true recall aid. Traditional coagulation mnemonics have been corrected to avoid the obsolete Factor VI.

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Approach to Anaemia
Microcytic Anaemia
Macrocytic Anaemia
Haemolysis
Haemoglobin Disorders
White Cell Disorders
Acute & Chronic Leukaemia
Lymphoma
Plasma Cell Disorders
Platelets & Bleeding
Coagulation
Thrombotic Microangiopathy
DIC & Thrombosis
Transfusion Medicine
Rapid Reference

Approach to Anaemia

UIM ORIGINAL

Anaemia = Lose, Lack, or Lyse

Used to remember: The three broad mechanisms of anaemia

Lose	Blood loss
Lack	Reduced red-cell production
Lyse	Increased red-cell destruction/haemolysis

UIM ORIGINAL

MCV = Small, Normal, Large

Used to remember: A first-pass morphological classification of anaemia

Small	Microcytic
Normal	Normocytic
Large	Macrocytic

UIM ORIGINAL

Retics Rise when Marrow Replies

Used to remember: How reticulocytes help separate production failure from peripheral loss/destruction

Retics rise	Appropriate marrow response to haemolysis or blood loss
Retics low/inadequate	Suggest impaired production or ineffective erythropoiesis

Microcytic Anaemia

TAILS

Used to remember: The classic causes of microcytic anaemia

T	Thalassaemia
A	Anaemia of chronic inflammation/disease
I	Iron deficiency
L	Lead toxicity
S	Sideroblastic anaemia

UIM ORIGINAL

Iron Deficiency = Ferritin Falls First

Used to remember: The key storage marker in iron deficiency

Ferritin	Usually low in uncomplicated iron deficiency and reflects depleted iron stores

Ferritin is an acute-phase reactant and can be normal or raised with inflammation despite iron deficiency.

UIM ORIGINAL

Thalassaemia = Tiny Cells, Count Preserved

Used to remember: A common CBC clue distinguishing thalassaemia trait from iron deficiency

Tiny cells	Marked microcytosis
Count preserved	RBC count is often relatively preserved or high in thalassaemia trait

This is a pattern clue only; diagnosis requires appropriate iron studies and haemoglobin analysis/genetic testing.

Macrocytic Anaemia

UIM ORIGINAL

Macrocytosis = B12, Folate, Booze, Liver, Thyroid, Drugs

Used to remember: High-yield causes of macrocytosis

B12	Vitamin B12 deficiency
Folate	Folate deficiency
Booze	Alcohol
Liver	Liver disease
Thyroid	Hypothyroidism
Drugs	e.g. hydroxyurea, methotrexate, some antiretrovirals/antiepileptics

UIM ORIGINAL

B12 = Blood + Brain; Folate = Blood

Used to remember: The neurological distinction between B12 and folate deficiency

B12	Megaloblastic anaemia plus possible neurological disease
Folate	Megaloblastic anaemia without the typical B12 neurological syndrome

UIM ORIGINAL

B12 Builds Myelin

Used to remember: Why vitamin B12 deficiency can produce neurological symptoms

Myelin	B12 deficiency can cause subacute combined degeneration and peripheral neuropathy

Haemolysis

UIM ORIGINAL

Haemolysis = LDH Up, Bilirubin Up, Haptoglobin Down

Used to remember: The classic laboratory pattern of increased red-cell destruction

LDH	Rises
Unconjugated bilirubin	Rises
Haptoglobin	Falls, especially in intravascular haemolysis

UIM ORIGINAL

Intravascular = Inside Vessels, Haemoglobin in Urine

Used to remember: The key site and consequences of intravascular haemolysis

Inside vessels	RBC destruction occurs within circulation
Urine	Haemoglobinuria/haemosiderinuria can occur

UIM ORIGINAL

Extravascular = Spleen Eats Cells

Used to remember: The typical site of extravascular haemolysis

Spleen	Macrophages remove abnormal/opsonised red cells, often causing splenomegaly

Warm = IgG; Cold = IgM

Used to remember: The classic antibody classes in autoimmune haemolytic anaemia

Warm AIHA	Usually IgG-mediated
Cold agglutinin disease	Usually IgM-mediated

UIM ORIGINAL

G6PD = Bite Cells after Oxidative Bite

Used to remember: The morphological and trigger association of G6PD deficiency

Oxidative bite	Infections, oxidant drugs or fava beans may precipitate haemolysis
Bite cells	Splenic removal of Heinz body-containing portions produces bite cells

Haemoglobin Disorders

UIM ORIGINAL

Sickle = Sickled by Low Oxygen

Used to remember: The key trigger of HbS polymerisation

Low oxygen	Deoxygenation promotes HbS polymerisation and red-cell sickling

UIM ORIGINAL

Sickle Crisis = Pain, Chest, Brain, Spleen

Used to remember: Major acute complications of sickle cell disease

Pain	Vaso-occlusive pain crises
Chest	Acute chest syndrome
Brain	Stroke
Spleen	Splenic sequestration in younger patients; functional asplenia develops over time

UIM ORIGINAL

Thalassaemia = Globin Production Problem

Used to remember: The core pathophysiology of thalassaemia

Globin	Reduced synthesis of alpha- or beta-globin chains

UIM ORIGINAL

Alpha = Four Genes; Beta = Two

Used to remember: The gene-copy difference underlying alpha- and beta-thalassaemia

Alpha globin	Four functional alpha-globin genes in most people
Beta globin	Two beta-globin genes

White Cell Disorders

UIM ORIGINAL

Neutrophils = Bacterial Battle

Used to remember: The classic infection association of neutrophilia

Bacterial	Acute bacterial infection commonly causes neutrophilia

Neutrophilia also occurs with inflammation, corticosteroids, stress, smoking and myeloproliferative disease.

UIM ORIGINAL

Lymphocytes = Viral Visitors

Used to remember: The classic infection association of lymphocytosis

Viral	Many viral infections cause lymphocytosis

Some bacterial infections and lymphoid malignancies also cause lymphocytosis.

UIM ORIGINAL

Eosinophils = Allergy + Animals

Used to remember: Two classic causes of eosinophilia

Allergy	Atopic/allergic disease
Animals	Helminthic parasitic infections

UIM ORIGINAL

Pancytopenia = Marrow, Spleen, Destruction

Used to remember: Three broad mechanisms for reduction of all major blood-cell lines

Marrow	Failure, infiltration, aplasia or ineffective haematopoiesis
Spleen	Hypersplenism/sequestration
Destruction	Immune or consumptive processes

Acute & Chronic Leukaemia

UIM ORIGINAL

Acute = Blasts and Fast; Chronic = Mature and Slow

Used to remember: The broad distinction between acute and chronic leukaemias

Acute	Immature blasts predominate; rapid clinical course without treatment
Chronic	More mature cells predominate; often more indolent initially

UIM ORIGINAL

ALL = Little Ones; CLL = Later Life

Used to remember: The characteristic age tendencies of ALL and CLL

ALL	Most common acute leukaemia of childhood
CLL	Typically occurs in older adults

Auer Rods = AML

Used to remember: The classic cytoplasmic inclusion indicating myeloid differentiation

Auer rods	Needle-like azurophilic inclusions seen in myeloblasts/promyelocytes

APL = 15;17

Used to remember: The hallmark translocation of acute promyelocytic leukaemia

t(15;17)	PML-RARA fusion

CML = 9;22 Philadelphia

Used to remember: The hallmark chromosome abnormality of chronic myeloid leukaemia

t(9;22)	BCR::ABL1 fusion - Philadelphia chromosome

CLL = Smudge Cells

Used to remember: The classic blood-film association of CLL

Smudge cells	Fragile lymphocytes disrupted during smear preparation

Smudge cells are suggestive but not specific; diagnosis depends on clonal B-cell immunophenotyping.

Lymphoma

Reed-Sternberg = Owl Eyes

Used to remember: The classic morphology associated with Hodgkin lymphoma

Owl eyes	Large cell with prominent eosinophilic nucleoli, often bilobed/binucleate

UIM ORIGINAL

Hodgkin = Orderly Spread

Used to remember: The classic pattern of nodal spread in Hodgkin lymphoma

Orderly	Often spreads contiguously from one lymph-node region to adjacent regions

Real disease patterns vary and extranodal disease can occur.

UIM ORIGINAL

Non-Hodgkin = Noncontiguous and Extranodal

Used to remember: Two broad tendencies of non-Hodgkin lymphomas

Noncontiguous	Spread is less predictably contiguous
Extranodal	Extranodal involvement is common

B Symptoms = Fever, Sweat, Weight

Used to remember: The classic systemic lymphoma symptoms

Fever	Unexplained fever
Sweat	Drenching night sweats
Weight	Unintentional weight loss

Starry Sky = Burkitt

Used to remember: The classic histological pattern of Burkitt lymphoma

Starry sky	Tingible-body macrophages scattered among densely packed malignant cells

Plasma Cell Disorders

CRAB

Used to remember: The classic end-organ features of symptomatic multiple myeloma

C	HyperCalcaemia
R	Renal impairment
A	Anaemia
B	Bone lesions

UIM ORIGINAL

Myeloma = CRAB + Infections

Used to remember: High-yield clinical complications of multiple myeloma

CRAB	Calcium, renal, anaemia and bone disease
Infections	Impaired normal immunoglobulin production increases infection susceptibility

UIM ORIGINAL

Bence Jones = Light Chains in Urine

Used to remember: The classic urinary protein association of plasma-cell dyscrasia

Light chains	Free immunoglobulin light chains can be detected in urine/serum

POEMS

Used to remember: The core feature groups in POEMS syndrome

P	Polyneuropathy
O	Organomegaly
E	Endocrinopathy
M	Monoclonal plasma-cell disorder
S	Skin changes

Platelets & Bleeding

UIM ORIGINAL

Platelet Problem = Petechiae and Mucosa

Used to remember: The typical bleeding pattern of platelet disorders

Petechiae	Skin petechiae/purpura
Mucosa	Epistaxis, gum bleeding, menorrhagia

UIM ORIGINAL

Factor Problem = Deep and Delayed

Used to remember: The typical bleeding pattern of coagulation-factor deficiency

Deep	Haemarthroses and deep muscle haematomas
Delayed	Bleeding may recur after initial haemostasis

UIM ORIGINAL

ITP = Isolated Thrombocytopenia, Platelets Targeted

Used to remember: The core concept of immune thrombocytopenia

Isolated	Predominantly thrombocytopenia with otherwise relatively preserved cell lines
Targeted	Immune-mediated platelet destruction and impaired production

UIM ORIGINAL

HIT = Platelets Fall, Clots Rise

Used to remember: The paradoxical thrombotic nature of heparin-induced thrombocytopenia

Platelets fall	Characteristic thrombocytopenia
Clots rise	Markedly prothrombotic immune reaction

Coagulation

2 + 7 = 9, Not 10

Used to remember: The vitamin K-dependent clotting factors

Factors	II, VII, IX and X
Also	Proteins C and S are vitamin K-dependent anticoagulant proteins

Intrinsic = 12, 11, 9, 8; Common = 10, 5, 2, 1

Used to remember: A compact numerical map of the coagulation pathways

Intrinsic	XII -> XI -> IX with VIII as cofactor
Common	X -> V -> II (thrombin) -> I (fibrinogen/fibrin)

This is a simplified teaching cascade; in-vivo coagulation is cell-based and more complex.

UIM ORIGINAL

Extrinsic = Tissue Factor + Seven

Used to remember: The key factor initiating the extrinsic pathway

Tissue factor	Factor III
Seven	Factor VII

PT = exTrinsic; PTT = inTrinsic

Used to remember: Which screening test broadly reflects each pathway

PT/INR	Most sensitive to extrinsic/common pathway, especially factor VII
aPTT	Reflects intrinsic/common pathway

Haemophilia A = Eight; B = Nine

Used to remember: The deficient factors in haemophilia A and B

A	Factor VIII deficiency
B	Factor IX deficiency

UIM ORIGINAL

vWD = Platelets Stick + Factor VIII Stays

Used to remember: The dual role of von Willebrand factor

Platelets stick	Mediates platelet adhesion to subendothelium
VIII stays	Carries/stabilises factor VIII in plasma

Thrombotic Microangiopathy

FAT RN

Used to remember: The classic five features historically associated with TTP

F	Fever
A	Microangiopathic haemolytic Anaemia
T	Thrombocytopenia
R	Renal dysfunction
N	Neurological abnormalities

The full pentad is uncommon. Suspected TTP should not be delayed while waiting for all five features.

UIM ORIGINAL

TTP = Platelets Low + MAHA + Brain

Used to remember: A more clinically useful TTP pattern

Platelets low	Severe thrombocytopenia
MAHA	Microangiopathic haemolytic anaemia with schistocytes
Brain	Neurological features are common

UIM ORIGINAL

HUS = Haemolysis, Uraemia, Small Platelets

Used to remember: The classic triad of haemolytic uraemic syndrome

Haemolysis	Microangiopathic haemolytic anaemia
Uraemia	Acute kidney injury
Small platelets	Thrombocytopenia

UIM ORIGINAL

Schistocytes = Sheared Cells

Used to remember: The morphology of microangiopathic haemolysis

Sheared	Fragmented red cells result from mechanical injury in the microcirculation

DIC & Thrombosis

UIM ORIGINAL

DIC = Clot Everywhere, Bleed Everywhere

Used to remember: The paradox of disseminated intravascular coagulation

Clot	Systemic activation of coagulation causes microvascular fibrin deposition
Bleed	Consumption of platelets/factors and secondary fibrinolysis causes bleeding

UIM ORIGINAL

DIC Labs = Platelets Down, Fibrinogen Down, D-dimer Up

Used to remember: The classic laboratory direction in overt consumptive coagulopathy

Platelets	Often reduced
Fibrinogen	Often reduced, though can be normal early/in inflammation
D-dimer	Elevated

Virchow = Stasis, Injury, Hypercoagulability

Used to remember: The three major contributors to thrombosis

Stasis	Abnormal blood flow
Injury	Endothelial injury
Hypercoagulability	Inherited or acquired prothrombotic states

UIM ORIGINAL

Factor V Leiden = Five Won't Listen to Protein C

Used to remember: The mechanism of activated protein C resistance

Factor V	Mutated factor V is resistant to inactivation by activated protein C
Effect	Inherited thrombophilia

Transfusion Medicine

UIM ORIGINAL

O Negative = Emergency Donor; AB Positive = Broad RBC Receiver

Used to remember: Classic ABO/Rh red-cell compatibility shortcuts

O negative	Often used as uncrossmatched emergency red cells when recipient group is unknown
AB positive	Can receive red cells from all ABO/Rh groups in principle

Transfusion practice must follow local blood-bank protocols, antibody screening and crossmatching; 'universal' shortcuts have important limitations.

UIM ORIGINAL

Plasma Flips the ABO Rule

Used to remember: The reversal of ABO compatibility for plasma compared with red cells

AB plasma	Contains neither anti-A nor anti-B and is broadly compatible
O plasma	Contains anti-A and anti-B and is not universal plasma

UIM ORIGINAL

Acute Transfusion Reaction = Stop the Blood First

Used to remember: The immediate first action when a serious transfusion reaction is suspected

Stop	Stop the transfusion while maintaining IV access and assess the patient
Then	Follow local transfusion-reaction protocol and notify the blood bank

UIM ORIGINAL

TRALI = Lungs Leak after Transfusion

Used to remember: The core syndrome of transfusion-related acute lung injury

Lungs leak	Acute non-cardiogenic pulmonary oedema/hypoxaemia temporally related to transfusion

UIM ORIGINAL

TACO = Too Much Circulatory Volume

Used to remember: The basic mechanism of transfusion-associated circulatory overload

Too much	Volume overload causes hydrostatic pulmonary oedema

Rapid Reference

Mnemonic	What it recalls
Lose, Lack, or Lyse	Anaemia mechanisms
TAILS	Microcytic anaemia
B12 = Blood + Brain; Folate = Blood	Megaloblastic anaemia
LDH Up, Bilirubin Up, Haptoglobin Down	Haemolysis
Warm = IgG; Cold = IgM	AIHA
ALL Little Ones; CLL Later Life	Leukaemia age pattern
Auer Rods = AML	AML
APL = 15;17	APL
CML = 9;22 Philadelphia	CML
Reed-Sternberg = Owl Eyes	Hodgkin lymphoma
B Symptoms = Fever, Sweat, Weight	Lymphoma
CRAB	Multiple myeloma
Platelet = Petechiae/Mucosa	Platelet bleeding
Factor = Deep and Delayed	Coagulation bleeding
2 + 7 = 9, Not 10	Vitamin K factors
Intrinsic 12-11-9-8; Common 10-5-2-1	Coagulation cascade
PT exTrinsic; PTT inTrinsic	Coagulation tests
Haemophilia A = 8; B = 9	Haemophilia
vWD = Stick + VIII Stays	von Willebrand factor
FAT RN	TTP classic pentad
HUS = Haemolysis, Uraemia, Small Platelets	HUS
DIC = Clot Everywhere, Bleed Everywhere	DIC
TACO = Too Much Circulatory Volume	TACO
TRALI = Lungs Leak	TRALI

Discovery & Verification Sources

Mnemonic discovery: Geeky Medics medical mnemonics; Epomedicine haematology and coagulation mnemonic pages; Zero to Finals haematology resources; LITFL where acute haematological complications overlap critical care; and other sources in the Updates in Medicine mnemonic-book resource list.

Independent verification: NCBI Bookshelf/StatPearls on anaemia, haemolysis, TTP/HUS and coagulation disorders; Merck Manual Professional; standard haematology texts. The classic TTP pentad is explicitly qualified because most patients do not present with all five features. Coagulation-factor material omits obsolete Factor VI and notes that the traditional cascade is a simplified teaching model.

UIM Original entries are clearly labelled. Transfusion mnemonics are conceptual aids only and must not replace local blood-bank compatibility procedures.

PART II | CLINICAL MEDICINE

INFECTIOUS DISEASES MNEMONICS

A comprehensive, clinically verified collection of infectious-disease memory aids

Editorial approach

This clinical chapter focuses on syndromes and bedside recognition rather than repeating organism-identification mnemonics from Microbiology. Only genuine memory devices are included. Obsolete definitions and rigid treatment shortcuts are avoided.

Contents

Approach to Fever & Sepsis
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Gastrointestinal Infection
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Zoonoses & Exposure Clues
Infection Control
Rapid Reference

Approach to Fever & Sepsis

UIM ORIGINAL

Fever = Infection, Inflammation, Malignancy, Medication

Used to remember: Four major categories of persistent fever

Infection	Bacterial, viral, fungal or parasitic disease
Inflammation	Autoimmune/autoinflammatory disorders
Malignancy	Especially haematological and selected solid malignancies
Medication	Drug fever

UIM ORIGINAL

Sepsis = Infection Plus Organ Dysfunction

Used to remember: The modern clinical concept of sepsis

Infection	Suspected or confirmed infection
Organ dysfunction	Life-threatening organ dysfunction caused by a dysregulated host response

SIRS alone is not the modern definition of sepsis.

UIM ORIGINAL

In Sepsis: Source, Samples, Support, Start Treatment

Used to remember: Four immediate priorities when serious infection is suspected

Source	Look for and control the source
Samples	Obtain appropriate microbiological samples without unsafe delay
Support	Resuscitate and support failing organs
Start treatment	Give timely appropriate antimicrobials when indicated

Exact timing, investigations and antimicrobial choice depend on syndrome, severity, local resistance and current guidelines.

UIM ORIGINAL

Fever + Rash = Infection, Drug, Immune

Used to remember: Three broad categories to recall when fever accompanies a rash

Infection	Viral, bacterial, rickettsial and other infections
Drug	Drug eruptions and severe cutaneous adverse reactions
Immune	Autoimmune/autoinflammatory disease

Meningitis & Encephalitis

UIM ORIGINAL

Meningitis = Fever, Headache, Neck

Used to remember: The classic meningitis triad

Fever	Common but may be absent
Headache	Common
Neck	Neck stiffness/meningism may occur

The full triad is insensitive and may be absent, particularly in older or immunocompromised patients.

UIM ORIGINAL

Encephalitis = Meningitis Plus Mind

Used to remember: The clinical clue distinguishing encephalitis from uncomplicated meningitis

Mind	Altered behaviour, consciousness, cognition, seizures or focal cerebral dysfunction suggest encephalitis

UIM ORIGINAL

HSV Loves Temporal Lobes

Used to remember: The classic anatomical predilection of HSV encephalitis

Temporal lobes	HSV-1 encephalitis characteristically involves temporal and inferior frontal regions

UIM ORIGINAL

Meningococcal = Meningitis + Non-Blanching Rash

Used to remember: A high-risk clinical association

Meningitis/sepsis	Rapid invasive meningococcal disease may occur
Non-blanching rash	Petechial/purpuric rash is an important warning sign

Rash may be absent early; do not wait for it when meningococcal disease is suspected.

Infective Endocarditis

FROM JANE

Used to remember: Classic clues to infective endocarditis

F	Fever
R	Roth spots
O	Osler nodes
M	Murmur
J	Janeway lesions
A	Anaemia
N	Nail-bed splinter haemorrhages
E	Embolic phenomena

Peripheral stigmata are often absent. Diagnosis requires microbiological and imaging evidence integrated with contemporary criteria.

UIM ORIGINAL

Osler Ouches; Janeway Just Doesn't

Used to remember: The tenderness distinction between two classic endocarditis lesions

Osler nodes	Tender
Janeway lesions	Typically painless

UIM ORIGINAL

Right Heart Throws to Lungs; Left Heart Throws Systemic

Used to remember: The typical embolic destinations in right- and left-sided endocarditis

Right-sided IE	Septic pulmonary emboli
Left-sided IE	Systemic emboli including cerebral, renal and splenic

UIM ORIGINAL

Culture Before Antibiotics - If Safe

Used to remember: A key diagnostic principle in stable suspected endocarditis

Culture	Multiple blood-culture sets improve microbiological diagnosis
Before antibiotics	Obtain before antimicrobial therapy when this does not cause dangerous delay

Unstable septic patients should not have urgently needed treatment delayed for prolonged sampling.

Tuberculosis

UIM ORIGINAL

TB = Cough, Weight Loss, Night Sweats, Blood

Used to remember: Classic symptoms of pulmonary tuberculosis

Cough	Persistent cough
Weight loss	Constitutional symptom
Night sweats	Constitutional symptom
Blood	Haemoptysis may occur

UIM ORIGINAL

TB Can Travel: Nodes, Pleura, Brain, Bone

Used to remember: Important extrapulmonary TB sites

Nodes	Lymph-node TB
Pleura	Pleural TB
Brain	TB meningitis/tuberculoma
Bone	Osteoarticular TB

UIM ORIGINAL

TB Brain = Basal Meningitis

Used to remember: The classic anatomical inflammatory pattern of TB meningitis

Basal	Basal meningeal exudates and vasculitic/hydrocephalic complications are characteristic

UIM ORIGINAL

TB + HIV = Think Disseminated

Used to remember: The increased extrapulmonary/disseminated TB risk with advanced HIV

HIV	Risk of disseminated and extrapulmonary disease rises as cellular immunity declines

UIM ORIGINAL

TB Meningitis = ART Waits Longer

Used to remember: The important HIV/TB meningitis timing exception

Most TB	ART is generally started early after TB treatment begins
TB meningitis	ART is delayed because very early initiation increases risk from intracranial inflammatory complications

Exact timing should follow current WHO/national HIV-TB guidance.

HIV & Opportunistic Infection

UIM ORIGINAL

HIV = CD4 Down, Opportunities Up

Used to remember: The relationship between cellular immune decline and opportunistic disease

CD4 down	Progressive CD4 T-cell depletion
Opportunities up	Risk of opportunistic infections and certain malignancies rises

UIM ORIGINAL

PCP = Pneumocystis with Profound CD4 Loss

Used to remember: The classic opportunistic pneumonia association

Pneumocystis jirovecii	Important OI in advanced HIV, classically associated with marked CD4 depletion

UIM ORIGINAL

Toxo = Brain Rings When CD4 Is Low

Used to remember: The classic CNS toxoplasmosis association

Brain	Focal neurological disease/seizures may occur
Rings	Multiple ring-enhancing lesions are a classic imaging pattern
Low CD4	Risk rises with advanced immunosuppression

UIM ORIGINAL

Crypto = Capsule, CNS, Pressure

Used to remember: Three high-yield cryptococcal meningitis associations in advanced HIV

Capsule	Encapsulated Cryptococcus
CNS	Meningitis is a major presentation
Pressure	Raised intracranial pressure is common and clinically important

UIM ORIGINAL

CMV = Retina at Very Low CD4

Used to remember: The classic advanced-HIV CMV manifestation

Retina	CMV retinitis may threaten vision
Very low CD4	Usually occurs with profound immunosuppression

UIM ORIGINAL

Cryptococcal Meningitis = Treat Fungus First, ART Later

Used to remember: The key sequencing principle in HIV-associated cryptococcal meningitis

Treat fungus first	Begin appropriate antifungal therapy and manage intracranial pressure
ART later	Immediate ART is avoided because of excess inflammatory risk

Current WHO guidance generally defers ART for about 4-6 weeks after antifungal treatment begins.

Pneumonia & Respiratory Infection

UIM ORIGINAL

Pneumonia = Fever, Cough, Crackles, Consolidation

Used to remember: A classic pneumonia pattern

Fever	May occur
Cough	Often present
Crackles	Common
Consolidation	Focal clinical/radiographic air-space disease may occur

UIM ORIGINAL

Atypical = Dry, Diffuse, Extra-Pulmonary

Used to remember: The traditional atypical pneumonia pattern

Dry	Non-productive cough may occur
Diffuse	Patchy/diffuse infiltrates may occur
Extra-pulmonary	Headache, myalgia, GI or neurological symptoms may accompany illness

The typical/atypical distinction is imperfect and should not be used alone to infer pathogen or choose therapy.

UIM ORIGINAL

Aspiration Goes Down to Dependent Lung

Used to remember: The distribution of aspiration-related infection/inflammation

Dependent lung	Affected segments vary with body position at aspiration

UIM ORIGINAL

Influenza = Abrupt Fever, Ache, Cough

Used to remember: The classic influenza-like illness pattern

Abrupt	Often sudden onset
Fever/ache	Prominent systemic symptoms
Cough	Respiratory symptom is common

Skin & Soft-Tissue Infection

UIM ORIGINAL

Cellulitis = Red, Hot, Tender, Spreading

Used to remember: The classic bedside pattern of cellulitis

Red	Erythema
Hot	Warmth
Tender	Pain/tenderness
Spreading	Ill-defined spreading inflammation

UIM ORIGINAL

Abscess = Pus Needs a Path Out

Used to remember: The key management concept of a drainable abscess

Pus	Localised purulent collection
Path out	Source control by drainage is often central when feasible

Antibiotic need depends on severity, host factors, site and current guidance.

UIM ORIGINAL

Necrotising Infection = Pain Beyond the Skin

Used to remember: A classic red flag for necrotising soft-tissue infection

Pain	Severe pain out of proportion to visible findings can be an early warning sign

Rapid progression, systemic toxicity, bullae, anaesthesia or crepitus are other warning signs. Urgent surgical assessment is essential.

UIM ORIGINAL

Bite Wounds = Teeth Put Bugs Deep

Used to remember: Why animal/human bites are infection-prone

Teeth	Inoculate oral flora into deep tissue
Deep	Puncture injuries can seed tendon, joint or bone

Bone & Joint Infection

UIM ORIGINAL

Septic Joint = Hot, Painful, Won't Move

Used to remember: The classic presentation of septic arthritis

Hot	Inflamed joint
Painful	Severe pain/tenderness
Won't move	Marked restriction of active and passive movement

UIM ORIGINAL

Hot Monoarthritis = Tap It

Used to remember: The importance of synovial fluid assessment

Tap	Joint aspiration is usually required when septic arthritis is possible

Do not delay urgent treatment in a critically ill patient; crystal arthritis and infection can coexist.

UIM ORIGINAL

Osteomyelitis = Bone Pain + Infection Clues

Used to remember: A simple recognition pattern

Bone pain	Focal deep pain/tenderness
Infection clues	Fever, raised inflammatory markers or local wound/ulcer may occur

Gastrointestinal Infection

UIM ORIGINAL

Watery = Toxin/Secretory; Bloody = Invasive/Inflammatory

Used to remember: A practical infectious-diarrhoea distinction

Watery	Often enterotoxin-mediated, viral or protozoal/secretory
Bloody	Raises concern for mucosal invasion/inflammation

There are exceptions; stool pattern alone does not identify the pathogen.

Rice Water = Cholera

Used to remember: The classic severe cholera stool description

Rice-water	Profuse watery diarrhoea with flecks of mucus can occur in severe cholera

UIM ORIGINAL

Dysentery = Blood + Mucus + Tenesmus

Used to remember: The classic clinical syndrome of inflammatory colitis/dysentery

Blood	Visible blood
Mucus	Mucus may be present
Tenesmus	Painful urge to defecate

UIM ORIGINAL

C. difficile = Antibiotics, Diarrhoea, Colon

Used to remember: The classic clinical context of C. difficile infection

Antibiotics	Recent antimicrobial exposure is a major risk
Diarrhoea	Watery diarrhoea is typical
Colon	Colitis can be severe

Urinary Tract Infection

UIM ORIGINAL

Cystitis = Burning, Frequency, Suprapubic

Used to remember: The classic lower-UTI symptom cluster

Burning	Dysuria
Frequency	Frequency/urgency
Suprapubic	Discomfort may occur

UIM ORIGINAL

Pyelonephritis = Fever, Flank, Urine

Used to remember: The classic upper-UTI pattern

Fever	Systemic infection
Flank	Flank/CVA pain
Urine	Pyuria/bacteriuria and urinary symptoms may occur

UIM ORIGINAL

Pregnancy + Bacteriuria = Don't Ignore

Used to remember: The special importance of bacteriuria during pregnancy

Pregnancy	Asymptomatic bacteriuria has clinically important maternal/fetal implications and is managed differently from most non-pregnant adults

Sexually Transmitted Infection

UIM ORIGINAL

Painful Ulcer = Herpes or Chancroid; Painless = Syphilis

Used to remember: A classic genital-ulcer differential shortcut

Painful	HSV is common; chancroid where epidemiologically relevant
Painless	Primary syphilitic chancre is classically painless

Clinical appearance overlaps substantially; laboratory testing is needed.

UIM ORIGINAL

Syphilis = Primary Sore, Secondary Spread, Tertiary Trouble

Used to remember: The broad clinical sequence of untreated syphilis

Primary	Chancre
Secondary	Systemic rash/lymphadenopathy and multisystem manifestations
Tertiary	Late neurological, cardiovascular or gummatous disease may occur

UIM ORIGINAL

Gonorrhoea/Chlamydia = Urethra, Cervix, Pelvis

Used to remember: The common anatomical progression of untreated genital infection

Urethra/cervix	Common initial sites
Pelvis	Ascending infection can cause PID and infertility

Malaria

UIM ORIGINAL

Malaria = Fever after Mosquito, Think Travel

Used to remember: The key epidemiological clue

Mosquito	Anopheles-borne Plasmodium infection
Travel	Always ask about residence/travel in malaria-endemic areas

UIM ORIGINAL

Falciparum = Fatal Potential

Used to remember: The species most strongly associated with severe malaria

P. falciparum	Can cause cerebral malaria, severe anaemia, renal injury, acidosis and multiorgan failure

UIM ORIGINAL

Vivax/Ovale = Vacation in the Liver

Used to remember: The dormant liver stages of relapsing malaria

P. vivax / P. ovale	Can form hypnozoites causing later relapse

UIM ORIGINAL

Malaria Smear = Thick Finds, Thin Defines

Used to remember: The traditional roles of thick and thin blood films

Thick film	More sensitive for detecting parasites
Thin film	Helps identify species and quantify parasitaemia

Dengue & Arboviral Infection

UIM ORIGINAL

Dengue = Fever, Ache, Rash, Low Platelets

Used to remember: Common clinical/laboratory clues to dengue

Fever	Acute febrile illness
Ache	Headache, myalgia and arthralgia
Rash	May occur
Low platelets	Thrombocytopenia is common

UIM ORIGINAL

Dengue Danger = Leakage, Bleeding, Organs

Used to remember: The broad severe-dengue warning domains

Leakage	Plasma leakage can cause shock/respiratory compromise
Bleeding	Severe bleeding
Organs	Severe organ involvement

Use current WHO/national warning-sign criteria for clinical decisions; this is a conceptual memory aid.

UIM ORIGINAL

Chikungunya = Chicken-Gunya Joints Hurt

Used to remember: The prominent arthralgia association of chikungunya

Joints	Severe polyarthralgia/arthritis is a prominent feature and can persist

Zoonoses & Exposure Clues

UIM ORIGINAL

Leptospirosis = Water, Calves, Conjunctiva

Used to remember: Three classic clues to leptospirosis

Water	Freshwater/flood or contaminated water exposure
Calves	Marked calf myalgia
Conjunctiva	Conjunctival suffusion can occur

UIM ORIGINAL

Brucella = Beasts + Unpasteurised

Used to remember: The classic exposure history for brucellosis

Beasts	Livestock/occupational exposure
Unpasteurised	Unpasteurised dairy products are an important route

UIM ORIGINAL

Rabies = Bite to Brain

Used to remember: The essential pathogenesis clue in rabies

Bite	Virus commonly inoculated by saliva from an infected mammal
Brain	Neuroinvasive disease is almost invariably fatal once clinical symptoms appear

UIM ORIGINAL

Tetanus = Wound to Tight Muscles

Used to remember: The classic disease pattern

Wound	Spores contaminate a wound
Tight muscles	Toxin causes painful rigidity and spasms

Infection Control

UIM ORIGINAL

Standard Precautions = Every Patient, Every Time

Used to remember: The principle of standard infection-control precautions

Every patient	Apply based on anticipated exposure, not known diagnosis alone
Every time	Hand hygiene and appropriate PPE are routine risk-based measures

UIM ORIGINAL

Airborne = Tiny Particles, Special Air

Used to remember: The concept of airborne precautions

Tiny particles	Pathogens carried in small aerosol particles
Special air	Airborne-infection isolation and suitable respirator protection may be required

UIM ORIGINAL

Droplet = Close Cough; Contact = Touch

Used to remember: The broad difference between droplet and contact precautions

Droplet	Larger respiratory particles mainly transmitted at close range
Contact	Direct or indirect contact with patient/environment

UIM ORIGINAL

Antibiotics: Right Drug, Right Dose, Right Duration

Used to remember: A simple antimicrobial-stewardship memory aid

Right drug	Match likely/confirmed pathogen and site
Right dose	Ensure adequate exposure adjusted for patient factors
Right duration	Avoid unnecessary prolonged courses

Review culture results and narrow or stop therapy when appropriate.

Rapid Reference

Mnemonic	What it recalls
Fever = Infection, Inflammation, Malignancy, Medication	Persistent fever
Sepsis = Infection + Organ Dysfunction	Sepsis
Meningitis = Fever, Headache, Neck	Meningitis
Encephalitis = Meningitis + Mind	Encephalitis
HSV Loves Temporal Lobes	HSV encephalitis
FROM JANE	Infective endocarditis
Osler Ouches; Janeway Doesn't	Endocarditis lesions
TB = Cough, Weight Loss, Night Sweats, Blood	Pulmonary TB
TB Can Travel: Nodes, Pleura, Brain, Bone	Extrapulmonary TB
HIV = CD4 Down, Opportunities Up	HIV/OIs
Toxo = Brain Rings When CD4 Is Low	CNS toxoplasmosis
Crypto = Capsule, CNS, Pressure	Cryptococcal meningitis
Cellulitis = Red, Hot, Tender, Spreading	Cellulitis
Pain Beyond the Skin	Necrotising infection
Hot Monoarthritis = Tap It	Septic arthritis
Watery vs Bloody	Infectious diarrhoea
Rice Water = Cholera	Cholera
Cystitis = Burning, Frequency, Suprapubic	Lower UTI
Pyelonephritis = Fever, Flank, Urine	Upper UTI
Primary Sore, Secondary Spread, Tertiary Trouble	Syphilis
Falciparum = Fatal Potential	Malaria
Thick Finds, Thin Defines	Malaria films
Dengue Danger = Leakage, Bleeding, Organs	Severe dengue
Leptospirosis = Water, Calves, Conjunctiva	Leptospirosis
Right Drug, Dose, Duration	Antimicrobial stewardship

Discovery & Verification Sources

Mnemonic discovery: Geeky Medics, Epomedicine, Zero to Finals, LITFL, Picmonic public topic pages and other clinician-education resources specified for the Updates in Medicine mnemonic-book project.

Independent verification: WHO tuberculosis and advanced-HIV guidance; NCBI Bookshelf/StatPearls on HIV-associated opportunistic infections, tuberculosis and CNS infection; Merck Manual Professional and standard infectious-disease references. Treatment-timing content is deliberately phrased conceptually because exact recommendations depend on current guidelines, disease site and patient context.

The chapter avoids using SIRS as the definition of sepsis and does not reproduce antimicrobial regimens as mnemonics. UIM Original entries are clearly labelled.

PART II | CLINICAL MEDICINE

ONCOLOGY MNEMONICS

A comprehensive, clinically verified collection of oncology memory aids

Editorial approach

Only genuine memory devices are included. TNM and other staging systems are mentioned only where the words themselves aid recall. Tumour markers are presented as associations rather than screening diagnoses, and oncological emergencies are framed as recognition aids rather than treatment protocols.

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Cancer Warning Signs & Core Concepts
Staging & Spread
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Breast Cancer
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Testicular Cancer
Renal & Bladder Cancer
Paraneoplastic Syndromes
Oncological Emergencies
Treatment Toxicities
Immunotherapy & Targeted Therapy
Rapid Reference

Cancer Warning Signs & Core Concepts

CAUTION

Used to remember: Classic warning signs that should prompt consideration of malignancy

C	Change in bowel or bladder habits
A	A sore that does not heal
U	Unusual bleeding or discharge
T	Thickening or lump
I	Indigestion or difficulty swallowing
O	Obvious change in a wart or mole
N	Nagging cough or hoarseness

A traditional public-awareness mnemonic. It is not a screening tool and many cancers present without these features.

UIM ORIGINAL

Cancer Red Flags = Lump, Blood, Weight Loss, Persistent Change

Used to remember: A concise cross-system cancer warning framework

Lump	New or enlarging mass
Blood	Unexplained bleeding
Weight loss	Unintentional weight loss
Persistent change	Persistent unexplained symptom or change in normal function

UIM ORIGINAL

Benign Pushes; Malignant Invades

Used to remember: The broad behavioural difference between benign and malignant neoplasms

Benign	Often circumscribed and expansile
Malignant	Characteristically invades and can metastasise

UIM ORIGINAL

Grade = Looks; Stage = Location

Used to remember: The distinction between tumour grade and stage

Grade	Histological differentiation/aggressiveness
Stage	Anatomical extent of disease

Staging & Spread

TNM = Tumour, Nodes, Metastasis

Used to remember: The three major anatomical domains of solid-tumour staging

T	Primary tumour extent
N	Regional lymph-node involvement
M	Distant metastasis

UIM ORIGINAL

Stage Goes Farther; Grade Looks Fiercer

Used to remember: A second distinction between stage and grade

Stage	How far the cancer has spread
Grade	How abnormal/aggressive the cells look microscopically

UIM ORIGINAL

Carcinoma Travels Lymph; Sarcoma Travels Blood

Used to remember: The classic predominant routes of metastasis

Carcinoma	Lymphatic spread is common
Sarcoma	Haematogenous spread is common

This is a broad teaching pattern, not an absolute rule.

UIM ORIGINAL

Bone, Liver, Lung, Brain = Common Metastatic Homes

Used to remember: Four frequent destinations for distant metastases across many solid tumours

Bone	Common for breast, prostate, lung and kidney
Liver	Common for colorectal and GI tumours
Lung	Common haematogenous destination
Brain	Common for lung, melanoma, breast and renal cancers

Tumour Markers

UIM ORIGINAL

AFP = A Fetal Protein: Liver + Yolk Sac

Used to remember: The classic tumour associations of alpha-fetoprotein

Liver	Hepatocellular carcinoma
Yolk sac	Non-seminomatous germ-cell tumour/yolk-sac tumour

UIM ORIGINAL

PSA = Prostate, but Not Cancer-Specific

Used to remember: The correct interpretation of PSA

Prostate	Produced by prostatic tissue
Not cancer-specific	Can rise in benign prostatic hyperplasia, inflammation and other settings

UIM ORIGINAL

CA-125 = Ovary Association, Not an Ovarian Diagnosis

Used to remember: The clinical use limitation of CA-125

Ovary	Often elevated in epithelial ovarian cancer
Not diagnostic	Can rise in many benign and malignant conditions

UIM ORIGINAL

CEA = Colon Association, Follow More Than Find

Used to remember: A high-yield way to remember CEA's clinical role

Colon association	Commonly used in colorectal cancer follow-up
Follow more than find	Not suitable as a stand-alone population screening or diagnostic test

UIM ORIGINAL

CA 19-9 = Pancreas and Biliary

Used to remember: The major clinical associations of CA 19-9

Pancreas	Pancreatic adenocarcinoma
Biliary	Cholangiocarcinoma and biliary obstruction can elevate it

Tumour markers should be interpreted within the clinical context and are rarely diagnostic by themselves.

Breast Cancer

UIM ORIGINAL

Breast Lump = Hard, Irregular, Fixed Is Worrying

Used to remember: Features that increase concern for breast malignancy

Hard	Firm/hard consistency
Irregular	Irregular margins
Fixed	Reduced mobility/fixation may occur

No examination feature alone confirms or excludes malignancy.

UIM ORIGINAL

Breast Cancer Spreads to Bone, Lung, Liver, Brain

Used to remember: Common metastatic sites in advanced breast cancer

Bone	Very common
Lung	Common
Liver	Common
Brain	Important late metastatic site

UIM ORIGINAL

ER/PR = Hormone Handle; HER2 = Growth Handle

Used to remember: The therapeutic significance of major breast-cancer receptors

ER/PR	Predict endocrine-treatment responsiveness
HER2	Predicts benefit from HER2-targeted therapy

UIM ORIGINAL

Triple Negative = No ER, No PR, No HER2

Used to remember: The definition of triple-negative breast cancer

ER	Negative
PR	Negative
HER2	Negative

Lung Cancer

UIM ORIGINAL

Small Cell = Small but Spreads Fast

Used to remember: The aggressive biology of small-cell lung cancer

Small	Small-cell histology
Spreads fast	Early metastatic tendency and rapid growth

UIM ORIGINAL

Small Cell = SIADH + ACTH

Used to remember: Two classic paraneoplastic endocrine syndromes of small-cell lung cancer

SIADH	Ectopic ADH production
ACTH	Ectopic ACTH can cause Cushing syndrome

UIM ORIGINAL

Squamous = PTHrP + Central

Used to remember: Two classic squamous-cell lung-cancer associations

PTHrP	Humoral hypercalcaemia may occur
Central	Classically arises centrally, though location is not absolute

UIM ORIGINAL

Adenocarcinoma = Away from Centre

Used to remember: The typical peripheral location of lung adenocarcinoma

Away from centre	Often peripheral in the lung

UIM ORIGINAL

Pancoast = Shoulder, Hand, Horner

Used to remember: The classic apical lung-tumour syndrome

Shoulder	Severe shoulder/arm pain
Hand	Lower brachial-plexus weakness/sensory symptoms
Horner	Ptosis, miosis and anhidrosis from sympathetic-chain involvement

Colorectal Cancer

UIM ORIGINAL

Right Colon = Anaemia; Left Colon = Obstruction

Used to remember: Typical contrasting presentations by tumour location

Right	Occult blood loss, iron-deficiency anaemia, weight loss
Left	Change in bowel habit, visible blood and obstructive symptoms more common

There is considerable overlap.

UIM ORIGINAL

Colon Alarm = Blood, Anaemia, Weight Loss, Change

Used to remember: Four red flags for colorectal malignancy

Blood	Rectal bleeding
Anaemia	Iron-deficiency anaemia
Weight loss	Unintentional
Change	Persistent change in bowel habit

UIM ORIGINAL

Colon Goes to Liver First

Used to remember: The common haematogenous metastatic route of colorectal cancer

Liver	Portal venous drainage makes the liver a common first distant metastatic site

Prostate Cancer

UIM ORIGINAL

Prostate = Bone, Back, Bladder

Used to remember: Three important clinical domains of advanced prostate cancer

Bone	Bone metastases are common
Back	Spinal metastases can cause pain or cord compression
Bladder	Lower urinary tract symptoms may coexist but are not specific for cancer

UIM ORIGINAL

Prostate Bone Mets = Blastic

Used to remember: The classic radiological phenotype of prostate-cancer bone metastases

Blastic	Osteoblastic/sclerotic lesions are characteristic

UIM ORIGINAL

PSA = Prostate Specific, Not Cancer Specific

Used to remember: The limitation of PSA

Prostate specific	Produced by prostate tissue
Not cancer specific	May rise in benign disease and inflammation

Gynaecological Cancers

UIM ORIGINAL

Ovarian Cancer = Bloating, Belly, Bladder, Bites Less

Used to remember: Common symptom domains of ovarian cancer

Bloating	Persistent abdominal distension/bloating
Belly	Pelvic/abdominal pain
Bladder	Urinary urgency/frequency
Bites less	Early satiety/reduced appetite

UIM ORIGINAL

Endometrial Cancer = Bleeding After Menopause

Used to remember: The classic warning presentation

Postmenopausal bleeding	Requires investigation because endometrial malignancy is an important cause

UIM ORIGINAL

Cervical Cancer = Contact Bleeding

Used to remember: A classic presentation of cervical malignancy

Contact bleeding	Post-coital bleeding can be a presenting feature

Screening-detected disease may be asymptomatic and post-coital bleeding has many benign causes.

Testicular Cancer

UIM ORIGINAL

Testicular Cancer = Painless Testicular Lump

Used to remember: The classic presentation

Painless lump	A painless enlarging intratesticular mass should be considered malignant until evaluated

UIM ORIGINAL

AFP Never in Pure Seminoma

Used to remember: A key tumour-marker rule

AFP	Elevation argues against a pure seminoma and implies a non-seminomatous component

UIM ORIGINAL

Testis Spreads to Para-Aortic Nodes

Used to remember: The expected initial lymphatic drainage pattern

Para-aortic	Retroperitoneal para-aortic nodes reflect embryological testicular origin

Renal & Bladder Cancer

UIM ORIGINAL

Renal Cell = Blood, Flank, Mass - Rarely All Three

Used to remember: The classic RCC triad

Blood	Haematuria
Flank	Flank pain
Mass	Palpable mass

The complete triad is uncommon and usually indicates advanced disease.

UIM ORIGINAL

RCC = Renin, EPO, PTHrP

Used to remember: Classic paraneoplastic products of renal-cell carcinoma

Renin	Hypertension
EPO	Polycythaemia
PTHrP	Hypercalcaemia can occur

UIM ORIGINAL

Bladder Cancer = Painless Visible Haematuria

Used to remember: The classic warning presentation

Painless haematuria	A major red flag requiring urological evaluation

Paraneoplastic Syndromes

UIM ORIGINAL

Small Cell = SIADH + ACTH

Used to remember: Two classic endocrine paraneoplastic syndromes of small-cell lung cancer

SIADH	Ectopic ADH
ACTH	Ectopic ACTH

UIM ORIGINAL

Squamous = Calcium

Used to remember: The hypercalcaemia association of squamous-cell carcinoma

Calcium	PTHrP-mediated hypercalcaemia, classically in squamous lung cancer

UIM ORIGINAL

RCC = Renin, EPO, PTHrP

Used to remember: Three paraneoplastic products associated with renal-cell carcinoma

Renin	Hypertension
EPO	Erythrocytosis
PTHrP	Hypercalcaemia

UIM ORIGINAL

Lambert-Eaton = Lung Cancer, Legs, Autonomic

Used to remember: The classic association with small-cell lung cancer

Lung cancer	Strong association with SCLC
Legs	Proximal leg weakness
Autonomic	Dry mouth and autonomic symptoms

Oncological Emergencies

UIM ORIGINAL

TLS = K and Phosphate Up, Calcium Down, Uric Acid Up

Used to remember: The core metabolic pattern of tumour lysis syndrome

Potassium	Hyperkalaemia
Phosphate	Hyperphosphataemia
Calcium	Secondary hypocalcaemia
Uric acid	Hyperuricaemia

UIM ORIGINAL

Tumour Lysis = Cells Burst, Kidneys Hurt

Used to remember: The core mechanism and danger of tumour lysis syndrome

Cells burst	Rapid release of intracellular potassium, phosphate and nucleic acids
Kidneys hurt	Uric acid/phosphate and metabolic disturbances can precipitate AKI and arrhythmia

UIM ORIGINAL

Spinal Cord Compression = Back Pain + Weakness + Sphincter

Used to remember: Three red-flag domains of malignant spinal cord compression

Back pain	Often precedes neurological deficits
Weakness	Motor deficit may develop
Sphincter	Bladder/bowel dysfunction is a late serious feature

Suspected malignant spinal cord compression is an emergency requiring urgent imaging and specialist management.

UIM ORIGINAL

SVC Syndrome = Face, Neck, Veins

Used to remember: The classic features of superior vena cava obstruction

Face	Facial swelling/plethora
Neck	Neck swelling/fullness
Veins	Dilated chest/neck collateral veins

Hypercalcaemia = Stones, Bones, Groans, Moans

Used to remember: Classic manifestations of malignancy-related hypercalcaemia

Stones	Renal symptoms
Bones	Bone pain
Groans	GI symptoms
Moans	Neurocognitive symptoms

UIM ORIGINAL

Febrile Neutropenia = Fever + Low Neutrophils = Emergency

Used to remember: The urgency of fever during significant treatment-related neutropenia

Fever	May be the only sign of infection
Low neutrophils	Reduced inflammatory response
Emergency	Prompt assessment and empiric antimicrobial treatment are critical

Treatment Toxicities

Bleomycin Blows the Lungs

Used to remember: The hallmark toxicity of bleomycin

Lungs	Pneumonitis and pulmonary fibrosis

UIM ORIGINAL

Doxorubicin Damages the Heart

Used to remember: The classic dose-related toxicity of anthracyclines

Heart	Cardiomyopathy/heart failure risk

UIM ORIGINAL

Cisplatin = Kidneys + Ears

Used to remember: Two hallmark toxicities of cisplatin

Kidneys	Nephrotoxicity
Ears	Ototoxicity

UIM ORIGINAL

Cyclophosphamide = Cystitis; MESNA Mends

Used to remember: The classic urotoxicity and protective therapy

Cystitis	Haemorrhagic cystitis from acrolein
MESNA	Binds urotoxic metabolites in urine

VinCRIstine = Cripples Nerves; VinBLAStine = Blasts Marrow

Used to remember: The contrasting vinca-alkaloid toxicities

Vincristine	Peripheral/autonomic neurotoxicity
Vinblastine	Myelosuppression

UIM ORIGINAL

Methotrexate = Mouth, Marrow, Liver

Used to remember: Three major toxicity domains of methotrexate

Mouth	Mucositis
Marrow	Myelosuppression
Liver	Hepatotoxicity

Immunotherapy & Targeted Therapy

UIM ORIGINAL

Checkpoint Inhibitors = Immune System Off the Brakes

Used to remember: The core mechanism of immune checkpoint inhibitors

Off the brakes	Blocking CTLA-4 or PD-1/PD-L1 pathways enhances antitumour T-cell activity

UIM ORIGINAL

Immune Therapy Can Inflame Any Organ

Used to remember: The broad concept of immune-related adverse events

Any organ	Dermatitis, colitis, hepatitis, pneumonitis, endocrinopathies and other inflammatory toxicities can occur

New symptoms during checkpoint therapy require consideration of immune-related toxicity as well as infection, progression and other causes.

UIM ORIGINAL

HER2 = Heart Watch

Used to remember: A major safety association of HER2-targeted therapy

Heart	Some HER2-directed agents can cause LV dysfunction; cardiac monitoring may be required

UIM ORIGINAL

EGFR Inhibitors = Rash Often Means Target Hit

Used to remember: A common class toxicity

Rash	Acneiform rash is common with EGFR inhibition

Rash severity is not a stand-alone measure of treatment efficacy.

Rapid Reference

Mnemonic	What it recalls
CAUTION	Cancer warning signs
Grade = Looks; Stage = Location	Grade vs stage
TNM	Solid-tumour staging
AFP = Liver + Yolk Sac	AFP
PSA = Prostate, Not Cancer-Specific	PSA
CEA = Follow More Than Find	CEA
Small Cell = SIADH + ACTH	Small-cell lung cancer
Squamous = Calcium	Squamous lung cancer
Pancoast = Shoulder, Hand, Horner	Pancoast tumour
Right Colon = Anaemia; Left = Obstruction	Colorectal cancer
Prostate = Bone, Back, Bladder	Prostate cancer
AFP Never in Pure Seminoma	Testicular cancer
RCC = Renin, EPO, PTHrP	Renal-cell carcinoma
TLS = K/Phosphate/Urate Up, Calcium Down	Tumour lysis syndrome
Cells Burst, Kidneys Hurt	Tumour lysis syndrome
Back Pain + Weakness + Sphincter	Spinal cord compression
SVC = Face, Neck, Veins	SVC obstruction
Fever + Low Neutrophils = Emergency	Febrile neutropenia
Bleomycin Blows Lungs	Bleomycin
Doxorubicin Damages Heart	Doxorubicin
Cisplatin = Kidneys + Ears	Cisplatin
VinCRI Nerves; VinBLA Marrow	Vinca alkaloids
Immune Therapy Can Inflame Any Organ	Checkpoint inhibitors

Discovery & Verification Sources

Mnemonic discovery: Geeky Medics medical mnemonics; Picmonic public oncology and antineoplastic-drug topic pages; Epomedicine and Zero to Finals searches where relevant; and other sources in the Updates in Medicine mnemonic-book resource list.

Independent verification: NCBI Bookshelf/StatPearls and peer-reviewed reviews on tumour lysis syndrome, malignant spinal cord compression, superior vena cava obstruction, febrile neutropenia and hypercalcaemia; standard oncology references. Tumour markers are presented as associations, not as stand-alone screening or diagnostic tests. Proprietary visual stories from commercial mnemonic systems were not reproduced.

UIM Original entries are clearly labelled. Emergency-treatment decisions must follow current local oncology and

acute-care protocols.

PART II | CLINICAL MEDICINE

DERMATOLOGY MNEMONICS

A comprehensive, clinically verified collection of dermatology memory aids

Editorial approach
Only genuine memory devices are included. Pattern-recognition aids are used where they improve bedside recall. Diagnostic criteria are not reproduced merely because they form acronyms, and melanoma mnemonics are explicitly presented as aids rather than exclusion rules.

Contents

Describing Skin Lesions
Eczema & Dermatitis
Psoriasis
Acne & Rosacea
Bacterial, Viral & Fungal Infection
Infestations
Blistering Disorders
Urticaria & Angioedema
Drug Eruptions & Severe Reactions
Vasculitic & Purpuric Rashes
Pigment Disorders
Hair & Nail Disorders
Melanoma
Non-Melanoma Skin Cancer
Rapid Reference

Describing Skin Lesions

UIM ORIGINAL

SCALD

Used to remember: A systematic way to describe a skin lesion

S	Site and distribution
C	Colour
A	Arrangement
L	Lesion type and surface
D	Dimensions / diameter

After morphology, also document symptoms, evolution and relevant systemic findings.

UIM ORIGINAL

Macule Flat; Papule Palpable

Used to remember: The basic distinction between two primary lesions

Macule	Flat colour change
Papule	Small raised solid lesion

UIM ORIGINAL

Vesicle = Very Small Blister; Bulla = Bigger Blister

Used to remember: The practical distinction between vesicles and bullae

Vesicle	Small fluid-filled blister
Bulla	Larger fluid-filled blister

UIM ORIGINAL

Pustule = Pus; Wheal = Wanes

Used to remember: Two memorable lesion types

Pustule	Pus-filled lesion
Wheal	Transient oedematous plaque that often fades within hours

UIM ORIGINAL

Scale = Surface; Crust = Dried Stuff

Used to remember: The difference between scale and crust

Scale	Accumulated stratum corneum
Crust	Dried serum, blood or purulent exudate

Eczema & Dermatitis

UIM ORIGINAL

Eczema = Itch, Red, Dry, Weep

Used to remember: A simple clinical pattern of eczema

Itch	Pruritus is prominent
Red	Erythema/inflammation
Dry	Xerosis and scaling
Weep	Acute eczema may vesiculate and ooze

UIM ORIGINAL

Atopic = Itch + Flexures

Used to remember: The classic pattern of atopic dermatitis in older children/adults

Itch	Core symptom
Flexures	Antecubital and popliteal flexures commonly involved

UIM ORIGINAL

Contact = Where It Touched

Used to remember: The key distribution clue in contact dermatitis

Touched	Rash follows sites of allergen/irritant exposure, although allergic reactions may extend beyond direct contact

UIM ORIGINAL

Seborrhoeic = Sebum Sites

Used to remember: The typical distribution of seborrhoeic dermatitis

Sebum sites	Scalp, eyebrows, nasolabial folds, ears and presternal area

Psoriasis

UIM ORIGINAL

Psoriasis = Plaques, Pink-Red, Silver Scale

Used to remember: The classic plaque-psoriasis morphology

Plaques	Well-demarcated plaques
Pink-red	Erythematous base
Silver scale	Silvery-white scale, especially on extensor surfaces

UIM ORIGINAL

Psoriasis Loves Extensors

Used to remember: The classic distribution of plaque psoriasis

Extensors	Elbows and knees are common; scalp and sacral area are also frequent

UIM ORIGINAL

Auspitz = Scrape, Spots of Blood

Used to remember: The classic Auspitz sign

Scrape	Removing scale can expose punctate capillary bleeding
Blood	Pinpoint bleeding may occur

Not specific enough to diagnose psoriasis by itself.

UIM ORIGINAL

Koebner = Injury Invites Lesions

Used to remember: The isomorphic response

Injury	New lesions can develop at sites of trauma in psoriasis and some other dermatoses

UIM ORIGINAL

Nails = Pits, Oil, Onycholysis

Used to remember: Three classic psoriatic nail findings

Pits	Nail pitting
Oil	Oil-drop/salmon patch
Onycholysis	Distal nail separation

Acne & Rosacea

UIM ORIGINAL

Acne = Comedones Count

Used to remember: The key lesion distinguishing acne vulgaris from several mimics

Comedones	Open and closed comedones are characteristic of acne

UIM ORIGINAL

Acne = Face, Chest, Back

Used to remember: Common sebaceous-site distribution

Face	Common
Chest	Common
Back	Common

UIM ORIGINAL

Rosacea = Red Face, No Comedones

Used to remember: A useful distinction from acne

Red face	Persistent central facial erythema/flushing and telangiectasia may occur
No comedones	Comedones are not a feature of rosacea

UIM ORIGINAL

Rosacea Triggers = Heat, Sun, Spice, Alcohol

Used to remember: Common flushing triggers

Heat	Heat/hot drinks
Sun	UV exposure
Spice	Spicy foods
Alcohol	Alcohol may provoke flushing

Individual triggers vary.

Bacterial, Viral & Fungal Infection

Impetigo = Honey Crust

Used to remember: The classic appearance of non-bullous impetigo

Honey crust	Golden/honey-coloured crust over superficial erosions

UIM ORIGINAL

Cellulitis = Red, Hot, Tender, Spreading

Used to remember: The classic pattern of cellulitis

Red	Erythema
Hot	Warmth
Tender	Tenderness
Spreading	Poorly demarcated spreading inflammation

UIM ORIGINAL

Herpes = Grouped Vesicles

Used to remember: A classic herpes simplex/zoster morphology

Grouped vesicles	Clusters of vesicles on an erythematous base are characteristic

UIM ORIGINAL

Zoster = One Dermatome, One Side

Used to remember: The classic distribution of herpes zoster

One dermatome	Dermatomal
One side	Usually unilateral and does not cross the midline substantially

UIM ORIGINAL

Tinea = Ring with an Active Rim

Used to remember: The classic morphology of dermatophyte infection

Ring	Annular lesion
Active rim	Peripheral scale/erythema with relative central clearing

UIM ORIGINAL

Candida Likes Creases

Used to remember: The common distribution of cutaneous candidiasis

Creases	Warm moist intertriginous areas; satellite pustules may occur

Infestations

UIM ORIGINAL

Scabies = Itch at Night + Burrows

Used to remember: Two classic clues to scabies

Night	Pruritus is often worse at night
Burrows	Thin serpiginous burrows can be seen, especially on hands/wrists

UIM ORIGINAL

Scabies = Fingers, Wrists, Waist, Genitals

Used to remember: Common adult distribution

Fingers	Interdigital webs
Wrists	Flexor wrists
Waist	Waistline
Genitals	Genital involvement common

UIM ORIGINAL

Lice = Nits Stick

Used to remember: The difference between lice eggs and loose scale

Nits	Eggs adhere firmly to hair shafts

Blistering Disorders

UIM ORIGINAL

Pemphigus = Flimsy; Pemphigoid = Firm

Used to remember: The classic blister character

Pemphigus vulgaris	Flaccid, fragile bullae
Bullous pemphigoid	Tense bullae

UIM ORIGINAL

Pemphigus = Mucosa More

Used to remember: A key clinical clue

Mucosa	Mucosal erosions are common in pemphigus vulgaris

UIM ORIGINAL

Pemphigoid = Old + Itchy + Tense

Used to remember: The typical bullous pemphigoid pattern

Old	Usually older adults
Itchy	Pruritus can be marked
Tense	Tense subepidermal bullae

UIM ORIGINAL

Dermatitis Herpetiformis = Itchy Extensor Clusters

Used to remember: The classic distribution and morphology

Itchy	Intensely pruritic
Extensor	Elbows, knees, buttocks/scalp
Clusters	Grouped papulovesicles

Urticaria & Angioedema

UIM ORIGINAL

Urticaria = Wheals Wander Within a Day

Used to remember: The transient nature of ordinary urticaria lesions

Wheals	Raised oedematous plaques
Wander	Individual lesions usually resolve within 24 hours and appear elsewhere

UIM ORIGINAL

Angioedema = Deeper Swelling

Used to remember: The anatomical distinction from urticaria

Deeper	Oedema affects deeper dermis/subcutaneous or submucosal tissues

UIM ORIGINAL

Hives + Airway = Emergency

Used to remember: The anaphylaxis warning association

Airway	Tongue/throat swelling, stridor, wheeze or circulatory compromise require emergency assessment

Drug Eruptions & Severe Reactions

UIM ORIGINAL

Morbilliform Drug Rash = Symmetric Trunk then Out

Used to remember: The usual pattern of a common exanthematous drug eruption

Symmetric	Usually bilateral
Trunk then out	Often begins on trunk and spreads to limbs

DRESS = Drug, Rash, Eosinophils, Systemic Sickness

Used to remember: The central features of DRESS syndrome

Drug	Medication-triggered
Rash	Widespread eruption
Eosinophils	Eosinophilia may occur
Systemic sickness	Internal-organ involvement, fever and lymphadenopathy can occur

DRESS is a serious delayed drug reaction; formal diagnostic criteria and specialist assessment are required.

UIM ORIGINAL

SJS/TEN = Skin Pain + Mucosa + Detachment

Used to remember: Three major warning features of severe epidermal necrolysis

Skin pain	Often prominent
Mucosa	Mucosal erosions common
Detachment	Epidermal blistering/detachment

UIM ORIGINAL

SJS/TEN = Stop the Suspect Drug

Used to remember: The immediate medication principle

Stop	Promptly discontinue the likely culprit drug(s) and arrange urgent specialist/supportive care

Vasculitic & Purpuric Rashes

UIM ORIGINAL

Purpura = Doesn't Blanch

Used to remember: The bedside feature of extravasated blood

Doesn't blanch	Pressure does not make true purpura disappear

UIM ORIGINAL

Palpable Purpura = Small-Vessel Vasculitis

Used to remember: The classic cutaneous clue

Palpable	Raised non-blanching purpura, often on dependent lower limbs, suggests cutaneous small-vessel vasculitis

UIM ORIGINAL

Petechiae Small; Ecchymoses Large

Used to remember: The size concept in purpuric lesions

Petechiae	Tiny non-blanching haemorrhagic macules
Ecchymoses	Larger areas of cutaneous bleeding/bruising

UIM ORIGINAL

Non-Blanching + Unwell = Think Sepsis

Used to remember: The emergency significance of a purpuric rash in a systemically ill patient

Unwell	Fever/toxicity with petechiae or purpura should prompt urgent assessment for invasive infection such as meningococcal disease

Pigment Disorders

UIM ORIGINAL

Vitiligo = White without Scale

Used to remember: The classic morphology of vitiligo

White	Depigmented macules/patches
Without scale	Surface is usually normal

UIM ORIGINAL

Melasma = Mask of Pregnancy/Sun

Used to remember: The classic facial hyperpigmentation pattern

Mask	Symmetric facial hyperpigmentation
Pregnancy/sun	Hormonal and UV influences are common

UIM ORIGINAL

Post-Inflammatory = Pigment Follows Rash

Used to remember: The sequence of post-inflammatory hyperpigmentation

Follows rash	Hyperpigmentation develops after cutaneous inflammation or injury

Hair & Nail Disorders

UIM ORIGINAL

Alopecia Areata = Smooth Round Patches

Used to remember: The classic morphology of alopecia areata

Smooth	Non-scarring surface
Round patches	Well-defined patches of hair loss

UIM ORIGINAL

Scarring Alopecia = Follicles Gone

Used to remember: The defining concept of cicatricial alopecia

Follicles gone	Follicular openings are lost because follicles are destroyed and replaced by scar

UIM ORIGINAL

Koilonychia = Spoon Nails, Think Iron

Used to remember: A classic association of spoon-shaped nails

Spoon nails	Concave nails
Iron	Can occur with iron-deficiency anaemia

Koilonychia has other causes and is not specific for iron deficiency.

UIM ORIGINAL

Clubbing = Window Closes

Used to remember: The Schamroth-window sign

Window closes	Loss of the normal diamond-shaped window when corresponding terminal phalanges are opposed

Melanoma

ABCDE

Used to remember: Major warning features of superficial melanoma

A	Asymmetry
B	Border irregularity
C	Colour variation/change
D	Different from the patient's other naevi
E	Evolving

Some versions use D for diameter. DermNet emphasises 'Different' and 'Evolving'. No ABCDE rule detects every melanoma.

UIM ORIGINAL

Ugly Duckling = The Mole That Doesn't Match

Used to remember: A lesion that differs from the patient's usual naevus pattern

Doesn't match	A melanoma may stand out as different in shape, colour, size or structure from surrounding naevi

EFG = Elevated, Firm, Growing

Used to remember: Warning features particularly useful for nodular melanoma

E	Elevated
F	Firm
G	Growing rapidly

UIM ORIGINAL

Melanoma = Change Matters Most

Used to remember: The importance of evolution over time

Change	New or changing size, shape, colour, surface or symptoms should prompt assessment

UIM ORIGINAL

Acral = Palms, Soles, Nails

Used to remember: The distribution of acral lentiginous melanoma

Palms	Palmar skin
Soles	Plantar skin
Nails	Subungual/nail-unit sites

Non-Melanoma Skin Cancer

UIM ORIGINAL

BCC = Pearly, Rolled, Telangiectatic

Used to remember: Classic clinical features of basal-cell carcinoma

Pearly	Pearly/translucent surface
Rolled	Rolled border may occur
Telangiectatic	Surface telangiectasia is common

UIM ORIGINAL

BCC = Basal, Barely Metastasises

Used to remember: The typically locally destructive but rarely metastatic behaviour of BCC

Barely metastasises	Metastasis is exceptionally uncommon, although local invasion can be substantial

UIM ORIGINAL

SCC = Scaly, Crusted, Can Spread

Used to remember: The classic clinical behaviour of cutaneous squamous-cell carcinoma

Scaly/crusted	Hyperkeratotic, crusted or ulcerated lesion
Can spread	Metastatic risk is higher than for BCC

UIM ORIGINAL

Actinic Keratosis = Sun Scale Before SCC

Used to remember: The premalignant association of actinic keratosis

Sun	Occurs on chronically sun-damaged skin
Scale	Rough scaly lesion
Before SCC	Some lesions can progress to invasive SCC

Rapid Reference

Mnemonic	What it recalls
SCALD	Skin-lesion description
Macule Flat; Papule Palpable	Primary lesions
Eczema = Itch, Red, Dry, Weep	Eczema
Psoriasis = Plaques + Silver Scale	Psoriasis
Koebner = Injury Invites Lesions	Koebner phenomenon
Acne = Comedones Count	Acne
Rosacea = Red Face, No Comedones	Rosacea
Impetigo = Honey Crust	Impetigo
Zoster = One Dermatome, One Side	Herpes zoster
Tinea = Ring with Active Rim	Dermatophyte infection
Scabies = Itch at Night + Burrows	Scabies
Pemphigus Flimsy; Pemphigoid Firm	Blistering disorders
Urticaria = Wheals Wander Within a Day	Urticaria
DRESS = Drug, Rash, Eosinophils, Systemic Sickness	DRESS
SJS/TEN = Pain + Mucosa + Detachment	SJS/TEN
Purpura = Doesn't Blanch	Purpura
Vitiligo = White without Scale	Vitiligo
Alopecia Areata = Smooth Round Patches	Alopecia areata
ABCDE	Melanoma
Ugly Duckling	Melanoma
EFG = Elevated, Firm, Growing	Nodular melanoma
BCC = Pearly, Rolled, Telangiectatic	Basal-cell carcinoma
SCC = Scaly, Crusted, Can Spread	Squamous-cell carcinoma

Discovery & Verification Sources

Mnemonic discovery: resources in the Updates in Medicine mnemonic-book source list, including clinician-education mnemonic collections and dermatology teaching resources.

Independent verification: DermNet New Zealand was used extensively for morphology, melanoma recognition and common dermatological disease patterns; additional facts were cross-checked against standard dermatology references. The ABCDE and EFG melanoma tools are included with the explicit limitation that melanomas may lack these features. The 'ugly duckling' concept is also retained as a complementary recognition aid.

UIM Original entries are clearly labelled. Proprietary visual mnemonic stories were not reproduced.

EMERGENCY MEDICINE MNEMONICS

A comprehensive, clinically verified collection of emergency medicine memory aids

Editorial approach

This chapter prioritises rapid bedside recall. Only genuine memory aids are included. Emergency scores and full treatment algorithms are not reproduced merely because they have acronyms. Where a mnemonic touches time-sensitive treatment, it is framed as a recognition aid rather than a substitute for current protocols.

Contents

Immediate Assessment
Cardiac Arrest & Resuscitation
Shock
Trauma
Chest Pain & Acute Coronary Syndromes
Acute Dyspnoea
Stroke & Neurological Emergencies
Seizures & Altered Consciousness
Anaphylaxis
Major Haemorrhage
Metabolic & Endocrine Emergencies
Toxicological Clues
Emergency History & Handover
Rapid Reference

Immediate Assessment

ABCDE

Used to remember: The structured assessment of a critically ill patient

A	Airway
B	Breathing
C	Circulation
D	Disability
E	Exposure

Treat life-threatening problems as they are found and reassess after interventions.

UIM ORIGINAL

Look, Listen, Feel - Then Act

Used to remember: The first rapid impression of an acutely unwell patient

Look	General appearance, work of breathing, colour and obvious threats
Listen	Speech, airway sounds and patient response
Feel	Pulse, temperature/perfusion and chest movement where appropriate

AVPU

Used to remember: A rapid assessment of level of consciousness

A	Alert
V	Responds to Voice
P	Responds to Pain
U	Unresponsive

UIM ORIGINAL

Treat as You Find, Recheck Behind

Used to remember: The dynamic nature of ABCDE assessment

Treat as you find	Correct immediate threats before moving on
Recheck	Return to ABCDE after each major intervention or deterioration

Cardiac Arrest & Resuscitation

4 Hs and 4 Ts

Used to remember: Reversible causes of cardiac arrest

H1	Hypoxia
H2	Hypovolaemia
H3	Hypo-/hyperkalaemia and other metabolic disturbance
H4	Hypothermia
T1	Tension pneumothorax
T2	Tamponade
T3	Toxins
T4	Thrombosis - coronary or pulmonary

Current resuscitation guidance continues to use this reversible-cause framework.

UIM ORIGINAL

Shockable = VF/pVT; Non-Shockable = PEA/Asystole

Used to remember: The two broad cardiac-arrest rhythm groups

Shockable	Ventricular fibrillation and pulseless ventricular tachycardia
Non-shockable	Pulseless electrical activity and asystole

UIM ORIGINAL

PEA = Electricity Without Effective Ejection

Used to remember: The concept of pulseless electrical activity

Electricity	Organised electrical activity may be seen
No effective ejection	No palpable pulse/effective circulation

UIM ORIGINAL

ROSC = Rhythm, Output, Skin, CO2 Rise

Used to remember: Clinical clues that circulation may have returned

Rhythm	Organised rhythm may appear
Output	Pulse/BP return
Skin	Perfusion may improve
CO2 rise	Abrupt rise in end-tidal CO2 can accompany ROSC

Shock

UIM ORIGINAL

Shock = Pump, Pipes, Volume, Blockage

Used to remember: The four major physiological categories of shock

Pump	Cardiogenic
Pipes	Distributive/vasodilatory
Volume	Hypovolaemic
Blockage	Obstructive

UIM ORIGINAL

Cold Shock = Clamp; Warm Shock = Wide

Used to remember: A bedside perfusion contrast

Cold/clamped	Cool peripheries and vasoconstriction are common in cardiogenic/hypovolaemic shock
Warm/wide	Warm vasodilated peripheries may occur early in distributive shock

Shock phenotypes overlap and can change over time.

UIM ORIGINAL

Obstructive Shock = PE, Tamponade, Tension

Used to remember: Three classic mechanical causes of obstructive shock

PE	Massive pulmonary embolism
Tamponade	Cardiac tamponade
Tension	Tension pneumothorax

UIM ORIGINAL

Shock = Pressure Can Look OK Before Perfusion Is

Used to remember: Why normal blood pressure does not exclude early shock

Compensation	Tachycardia and vasoconstriction may temporarily preserve BP despite impaired tissue perfusion

Trauma

MARCH

Used to remember: A rapid trauma-priority mnemonic

M	Massive haemorrhage
A	Airway
R	Respiration
C	Circulation
H	Head injury / Hypothermia

Common in tactical/pre-hospital trauma care; use alongside local trauma protocols.

Blood on Floor + Four More

Used to remember: Major concealed sites of traumatic haemorrhage

Floor	External haemorrhage
Chest	Thorax
Abdomen	Abdominal cavity
Pelvis	Pelvic/retroperitoneal bleeding
Long bones	Especially femoral fractures

UIM ORIGINAL

Tension = Pressure Pushes, Patient Crashes

Used to remember: The core physiology of tension pneumothorax

Pressure pushes	Rising intrapleural pressure shifts/compresses mediastinal structures
Crashes	Venous return and cardiac output fall

Do not wait for late signs such as marked tracheal deviation when tension pneumothorax is clinically suspected.

UIM ORIGINAL

FAST = Free Fluid Around Solid Organs

Used to remember: The purpose of focused abdominal sonography in trauma

FAST	Focused Assessment with Sonography in Trauma
Free fluid	Searches for intraperitoneal/pericardial free fluid in key windows

UIM ORIGINAL

Head Injury = GCS Down, Pupil Change, Vomiting, Weakness

Used to remember: Important neurological deterioration clues after head trauma

GCS down	Declining consciousness
Pupil change	New anisocoria/abnormal response
Vomiting	Repeated vomiting
Weakness	New focal deficit

Chest Pain & Acute Coronary Syndromes

UIM ORIGINAL

Chest Pain Killers = Heart, Aorta, Lung, Oesophagus

Used to remember: Immediately dangerous chest-pain causes

Heart	Acute coronary syndrome
Aorta	Aortic dissection
Lung	Pulmonary embolism or tension pneumothorax
Oesophagus	Oesophageal rupture

UIM ORIGINAL

ACS = Pressure, Sweat, Nausea, Radiation

Used to remember: Common features of myocardial ischaemia

Pressure	Central pressure/heaviness
Sweat	Autonomic diaphoresis
Nausea	May occur
Radiation	Arm, shoulder, jaw or back

ACS may be atypical or painless, especially in older adults, people with diabetes and women.

UIM ORIGINAL

Dissection = Sudden, Severe, Shooting to Back

Used to remember: The classic acute aortic dissection pain pattern

Sudden	Abrupt onset
Severe	Often maximal at onset
Back	May radiate interscapularly

UIM ORIGINAL

PE = Pleuritic Pain + Pulse Up + Breathlessness

Used to remember: A classic pulmonary embolism symptom cluster

Pleuritic pain	Common
Pulse up	Tachycardia may occur
Breathlessness	Often acute or unexplained

No symptom cluster reliably excludes pulmonary embolism.

Acute Dyspnoea

UIM ORIGINAL

AIR HEART

Used to remember: A broad emergency differential for acute breathlessness

A	Asthma / anaphylaxis
I	Infection
R	Respiratory failure / airway obstruction
H	Heart failure / ischaemia
E	Embolism
A	Air in pleura - pneumothorax
R	Restrictive/neuromuscular cause
T	Tamponade / toxic-metabolic cause

UIM ORIGINAL

Silent Chest = Severe Threat

Used to remember: Why absence of wheeze can be ominous in severe asthma

Silent chest	Critically reduced airflow can make wheeze disappear

UIM ORIGINAL

Wet Lungs + High JVP = Pump Problem

Used to remember: A bedside pattern suggesting cardiogenic pulmonary oedema

Wet lungs	Crackles/pulmonary oedema
High JVP	Raised venous pressure supports cardiac congestion

UIM ORIGINAL

One Quiet Hyperresonant Side = Pneumothorax

Used to remember: A classic examination pattern

Quiet	Reduced breath sounds
Hyperresonant	Excess pleural air

Stroke & Neurological Emergencies

BE FAST

Used to remember: Common sudden warning signs of stroke

B	Balance loss
E	Eye/vision disturbance
F	Face droop
A	Arm weakness
S	Speech disturbance
T	Time - urgent assessment

A recognition aid, not an exclusion tool; stroke can present with other focal deficits.

UIM ORIGINAL

Stroke = Time Is Brain

Used to remember: The importance of rapid assessment in suspected acute stroke

Time	Reperfusion eligibility and neurological outcome are time-sensitive

UIM ORIGINAL

Thunderclap = Think Bleed

Used to remember: A dangerous headache presentation

Thunderclap	Very rapid peak intensity should trigger urgent evaluation for subarachnoid haemorrhage and other vascular causes

UIM ORIGINAL

Cauda Equina = Saddle, Sphincter, Sciatica

Used to remember: Three red-flag domains of cauda equina syndrome

Saddle	Saddle sensory disturbance
Sphincter	Bladder/bowel/sexual dysfunction
Sciatica	Often bilateral radicular pain or weakness

Seizures & Altered Consciousness

AEIOU TIPS

Used to remember: A broad differential for altered consciousness

A	Alcohol / acidosis
E	Epilepsy / electrolytes / encephalopathy
I	Insulin / glucose
O	Opiates / oxygen
U	Uraemia
T	Trauma / temperature
I	Infection
P	Poisoning
S	Stroke / shock / subarachnoid haemorrhage

UIM ORIGINAL

Unconscious = Check Glucose Early

Used to remember: A rapidly reversible cause of altered mental status

Glucose	Hypoglycaemia is dangerous, common and immediately treatable

UIM ORIGINAL

Seizure Clues = Side Tongue + Postictal Confusion

Used to remember: Two features supporting generalised tonic-clonic seizure over simple syncope

Side tongue	Lateral tongue biting is relatively specific
Postictal confusion	Prolonged confusion supports seizure

UIM ORIGINAL

Todd = Tired Limb After the Fit

Used to remember: Postictal focal weakness

Todd paresis	Transient focal weakness can follow a seizure

Anaphylaxis

UIM ORIGINAL

Anaphylaxis = Airway, Breathing, Circulation After Allergen

Used to remember: The life-threatening systems affected in anaphylaxis

Airway	Tongue/laryngeal swelling
Breathing	Wheeze/bronchospasm/hypoxaemia
Circulation	Hypotension/collapse
Allergen	Often follows an identifiable exposure, but not always

UIM ORIGINAL

Skin May Shout, But Can Stay Silent

Used to remember: The limitation of relying on rash in anaphylaxis

Skin	Urticaria/flushing/angioedema are common
Silent	Severe anaphylaxis can occur without skin findings

UIM ORIGINAL

IM Adrenaline = First-Line

Used to remember: The cornerstone emergency treatment of anaphylaxis

IM	Intramuscular route in the anterolateral thigh
Adrenaline	First-line drug in life-threatening anaphylaxis

Dose and repeat timing must follow current age/weight-specific resuscitation guidance.

Major Haemorrhage

Blood on Floor + Four More

Used to remember: Major bleeding sites in trauma

Floor	External
Chest	Thorax
Abdomen	Peritoneal cavity
Pelvis	Pelvic/retroperitoneal
Long bones	Femur and other major fractures

UIM ORIGINAL

Haemorrhage = Stop Leak, Restore Blood, Keep Warm

Used to remember: Three core priorities in major bleeding

Stop leak	Rapid haemorrhage control
Restore blood	Appropriate blood-component resuscitation
Keep warm	Prevent/treat hypothermia and coagulopathy

UIM ORIGINAL

Lethal Trauma Trio = Cold, Acid, Coagulopathy

Used to remember: The classic vicious cycle in severe haemorrhagic trauma

Cold	Hypothermia
Acid	Acidosis
Coagulopathy	Impaired clot formation

UIM ORIGINAL

Bleeding Patient = Pressure Before Numbers

Used to remember: The priority of clinical haemorrhage control

Pressure/control	Direct pressure, tourniquet, pelvic stabilisation or definitive source control may be more urgent than waiting for laboratory results

Metabolic & Endocrine Emergencies

UIM ORIGINAL

DKA = Ketones + Acidosis + Dehydration

Used to remember: The core syndrome of diabetic ketoacidosis

Ketones	Ketonaemia
Acidosis	Metabolic acidosis
Dehydration	Major fluid/electrolyte loss

UIM ORIGINAL

HHS = Hyperosmolar, Highly Dehydrated, Scant Ketones

Used to remember: The characteristic hyperglycaemic hyperosmolar pattern

Hyperosmolar	Marked hyperosmolality
Highly dehydrated	Profound water deficit
Scant ketones	Little or no significant ketoacidosis relative to DKA

UIM ORIGINAL

Hyperkalaemia = T Peaks, P Fades, QRS Widens

Used to remember: The classic ECG progression of significant hyperkalaemia

T peaks	Tall peaked T waves
P fades	P-wave changes/PR prolongation
QRS widens	Progressive conduction slowing

ECG severity does not reliably track the serum potassium concentration.

UIM ORIGINAL

Adrenal Crisis = Pressure, Sugar, Sodium Fall

Used to remember: Three dangerous abnormalities in acute adrenal insufficiency

Pressure	Hypotension/shock
Sugar	Hypoglycaemia may occur
Sodium	Hyponatraemia common

UIM ORIGINAL

Thyroid Storm = Fever, Fast Heart, Frantic Brain

Used to remember: Three major clinical domains

Fever	Hyperthermia
Fast heart	Marked tachycardia/arrhythmia
Frantic brain	Agitation/delirium/seizure/coma

Toxicological Clues

UIM ORIGINAL

Opioid = Pinpoint, Slow Breathing, Sleepy

Used to remember: The classic opioid toxidrome

Pinpoint	Miosis
Slow breathing	Respiratory depression
Sleepy	Reduced consciousness

Anticholinergic = Hot, Dry, Blind, Red, Mad

Used to remember: The traditional anticholinergic toxidrome

Hot	Hyperthermia
Dry	Dry skin/mucosa
Blind	Mydriasis/blurred vision
Red	Flushing
Mad	Agitation/delirium

Cholinergic = DUMBELS

Used to remember: The classic muscarinic excess syndrome

D	Diarrhoea/Defecation
U	Urination
M	Miosis
B	Bronchorrhoea/bronchospasm/bradycardia
E	Emesis
L	Lacrimation
S	Salivation/Sweating

UIM ORIGINAL

Sympathomimetic = Hot, Wet, Wide, Wired

Used to remember: The classic sympathomimetic toxidrome

Hot	Hyperthermia
Wet	Diaphoresis
Wide	Mydriasis
Wired	Agitation, tachycardia, hypertension

UIM ORIGINAL

Toxicology = Airway First, Antidote Second

Used to remember: The priority of supportive care in poisoning

Airway first	Stabilisation and supportive care are fundamental
Antidote second	Specific antidotes are important when indicated but do not replace ABC support

Emergency History & Handover

SAMPLE

Used to remember: A focused emergency history

S	Symptoms / Signs
A	Allergies
M	Medications
P	Past medical history / Pregnancy
L	Last oral intake
E	Events leading to illness/injury

OPQRST

Used to remember: Characterising acute pain

O	Onset
P	Provocation/Palliation
Q	Quality
R	Region/Radiation
S	Severity
T	Timing

ATMIST

Used to remember: A structured trauma handover

A	Age
T	Time of incident
M	Mechanism
I	Injuries found/suspected
S	Signs - vital signs
T	Treatment given

SBAR

Used to remember: Structured clinical escalation/handover

S	Situation
B	Background
A	Assessment
R	Recommendation

UIM ORIGINAL

Emergency Handover = Sickest First, Threats First

Used to remember: How to prioritise information in a pressured handover

Sickest first	Lead with acuity
Threats first	State immediate airway/breathing/circulatory risks before lower-priority detail

Rapid Reference

Mnemonic	What it recalls
ABCDE	Critically ill patient assessment
AVPU	Consciousness
4 Hs + 4 Ts	Reversible cardiac-arrest causes
VF/pVT vs PEA/Asystole	Arrest rhythm groups
Pump, Pipes, Volume, Blockage	Shock
MARCH	Trauma priorities
Blood on Floor + Four More	Hidden haemorrhage
FAST = Free Fluid Around Solid Organs	Trauma ultrasound
Chest Pain: Heart, Aorta, Lung, Oesophagus	Lethal chest pain
AIR HEART	Acute dyspnoea
BE FAST	Stroke
Thunderclap = Think Bleed	SAH/vascular headache
AEIOU TIPS	Altered consciousness
Airway, Breathing, Circulation after Allergen	Anaphylaxis
IM Adrenaline = First-Line	Anaphylaxis
Cold, Acid, Coagulopathy	Trauma lethal triad
DKA = Ketones + Acidosis + Dehydration	DKA
T Peaks, P Fades, QRS Widens	Hyperkalaemia
Pinpoint, Slow Breathing, Sleepy	Opioid toxicity
Hot, Dry, Blind, Red, Mad	Anticholinergic toxicity
DUMBELS	Cholinergic toxicity
Hot, Wet, Wide, Wired	Sympathomimetic toxicity
SAMPLE	Focused emergency history
ATMIST	Trauma handover
SBAR	Clinical handover

Discovery & Verification Sources

Mnemonic discovery: Geeky Medics emergency/ABCDE resources, LITFL critical-care and resuscitation resources, Resuscitation Council UK materials, and other sources in the Updates in Medicine resource list.

Independent verification: Resuscitation Council UK ABCDE and 2025 resuscitation guidance and contemporary emergency-medicine references. The 4 Hs and 4 Ts remain a core reversible-cause framework. Detailed drug doses, shock energies and algorithms are intentionally left to current protocols. UIM Original entries are clearly labelled; mnemonics support recall but do not replace emergency algorithms or senior clinical help.

CRITICAL CARE MNEMONICS

A comprehensive, clinically verified collection of intensive care memory aids

Editorial approach

This chapter emphasises ICU physiology and bedside recognition. Scores, ventilator protocols and drug doses are not presented merely as acronyms. Where current critical-care guidance changes over time, the mnemonic is kept conceptual and the important limitation is stated.

Contents

ICU Assessment & Monitoring
Shock & Haemodynamics
Sepsis & Septic Shock
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Renal Failure & RRT
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Weaning & Liberation
Rapid Reference

ICU Assessment & Monitoring

UIM ORIGINAL

ABCDE - Then Repeat

Used to remember: The structured reassessment of the critically ill patient

A	Airway
B	Breathing
C	Circulation
D	Disability
E	Exposure
Repeat	Reassess after each intervention or deterioration

UIM ORIGINAL

Numbers Need Context

Used to remember: Why ICU monitors must be interpreted clinically

Numbers	Heart rate, blood pressure, saturation, CVP and other variables
Context	Trends, waveform quality, patient examination and physiology determine meaning

UIM ORIGINAL

Perfusion = Brain, Skin, Kidney, Lactate

Used to remember: Four bedside domains that help assess tissue perfusion

Brain	Mental status
Skin	Capillary refill/temperature/mottling
Kidney	Urine output
Lactate	May reflect tissue stress/hypoperfusion but is not specific

UIM ORIGINAL

Trend Beats One Number

Used to remember: The value of serial measurements in critical care

Trend	Direction and response to intervention often matter more than an isolated value

Shock & Haemodynamics

UIM ORIGINAL

Shock = Pump, Pipes, Volume, Blockage

Used to remember: The four major physiological categories of shock

Pump	Cardiogenic
Pipes	Distributive/vasodilatory
Volume	Hypovolaemic
Blockage	Obstructive

UIM ORIGINAL

MAP = Pressure; Flow = Output

Used to remember: The distinction between pressure and perfusion

MAP	Reflects arterial pressure
Cardiac output	Reflects systemic blood flow
Key point	A satisfactory pressure does not guarantee adequate flow or tissue perfusion

UIM ORIGINAL

Preload Fills, Afterload Fights, Contractility Squeezes

Used to remember: Three major determinants of cardiac performance

Preload	Ventricular filling/stretch
Afterload	Resistance against ejection
Contractility	Intrinsic myocardial force generation

UIM ORIGINAL

Cold Shock = Clamp; Warm Shock = Wide

Used to remember: A practical peripheral perfusion pattern

Clamp	Cool vasoconstricted peripheries may occur in low-output states
Wide	Warm vasodilated peripheries may occur in early distributive shock

Mixed and evolving phenotypes are common.

UIM ORIGINAL

Obstruction = PE, Tamponade, Tension

Used to remember: Three classic causes of obstructive shock

PE	Massive pulmonary embolism
Tamponade	Cardiac tamponade
Tension	Tension pneumothorax

Sepsis & Septic Shock

UIM ORIGINAL

Sepsis = Infection + Organ Dysfunction

Used to remember: The core modern concept of sepsis

Infection	Possible, probable or confirmed infection
Organ dysfunction	Life-threatening dysfunction from a dysregulated host response

UIM ORIGINAL

Sepsis: Culture, Lactate, Fluids, Antibiotics, Source

Used to remember: Five early domains to remember in severe sepsis/septic shock

Culture	Obtain blood cultures early when feasible
Lactate	Measure where appropriate
Fluids	Resuscitate hypoperfusion with crystalloid while reassessing frequently
Antibiotics	Give appropriate antimicrobials promptly when indicated
Source	Identify and control the infection source

The 2026 Surviving Sepsis Campaign emphasises immediate treatment, early cultures, lactate assessment, individualised fluid resuscitation and source control.

UIM ORIGINAL

Sepsis Is Clinical - No Single Test Rules It In or Out

Used to remember: An important principle in current sepsis guidance

Clinical diagnosis	Integrate history, examination, organ dysfunction and investigations
No single test	A biomarker or screening score alone is insufficient

UIM ORIGINAL

Norepinephrine = First Pressor in Septic Shock

Used to remember: The preferred first-line vasopressor in septic shock

Norepinephrine	Recommended first-line vasopressor when vasopressor support is required

Use current haemodynamic guidance and individualise to the patient.

Respiratory Failure

UIM ORIGINAL

Type 1 = Oxygen Low; Type 2 = Oxygen Low + CO2 High

Used to remember: The classic physiological distinction between respiratory failure types

Type 1	Hypoxaemic respiratory failure
Type 2	Hypercapnic respiratory failure, usually with hypoxaemia

UIM ORIGINAL

Hypercapnia = Ventilation Problem

Used to remember: The key physiological meaning of a raised PaCO2

CO2 high	Alveolar ventilation is inadequate relative to CO2 production

UIM ORIGINAL

Hypoxaemia = Low Air, Low Ventilation, V/Q, Shunt, Diffusion

Used to remember: The major physiological mechanisms of hypoxaemia

Low air	Low inspired oxygen
Low ventilation	Alveolar hypoventilation
V/Q	Ventilation-perfusion mismatch
Shunt	Perfusion without ventilation
Diffusion	Impaired alveolar-capillary diffusion

UIM ORIGINAL

V/Q Likes Oxygen; Shunt Resists

Used to remember: The typical response to supplemental oxygen

V/Q mismatch	Usually improves substantially
True shunt	May remain relatively refractory

Mechanical Ventilation

UIM ORIGINAL

Volume = How Much; Pressure = How Hard

Used to remember: The basic distinction between volume-targeted and pressure-targeted ventilation

Volume	Clinician targets tidal volume; airway pressure varies
Pressure	Clinician targets inspiratory pressure; tidal volume varies

UIM ORIGINAL

PEEP = Pressure at End Keeps Alveoli Open

Used to remember: The core purpose of positive end-expiratory pressure

End pressure	Maintains positive airway pressure at end expiration
Open alveoli	Can improve recruitment and oxygenation

UIM ORIGINAL

High Peak, Normal Plateau = Tube/Airway Problem

Used to remember: A classic pressure pattern suggesting increased airway resistance

High peak	Elevated peak inspiratory pressure
Normal plateau	Static compliance relatively preserved
Think	Bronchospasm, secretions, kinked/narrow tube

UIM ORIGINAL

High Peak + High Plateau = Compliance Problem

Used to remember: A classic ventilator pressure pattern

Both high	Suggest reduced respiratory-system compliance
Think	ARDS, pulmonary oedema, pneumothorax, abdominal/chest-wall restriction

UIM ORIGINAL

Auto-PEEP = Not Enough Time to Breathe Out

Used to remember: The mechanism of dynamic hyperinflation

Not enough time	Expiratory flow does not return to zero before next breath
Result	Air trapping and intrinsic PEEP

UIM ORIGINAL

Obstruction Needs Longer Expiration

Used to remember: A key ventilator principle in severe airflow obstruction

Longer expiration	Lower rate and/or shorter inspiratory time may reduce air trapping

Ventilator changes should be individualised and guided by waveforms, mechanics and gas exchange.

ARDS

UIM ORIGINAL

ARDS = Acute, Bilateral, Non-Cardiogenic, Hypoxaemic

Used to remember: The core clinical pattern of acute respiratory distress syndrome

Acute	Recent onset after a recognised insult
Bilateral	Bilateral pulmonary opacities
Non-cardiogenic	Not fully explained by cardiac failure/fluid overload
Hypoxaemic	Significant oxygenation impairment

Formal ARDS diagnosis requires current consensus criteria; this is a conceptual memory aid.

UIM ORIGINAL

Lung-Protective = Low Volume, Limit Pressure

Used to remember: The central mechanical-ventilation strategy in ARDS

Low volume	Use low tidal volumes based on predicted body weight
Limit pressure	Avoid excessive plateau/driving pressures

UIM ORIGINAL

Prone = Put the Back Lung to Work

Used to remember: Why prone positioning can improve oxygenation in severe ARDS

Prone	Redistributes ventilation/perfusion and recruits dependent dorsal lung regions

UIM ORIGINAL

ARDS = Wet Lungs, Stiff Lungs

Used to remember: The physiological consequence of permeability oedema

Wet	Protein-rich alveolar/interstitial oedema
Stiff	Reduced compliance

Acid-Base Disorders

ROME

Used to remember: The primary direction of respiratory and metabolic acid-base disorders

R	Respiratory
O	Opposite - pH and PaCO2 move oppositely
M	Metabolic
E	Equal - pH and bicarbonate move together

Compensation and mixed disorders require formal analysis.

GOLD MARK

Used to remember: Modern causes of high-anion-gap metabolic acidosis

G	Glycols
O	Oxoproline
L	L-lactate
D	D-lactate
M	Methanol
A	Aspirin/salicylates
R	Renal failure
K	Ketoacidosis

HARDUP

Used to remember: Common causes of normal-anion-gap metabolic acidosis

H	Hyperchloraemic states
A	Acetazolamide
R	Renal tubular acidosis
D	Diarrhoea
U	Ureteric diversion
P	Pancreatic fistula

UIM ORIGINAL

Lactate = Stress Signal, Not a Diagnosis

Used to remember: The interpretation of elevated lactate

Stress signal	Can reflect hypoperfusion, adrenergic stimulation, seizures, liver dysfunction, drugs and other causes
Not diagnosis	Always interpret in clinical context

Renal Failure & RRT

UIM ORIGINAL

AKI = Pre, Renal, Post

Used to remember: The three anatomical categories of acute kidney injury

Pre	Reduced perfusion
Renal	Intrinsic kidney disease
Post	Obstruction

AEIOU

Used to remember: Classic urgent indications for renal replacement therapy

A	Refractory severe Acidosis
E	Dangerous Electrolyte disturbance
I	Selected dialysable Intoxications
O	Refractory Overload
U	Uraemic complications

RRT initiation is a clinical decision and should not be based on a single creatinine or urea threshold.

UIM ORIGINAL

CRRT = Continuous for Fragile Circulation

Used to remember: Why continuous renal replacement is often chosen in unstable ICU patients

Continuous	Slow continuous solute/fluid removal
Fragile circulation	May be better tolerated in haemodynamic instability

UIM ORIGINAL

Muddy Brown = Tubular Down

Used to remember: A classic urinary sediment clue to acute tubular injury

Muddy brown casts	Granular casts are strongly associated with acute tubular injury

Sedation, Delirium & Neuromuscular Weakness

UIM ORIGINAL

Delirium = Acute, Fluctuating, Inattentive

Used to remember: The core bedside pattern of delirium

Acute	Develops over hours to days
Fluctuating	Changes over the day
Inattentive	Impaired attention is central

UIM ORIGINAL

ICU Delirium = Drugs, Infection, Metabolic, Sleep

Used to remember: Four major modifiable domains to review

Drugs	Sedatives/anticholinergics and withdrawal
Infection	Sepsis and occult infection
Metabolic	Hypoxia, glucose/electrolyte and organ failure
Sleep	Disruption and sensory deprivation

UIM ORIGINAL

Weak ICU Patient = Nerve, Muscle, Drug, Disuse

Used to remember: Major contributors to ICU-acquired weakness

Nerve	Critical illness polyneuropathy
Muscle	Critical illness myopathy
Drug	Neuromuscular blockers/corticosteroids in selected contexts
Disuse	Immobilisation/deconditioning

UIM ORIGINAL

Light Sedation, Wake and Mobilise When Safe

Used to remember: A general ICU recovery principle

Light sedation	Avoid unnecessary deep sedation
Wake	Daily assessment of sedation need
Mobilise	Early mobility when clinically appropriate

Sedation targets depend on the indication, ventilation strategy, neurological status and safety.

Electrolyte Emergencies

UIM ORIGINAL

Hyperkalaemia = T Peaks, P Fades, QRS Widens

Used to remember: The classic ECG progression in significant hyperkalaemia

T peaks	Tall peaked T waves
P fades	P-wave flattening/PR changes
QRS widens	Conduction slows

ECG changes may be absent even with dangerous hyperkalaemia.

UIM ORIGINAL

Hypokalaemia = U Goes Up

Used to remember: The classic ECG clue

U wave	Prominent U waves may occur
Other	T-wave flattening, ST depression and arrhythmias can occur

UIM ORIGINAL

Hyponatraemia Hurts the Head

Used to remember: The neurological danger of acute severe hyponatraemia

Head	Cerebral oedema can cause confusion, seizures and coma

UIM ORIGINAL

Hypernatraemia = Water Went Away

Used to remember: The usual physiological basis of hypernatraemia

Water away	Usually a water deficit relative to body sodium

Calcium Low = CATS Go Numb

Used to remember: Clinical features of hypocalcaemia

C	Convulsions
A	Arrhythmias
T	Tetany
S	Stridor/laryngospasm
Numb	Paraesthesia

Nutrition & Metabolic Care

UIM ORIGINAL

Feed the Gut if the Gut Works

Used to remember: The general preference for enteral over parenteral nutrition when feasible

Gut works	Enteral feeding preserves GI function and is generally preferred when safe

UIM ORIGINAL

Refeeding = Phosphate Falls First

Used to remember: The hallmark electrolyte concern in refeeding syndrome

Phosphate	Hypophosphataemia is a characteristic and potentially dangerous feature
Also	Potassium, magnesium, thiamine and fluid shifts matter

UIM ORIGINAL

Protein Builds; Calories Fuel

Used to remember: Two distinct goals of ICU nutrition

Protein	Supports lean tissue and recovery
Calories	Provide energy while avoiding major under- or overfeeding

ICU Infections

UIM ORIGINAL

VAP = Ventilator + New Lung Infection

Used to remember: The basic concept of ventilator-associated pneumonia

Ventilator	Occurs after invasive ventilation
New lung infection	New/progressive infiltrates plus compatible clinical features

UIM ORIGINAL

Line Infection = Fever + Line + No Better Source

Used to remember: A practical clue to catheter-related bloodstream infection

Line	Indwelling vascular catheter
No better source	Consider line source when bloodstream infection lacks another explanation

UIM ORIGINAL

Culture Before Antibiotics - If Safe

Used to remember: A microbiological principle in suspected severe infection

Culture	Obtain appropriate cultures early
If safe	Do not dangerously delay needed antimicrobial therapy

UIM ORIGINAL

Antibiotics = Right Drug, Dose, Duration

Used to remember: A stewardship reminder in ICU infection

Drug	Appropriate spectrum
Dose	PK/PD-adjusted for critical illness/organ function
Duration	Review daily and de-escalate/stop when appropriate

Lines, Tubes & Complications

UIM ORIGINAL

Central Line = Infection, Bleeding, Pneumothorax, Thrombosis

Used to remember: Major central venous catheter complications

Infection	CLABSI/local infection
Bleeding	Arterial injury/haematoma
Pneumothorax	Site-dependent insertion complication
Thrombosis	Catheter-associated venous thrombosis

UIM ORIGINAL

Arterial Line = Ischaemia, Bleeding, Infection

Used to remember: Major complications of invasive arterial monitoring

Ischaemia	Distal perfusion compromise
Bleeding	Haemorrhage/haematoma
Infection	Local or bloodstream infection

UIM ORIGINAL

ET Tube Trouble = Displaced, Blocked, Pneumothorax, Equipment

Used to remember: A rapid framework for sudden deterioration in an intubated patient

Displaced	Tube migration/extubation
Blocked	Secretions, biting, kink
Pneumothorax	Barotrauma or other cause
Equipment	Circuit/ventilator/oxygen-supply failure

UIM ORIGINAL

Sudden Ventilator Problem = Patient or Machine

Used to remember: The first broad fork in ventilated-patient deterioration

Patient	Airway, lung, circulation or disease change
Machine	Tube, circuit, ventilator or gas-supply problem

Weaning & Liberation

UIM ORIGINAL

Ready to Wean = Cause Better, Oxygen Better, Circulation Stable, Awake Enough

Used to remember: Four broad domains before spontaneous breathing assessment

Cause better	Reason for ventilation improving
Oxygen better	Acceptable gas exchange on modest support
Circulation stable	No major haemodynamic instability
Awake enough	Adequate drive/airway protection for context

UIM ORIGINAL

SBT = Can the Patient Breathe With Less Help?

Used to remember: The concept of a spontaneous breathing trial

Less help	Tests ability to sustain breathing with minimal ventilatory assistance

UIM ORIGINAL

Extubation = Breathe + Protect + Clear

Used to remember: Three domains needed for successful extubation

Breathe	Adequate spontaneous ventilation
Protect	Airway protective reflexes/mental status
Clear	Manage secretions/cough effectively

UIM ORIGINAL

Failed Wean = Heart, Lung, Muscle, Brain

Used to remember: Four broad reasons for liberation failure

Heart	Cardiac dysfunction/volume load
Lung	Persistent gas-exchange or airway disease
Muscle	Respiratory weakness
Brain	Delirium, oversedation or neurological impairment

Rapid Reference

Mnemonic	What it recalls
ABCDE - Then Repeat	ICU reassessment
Perfusion = Brain, Skin, Kidney, Lactate	Perfusion
Pump, Pipes, Volume, Blockage	Shock
Preload Fills, Afterload Fights, Contractility Squeezes	Haemodynamics
Sepsis = Infection + Organ Dysfunction	Sepsis
Culture, Lactate, Fluids, Antibiotics, Source	Early sepsis domains
Type 1 O2 Low; Type 2 O2 Low + CO2 High	Respiratory failure
High Peak, Normal Plateau = Airway	Ventilator pressures
High Peak + High Plateau = Compliance	Ventilator pressures
Auto-PEEP = Not Enough Time to Breathe Out	Dynamic hyperinflation
ARDS = Acute, Bilateral, Non-Cardiogenic, Hypoxaemic	ARDS
Low Volume, Limit Pressure	Lung-protective ventilation
ROME	Acid-base
GOLD MARK	High-anion-gap acidosis
AEIOU	RRT indications
Delirium = Acute, Fluctuating, Inattentive	ICU delirium
T Peaks, P Fades, QRS Widens	Hyperkalaemia
Refeeding = Phosphate Falls First	Refeeding syndrome
Right Drug, Dose, Duration	Antibiotic stewardship
Displaced, Blocked, Pneumothorax, Equipment	ET tube trouble
Breathe + Protect + Clear	Extubation
Heart, Lung, Muscle, Brain	Failed weaning

Discovery & Verification Sources

Mnemonic discovery: LITFL critical-care and ventilation teaching; Geeky Medics acute-care resources; SCCM/ESICM teaching resources; and other sources listed in the Updates in Medicine mnemonic-book project.

Independent verification: 2026 Surviving Sepsis Campaign adult guidance; NCBI/StatPearls critical-care physiology and renal replacement references; standard ICU and respiratory physiology texts. Sepsis content reflects the 2026 emphasis that sepsis is a clinical diagnosis and should not be ruled in or out by a single score or biomarker. Ventilator and ARDS entries are kept conceptual rather than reproducing full protocols.

UIM Original entries are clearly labelled. These memory aids do not replace local ICU protocols, current ventilator guidance or senior clinical judgement.

PART III | ACUTE & PERIOPERATIVE MEDICINE

ANAESTHESIA MNEMONICS

A comprehensive, clinically verified collection of anaesthesia memory aids

Editorial approach

Only genuine memory aids are included. Formal risk scores, drug-dose tables and full airway algorithms are not reproduced merely because they use abbreviations. Time-sensitive emergencies are presented as recognition devices and must be managed using current local protocols.

Contents

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Perioperative Anaphylaxis
Postoperative Nausea & Recovery
Obstetric Anaesthesia
Perioperative Complications
Rapid Reference

Preoperative Assessment

UIM ORIGINAL

AMPLE Before Anaesthesia

Used to remember: A focused perioperative history

A	Allergies
M	Medications
P	Past medical/anaesthetic history
L	Last oral intake
E	Events and relevant examination/investigations

UIM ORIGINAL

Previous Anaesthetic Problems Predict Future Problems

Used to remember: Why prior anaesthetic history is particularly important

Ask	Difficult airway, PONV, malignant hyperthermia, awareness, drug reactions and family anaesthetic complications

UIM ORIGINAL

Heart, Lung, Airway, Blood, Drugs

Used to remember: Five high-yield preoperative domains

Heart	Cardiovascular reserve
Lung	Respiratory disease/OSA
Airway	Difficulty and aspiration risk
Blood	Anaemia/coagulation/transfusion issues
Drugs	Anticoagulants, diabetes drugs, steroids and interacting medication

UIM ORIGINAL

Fasting Protects the Lung, Not the Stomach

Used to remember: The purpose of preoperative fasting

Lung	Reduces aspiration risk during loss of protective airway reflexes
Not empty stomach	Fasting does not guarantee an empty stomach

Airway Assessment

LEMON

Used to remember: A structured assessment of potential difficult laryngoscopy/intubation

L	Look externally
E	Evaluate 3-3-2 geometry
M	Mallampati
O	Obstruction/obesity
N	Neck mobility

No single bedside test or mnemonic reliably excludes a difficult airway; combine history, examination and planning.

UIM ORIGINAL

3-3-2 = Mouth, Mentum, Thyroid

Used to remember: The airway geometry within the LEMON assessment

3	About three fingerbreadths mouth opening
3	About three fingerbreadths mentum to hyoid/mandibular-neck junction
2	About two fingerbreadths hyoid/mandibular-neck junction to thyroid notch

Fingerbreadth rules are rough screening aids, not precise predictors.

MOANS

Used to remember: Features associated with difficult bag-mask ventilation

M	Mask seal difficulty
O	Obesity/Obstruction
A	Age
N	No teeth
S	Stiff lungs or snoring/OSA

Published expansions vary; use as a prompt rather than a validated exclusion rule.

UIM ORIGINAL

Airway Plan = A, B, C, D Before Drugs

Used to remember: The need for a rescue plan before induction

A	Primary intubation plan
B	Alternative intubation/oxygenation plan
C	Supraglottic/mask rescue
D	Emergency front-of-neck airway when required

Airway Emergencies

UIM ORIGINAL

Can't Intubate? Oxygenate First

Used to remember: The overriding goal during failed intubation

Oxygenate	Maintaining oxygen delivery is more important than repeated traumatic intubation attempts

DOPES

Used to remember: A rapid differential for sudden deterioration in an intubated patient

D	Displacement of tube
O	Obstruction
P	Pneumothorax
E	Equipment failure
S	Stacked breaths / other patient causes

Common variants use DOPES or DOPE. Always assess both patient and equipment.

UIM ORIGINAL

Capnography = CO2 Confirms Ventilation

Used to remember: Why waveform capnography matters after tracheal intubation

CO2	Sustained exhaled CO2 waveform strongly supports tracheal placement and allows continuous ventilation monitoring

UIM ORIGINAL

Laryngospasm = Tight Cord, No Air

Used to remember: The clinical concept of laryngospasm

Tight cords	Reflex glottic closure
No air	Partial or complete obstruction may cause stridor, paradoxical movement or silence

General Anaesthesia

UIM ORIGINAL

Triad of Anaesthesia = Sleep, Analgesia, Relaxation

Used to remember: Three major components commonly required during general anaesthesia

Sleep	Hypnosis/amnesia
Analgesia	Control of nociception
Relaxation	Immobility/muscle relaxation when required

UIM ORIGINAL

Induction = Sleep; Maintenance = Keep; Emergence = Wake

Used to remember: The three broad phases of general anaesthesia

Induction	Transition to anaesthesia
Maintenance	Sustain appropriate anaesthetic state
Emergence	Return of consciousness, ventilation and airway control

UIM ORIGINAL

Anaesthesia Lowers: Pressure, Breathing, Temperature

Used to remember: Three common physiological vulnerabilities under general anaesthesia

Pressure	Vasodilation/myocardial depression can lower BP
Breathing	Ventilatory drive and airway tone are reduced
Temperature	Heat loss and impaired thermoregulation promote hypothermia

Induction Agents

UIM ORIGINAL

Propofol = Pleasant Sleep, Pressure Drops

Used to remember: Two high-yield properties of propofol

Sleep	Rapid IV hypnosis
Pressure drops	Dose-dependent hypotension and respiratory depression are common

UIM ORIGINAL

Ketamine = Keeps Pressure, Keeps Breathing Better

Used to remember: The characteristic haemodynamic and respiratory profile of ketamine

Pressure	Sympathomimetic effects often maintain/increase BP and HR
Breathing	Respiratory depression is usually less than with many other induction agents

Apnoea, airway events and haemodynamic depression can still occur, especially in catecholamine-depleted patients.

UIM ORIGINAL

Etomidate = Even Pressure

Used to remember: The relative haemodynamic stability of etomidate

Even pressure	Usually causes less cardiovascular depression than propofol

UIM ORIGINAL

Etomidate = Endocrine Inhibition

Used to remember: The adrenal effect of etomidate

Endocrine	Transient inhibition of adrenal steroid synthesis can occur

Neuromuscular Blockade

UIM ORIGINAL

Succinylcholine = Starts Fast, Stops Fast

Used to remember: The characteristic onset and duration of succinylcholine

Starts fast	Very rapid onset
Stops fast	Short duration after a single dose in typical patients

UIM ORIGINAL

Succinylcholine = K Up + MH Trigger

Used to remember: Two major safety associations

K up	Can cause dangerous hyperkalaemia in susceptible states
MH	Triggers malignant hyperthermia in susceptible patients

UIM ORIGINAL

Non-Depolarisers Need Reversal or Time

Used to remember: The recovery principle after non-depolarising blockade

Reversal/time	Recovery requires spontaneous metabolism/elimination or appropriate pharmacological reversal

UIM ORIGINAL

Paralysed Does Not Mean Anaesthetised

Used to remember: A critical awareness principle

Paralysis	Neuromuscular blockers cause immobility but provide no hypnosis, amnesia or analgesia

Inhalational Anaesthesia

UIM ORIGINAL

MAC Down = More Potent

Used to remember: The inverse relationship between minimum alveolar concentration and inhalational anaesthetic potency

Lower MAC	Greater potency
Higher MAC	Lower potency

UIM ORIGINAL

Blood-Gas Low = Wake and Sleep Fast

Used to remember: The effect of low blood-gas solubility

Low solubility	Faster rise/fall of alveolar concentration and generally faster induction/emergence

UIM ORIGINAL

Volatiles = Vasodilation + PONV + MH Trigger

Used to remember: Three important effects/risks of potent volatile agents

Vasodilation	Dose-dependent hypotension
PONV	Emetogenic effect contributes to postoperative nausea/vomiting
MH trigger	Halogenated volatile anaesthetics can trigger malignant hyperthermia

Nitrous oxide is not a malignant-hyperthermia trigger.

Regional & Neuraxial Anaesthesia

UIM ORIGINAL

Spinal = Small Dose, Fast Dense Block

Used to remember: The classic properties of spinal anaesthesia

Small dose	Local anaesthetic is injected into CSF
Fast	Rapid onset
Dense	Reliable sensory and motor block

UIM ORIGINAL

Epidural = Outside Dura, Dose Can Continue

Used to remember: The basic concept of epidural anaesthesia

Outside dura	Drug delivered to epidural space
Continue	Catheter permits titration and ongoing analgesia

UIM ORIGINAL

Neuraxial Block = Sympathetic Block First

Used to remember: Why hypotension can occur

Sympathetic block	Vasodilation reduces venous return and systemic vascular resistance

UIM ORIGINAL

High Spinal = Numbness Climbs, Pressure Falls, Breathing Fails

Used to remember: The warning pattern of an excessively high neuraxial block

Climbs	Rapidly ascending sensory/motor block
Pressure falls	Marked hypotension/bradycardia
Breathing fails	Respiratory compromise may occur

UIM ORIGINAL

Post-Dural Headache = Upright Worse, Flat Better

Used to remember: The classic positional pattern of post-dural puncture headache

Upright	Headache worsens sitting/standing
Flat	Improves when supine

Local Anaesthetic Systemic Toxicity

UIM ORIGINAL

LAST = Lips, Ears, Brain, Heart

Used to remember: A memorable progression of local anaesthetic systemic toxicity

Lips	Circumoral numbness/metallic taste may occur
Ears	Tinnitus/auditory symptoms may occur
Brain	Agitation, seizures or CNS depression
Heart	Conduction disturbance, arrhythmia and cardiovascular collapse

LAST increasingly presents atypically; severe cardiovascular toxicity may occur without the classic prodrome.

UIM ORIGINAL

LAST = Stop Drug, Airway, Lipid, Seizures, Circulation

Used to remember: The core emergency response domains

Stop drug	Stop local anaesthetic injection
Airway	Prevent hypoxia, hypercapnia and acidosis
Lipid	Give lipid emulsion when severe LAST is suspected
Seizures	Treat promptly
Circulation	Provide modified resuscitation as required

Use a current LAST checklist for exact lipid dosing and resuscitation modifications.

UIM ORIGINAL

Local Toxicity Adds Up

Used to remember: The additive nature of local anaesthetic toxicity

Adds up	Toxicity from different local anaesthetics is additive; total dose and site vascularity matter

Malignant Hyperthermia

UIM ORIGINAL

MH = CO2 Climbs, Heart Races, Muscles Rigidity, Heat Later

Used to remember: The typical evolution of malignant hyperthermia

CO2 climbs	Unexplained rising ETCO2 is often an early clue
Heart races	Tachycardia is common
Muscle rigidity	Generalised or masseter rigidity may occur
Heat later	Hyperthermia can be a later sign

UIM ORIGINAL

MH Triggers = Volatiles + Succinylcholine

Used to remember: The principal anaesthetic triggers

Volatiles	Potent halogenated inhalational anaesthetics
Succinylcholine	Depolarising neuromuscular blocker

UIM ORIGINAL

MH = Stop Trigger, Oxygen, Dantrolene, Cool

Used to remember: The immediate management priorities

Stop trigger	Discontinue triggering agents
Oxygen	Hyperventilate with 100% oxygen
Dantrolene	Give promptly
Cool	Active cooling when hyperthermic and treat metabolic complications

Exact dantrolene dosing and ongoing management should follow the current malignant-hyperthermia protocol.

UIM ORIGINAL

MH Susceptible = Non-Triggering Anaesthetic

Used to remember: The preventive anaesthetic principle

Avoid	Volatile triggers and succinylcholine
Use	Non-triggering techniques with appropriate machine preparation and dantrolene availability

Perioperative Anaphylaxis

UIM ORIGINAL

Anaphylaxis = Airway, Breathing, Circulation - Skin May Be Hidden

Used to remember: The perioperative presentation of anaphylaxis

Airway	Swelling may occur
Breathing	Bronchospasm/hypoxaemia
Circulation	Sudden hypotension/collapse
Skin	Cutaneous signs may be absent or difficult to see under drapes

UIM ORIGINAL

Sudden Collapse After a Drug = Think Allergy, Bleeding, Airway, Embolism

Used to remember: A rapid perioperative differential

Allergy	Anaphylaxis
Bleeding	Haemorrhage
Airway	Hypoxia/ventilation problem
Embolism	Pulmonary/air/other embolic event

UIM ORIGINAL

Adrenaline First in Anaphylaxis

Used to remember: The cornerstone drug treatment

Adrenaline	First-line treatment alongside airway, oxygen, fluids and removal of trigger

Route and dose depend on severity and perioperative setting; follow current resuscitation guidance.

Postoperative Nausea & Recovery

UIM ORIGINAL

PONV = Female, Non-Smoker, Previous PONV, Opioids

Used to remember: Four widely used adult PONV risk factors

Female	Female sex
Non-smoker	Non-smoking status
Previous	History of PONV or motion sickness
Opioids	Expected postoperative opioid use

This mirrors the Apfel risk factors but is presented as a recall phrase, not as a score.

UIM ORIGINAL

PONV Prevention = Reduce Triggers + Combine Antiemetics

Used to remember: The general risk-reduction strategy

Reduce triggers	Minimise volatile agents/opioids when appropriate
Combine	Use multimodal prophylaxis according to baseline risk

UIM ORIGINAL

PACU = Airway, Breathing, Pressure, Pain, PONV

Used to remember: Five immediate recovery-room priorities

Airway	Patency/protection
Breathing	Ventilation/oxygenation
Pressure	Circulation
Pain	Analgesia
PONV	Nausea/vomiting prevention and treatment

Obstetric Anaesthesia

UIM ORIGINAL

Pregnancy Airway = Swollen, Full Stomach, Oxygen Falls Fast

Used to remember: Three anaesthetic vulnerabilities in pregnancy

Swollen	Upper airway oedema can make airway management harder
Full stomach	Aspiration risk is increased in relevant circumstances
Oxygen falls fast	Reduced FRC and increased oxygen consumption shorten safe apnoea time

UIM ORIGINAL

Left Tilt = Lift Uterus Off Great Vessels

Used to remember: The purpose of left uterine displacement

Left tilt	Reduces aortocaval compression in later pregnancy

Postpartum Haemorrhage = Tone, Trauma, Tissue, Thrombin

Used to remember: The four major causes of postpartum haemorrhage

Tone	Uterine atony
Trauma	Genital tract injury
Tissue	Retained placental tissue
Thrombin	Coagulopathy

UIM ORIGINAL

High Spinal in Obstetrics = Pressure Falls Before Baby

Used to remember: The danger of excessive sympathetic block

Pressure falls	Maternal hypotension can rapidly impair uteroplacental perfusion
Action	Recognise and treat promptly

Perioperative Complications

UIM ORIGINAL

Hypotension = Empty, Vasodilated, Pump, Blocked

Used to remember: Four broad causes of perioperative hypotension

Empty	Hypovolaemia/bleeding
Vasodilated	Anaesthetic effect/anaphylaxis/sepsis
Pump	Cardiac dysfunction
Blocked	PE, tamponade, tension pneumothorax

UIM ORIGINAL

Delayed Wake-Up = Drugs, CO2, Sugar, Temperature, Brain

Used to remember: A practical differential for delayed emergence

Drugs	Residual anaesthetic/opioid/NMBA effects
CO2	Hypercapnia
Sugar	Hypoglycaemia or severe metabolic disturbance
Temperature	Hypothermia
Brain	Stroke, seizure or other neurological complication

UIM ORIGINAL

Postoperative Hypoxia = Airway, Atelectasis, Opioid, Fluid, Embolus

Used to remember: Five major early postoperative causes of hypoxaemia

Airway	Obstruction
Atelectasis	Common after anaesthesia
Opioid	Hypoventilation
Fluid	Pulmonary oedema
Embolus	Pulmonary embolism

UIM ORIGINAL

Perioperative Hypothermia = Bleeding, Infection, Slow Wake

Used to remember: Important consequences of unintended hypothermia

Bleeding	Coagulopathy/increased blood loss
Infection	Higher surgical-site infection risk
Slow wake	Altered drug metabolism and delayed recovery

Rapid Reference

Mnemonic	What it recalls
AMPLE	Focused pre-anaesthetic history
LEMON	Difficult airway assessment
3-3-2	Airway geometry
MOANS	Difficult mask ventilation
DOPES	Deterioration after intubation
Sleep, Analgesia, Relaxation	General anaesthesia triad
Propofol = Sleep, Pressure Drops	Propofol
Ketamine = Keeps Pressure	Ketamine
Etomidate = Even Pressure	Etomidate
Succinylcholine = Fast On, Fast Off	Succinylcholine
Paralysed Does Not Mean Anaesthetised	NMBA safety
MAC Down = More Potent	Volatile potency
Blood-Gas Low = Fast	Volatile kinetics
Spinal = Small, Fast, Dense	Spinal anaesthesia
High Spinal = Numbness Climbs, Pressure Falls	High neuraxial block
LAST = Lips, Ears, Brain, Heart	Local anaesthetic toxicity
MH = CO2 Climbs Before Heat	Malignant hyperthermia
MH Triggers = Volatiles + Succinylcholine	MH
Female, Non-Smoker, Previous PONV, Opioids	PONV risk
Tone, Trauma, Tissue, Thrombin	Postpartum haemorrhage
Delayed Wake = Drugs, CO2, Sugar, Temperature, Brain	Delayed emergence

Discovery & Verification Sources

Mnemonic discovery: OpenAnesthesia airway and anaesthesia teaching resources; Geeky Medics perioperative teaching; LITFL acute airway and toxicology resources; and other sources specified in the Updates in Medicine mnemonic-book project.

Independent verification: OpenAnesthesia difficult-airway and LAST resources; 2026 StatPearls malignant hyperthermia review; recent malignant-hyperthermia guidance; contemporary PONV guidance; Resuscitation Council UK principles for perioperative anaphylaxis and acute deterioration. The chapter specifically avoids presenting hyperthermia as the earliest MH sign and notes that LAST can present atypically.

UIM Original entries are clearly labelled. Full drug doses, airway algorithms and emergency checklists should be taken from current local protocols.

TOXICOLOGY MNEMONICS

A comprehensive, clinically verified collection of poisoning and antidote memory aids

Editorial approach

This chapter prioritises syndrome recognition and antidote recall. Full dosing regimens, nomograms and dialysis thresholds are deliberately not converted into mnemonics. Exact management should follow current poison-centre and local toxicology protocols.

Contents

Initial Approach to Poisoning
Major Toxidromes
Decontamination & Enhanced Elimination
Paracetamol Poisoning
Salicylate Poisoning
Opioids & Sedatives
Tricyclic Antidepressants
Beta-Blockers & Calcium-Channel Blockers
Digoxin
Organophosphates & Carbamates
Toxic Alcohols
Carbon Monoxide & Cyanide
Hypoglycaemic Agents
Serotonin Syndrome & NMS
Selected Antidotes
Rapid Reference

Initial Approach to Poisoning

UIM ORIGINAL

ABCDE Before Antidote

Used to remember: The priority of supportive care in poisoned patients

A	Airway
B	Breathing
C	Circulation
D	Disability
E	Exposure / environment
Before antidote	Stabilisation usually matters before identifying the exact toxin

UIM ORIGINAL

Poison History = What, When, How Much, What Else

Used to remember: Four essential exposure questions

What	Substance/formulation
When	Time of exposure
How much	Estimated amount
What else	Co-ingestants, alcohol, prescribed or recreational drugs

UIM ORIGINAL

Toxicology = Patient, Packet, Pattern

Used to remember: Three parallel sources of diagnostic information

Patient	Clinical state and physiology
Packet	Containers, labels, medication list
Pattern	Toxidrome, ECG, acid-base and laboratory pattern

UIM ORIGINAL

Check Glucose, ECG, Paracetamol

Used to remember: Three high-yield tests in many significant deliberate overdoses

Glucose	Immediately reversible danger
ECG	Detects sodium-channel blockade, QT abnormalities and rhythm effects
Paracetamol	Important occult co-ingestion in many overdose settings

Investigations must be tailored to the exposure and clinical state.

Major Toxidromes

UIM ORIGINAL

Opioid = Pinpoint, Slow Breathing, Sleepy

Used to remember: The classic opioid toxidrome

Pinpoint	Miosis
Slow breathing	Respiratory depression
Sleepy	Reduced consciousness

Anticholinergic = Hot, Dry, Blind, Red, Mad

Used to remember: The classic anticholinergic toxidrome

Hot	Hyperthermia
Dry	Dry skin and mucosa
Blind	Mydriasis/blurred vision
Red	Flushed skin
Mad	Agitation/delirium

UIM ORIGINAL

Sympathomimetic = Hot, Wet, Wide, Wired

Used to remember: The classic sympathomimetic toxidrome

Hot	Hyperthermia
Wet	Diaphoresis
Wide	Mydriasis
Wired	Agitation, tachycardia and hypertension

DUMBELS

Used to remember: Muscarinic cholinergic excess

D	Defecation/diarrhoea
U	Urination
M	Miosis
B	Bronchorrhoea/bronchospasm/bradycardia
E	Emesis
L	Lacrimation
S	Salivation/sweating

UIM ORIGINAL

Sedative = Slow, Sleepy, Slurred

Used to remember: A broad sedative-hypnotic pattern

Slow	Reduced respiratory/neurological activity
Sleepy	CNS depression
Slurred	Dysarthria/ataxia may occur

Decontamination & Enhanced Elimination

UIM ORIGINAL

Charcoal Works in the Gut, Not the Blood

Used to remember: The role of activated charcoal

Gut	Reduces absorption of selected toxins still present in the GI tract
Not blood	Does not remove toxin already distributed systemically

UIM ORIGINAL

Charcoal Needs a Safe Airway

Used to remember: A major safety principle

Safe airway	Aspiration risk can outweigh benefit in a patient with reduced consciousness without airway protection

UIM ORIGINAL

Dialysis Likes Small, Water-Soluble, Unbound

Used to remember: Features favouring extracorporeal toxin removal

Small	Low molecular weight
Water-soluble	Limited lipid/tissue sequestration
Unbound	Low protein binding
Also	Low volume of distribution favours removal

UIM ORIGINAL

Urine Alkalinisation = Trap Weak Acids

Used to remember: The principle behind urinary alkalinisation

Weak acids	Ionisation in alkaline urine reduces tubular reabsorption
Examples	Most importantly salicylate in selected poisoning

Paracetamol Poisoning

UIM ORIGINAL

Paracetamol = Quiet Early, Liver Later

Used to remember: The deceptive early course of paracetamol toxicity

Quiet early	Patients may initially have few symptoms
Liver later	Hepatotoxicity can emerge after a latent interval

UIM ORIGINAL

NAPQI = Nasty; NAC Neutralises

Used to remember: The toxic metabolite and antidote concept

NAPQI	Reactive toxic metabolite produced in overdose
NAC	N-acetylcysteine replenishes glutathione and limits injury

UIM ORIGINAL

Four Hours for the Level

Used to remember: The timing concept for a single acute immediate-release ingestion

4 hours	Serum paracetamol concentration is interpreted from 4 hours after ingestion using the appropriate nomogram

Unknown time, repeated supratherapeutic ingestion, extended-release products and late presentation require different assessment.

UIM ORIGINAL

NAC Earlier = Better

Used to remember: The time-sensitive benefit of N-acetylcysteine

Earlier	Most effective when started early after a potentially toxic ingestion
Late still helps	NAC can still benefit late presenters or established liver injury

Salicylate Poisoning

UIM ORIGINAL

Salicylate = Fast Breathing + Acid

Used to remember: The characteristic acid-base disturbance

Fast breathing	Respiratory alkalosis from medullary respiratory stimulation
Acid	High-anion-gap metabolic acidosis develops, especially with significant toxicity

UIM ORIGINAL

Salicylate = Hot, Fast, Ringing

Used to remember: Three common clinical clues

Hot	Hyperthermia may occur
Fast	Tachypnoea
Ringing	Tinnitus is classic

UIM ORIGINAL

Aspirin Hates Acid Blood

Used to remember: Why acidaemia worsens salicylate toxicity

Acid blood	More non-ionised salicylic acid enters tissues and CNS

UIM ORIGINAL

Serial Salicylates Show the Story

Used to remember: Why repeated concentrations matter

Serial	Levels can continue to rise because of delayed absorption and formulation effects
Story	Clinical state and acid-base status matter as much as one number

Opioids & Sedatives

UIM ORIGINAL

Opioid = Pinpoint, Slow Breathing, Sleepy

Used to remember: The opioid triad

Pinpoint	Miosis
Slow breathing	Respiratory depression
Sleepy	CNS depression

UIM ORIGINAL

Naloxone = Nixes Opioid Breathing Depression

Used to remember: The role of naloxone

Nixes	Competitive opioid antagonist
Goal	Restore adequate ventilation rather than necessarily full alertness

UIM ORIGINAL

Naloxone May Wear Off Before the Opioid

Used to remember: The need for continued observation

Wear off	Duration can be shorter than many opioids
Risk	Recurrent respiratory depression can occur

UIM ORIGINAL

Benzodiazepines = Sleepy but Usually Stable

Used to remember: The typical isolated benzodiazepine overdose pattern

Sleepy	CNS depression/ataxia
Usually stable	Severe cardiovascular or respiratory toxicity is less common when taken alone

Co-ingestion with opioids, alcohol or other sedatives can markedly increase danger.

Tricyclic Antidepressants

TCA = 3 Cs: Coma, Convulsions, Cardiotoxicity

Used to remember: The major severe manifestations of tricyclic antidepressant poisoning

Coma	CNS depression
Convulsions	Seizures
Cardiotoxicity	Sodium-channel blockade, hypotension and arrhythmias

UIM ORIGINAL

Wide QRS = Sodium Channels Blocked

Used to remember: The ECG mechanism in significant TCA toxicity

Wide QRS	Ventricular depolarisation slows because fast sodium channels are blocked

UIM ORIGINAL

TCA + Wide QRS = Think Bicarbonate

Used to remember: The classic antidotal/supportive treatment association

Bicarbonate	Sodium bicarbonate is central in significant TCA cardiotoxicity, especially QRS widening, hypotension or ventricular dysrhythmia

Use current toxicology guidance for indications and dosing.

UIM ORIGINAL

aVR Points to TCA Trouble

Used to remember: A useful ECG clue in sodium-channel blockade

aVR	Terminal R wave/rightward terminal QRS axis in aVR can support significant TCA/sodium-channel-blocker toxicity

Beta-Blockers & Calcium-Channel Blockers

UIM ORIGINAL

Beta-Blocker = Brady, Low Pressure, Low Sugar

Used to remember: A classic severe beta-blocker poisoning pattern

Brady	Bradycardia
Low pressure	Hypotension
Low sugar	Hypoglycaemia can occur, particularly with some agents/children

UIM ORIGINAL

CCB = Brady, Low Pressure, High Sugar

Used to remember: A useful contrast with beta-blocker toxicity

Brady	Bradycardia/conduction disturbance
Low pressure	Vasodilation and/or cardiogenic shock
High sugar	Hyperglycaemia is common in significant CCB toxicity

UIM ORIGINAL

HIET = Insulin Helps the Heart Use Energy

Used to remember: The rationale for high-dose insulin euglycaemic therapy in severe cardiotoxic poisoning

Insulin	Improves myocardial carbohydrate utilisation and inotropy
Use	Important in severe calcium-channel-blocker and selected beta-blocker toxicity

This is specialist toxicology therapy requiring intensive glucose and potassium monitoring.

UIM ORIGINAL

BB vs CCB Sugar: Beta Low, Calcium High

Used to remember: A high-yield differentiating clue

Beta blockers	Can cause hypoglycaemia
CCBs	Often cause hyperglycaemia

Digoxin

UIM ORIGINAL

Digoxin = Slow Heart, Sick Gut, Strange Vision

Used to remember: Classic toxicity domains

Slow heart	Bradyarrhythmias/AV block or other dysrhythmias
Sick gut	Nausea, vomiting, abdominal symptoms
Strange vision	Colour/visual disturbance can occur

UIM ORIGINAL

Digoxin Potassium: Acute Up, Low K Makes Chronic Worse

Used to remember: The potassium relationships in digoxin toxicity

Acute overdose	Hyperkalaemia can accompany severe toxicity
Chronic toxicity	Hypokalaemia increases digoxin binding/toxicity risk

UIM ORIGINAL

Digoxin Fab = Fragments Bind the Drug

Used to remember: The mechanism of digoxin-specific antibody fragments

Fab fragments	Bind free digoxin and facilitate redistribution/elimination

Organophosphates & Carbamates

DUMBELS

Used to remember: Muscarinic cholinergic excess in organophosphate poisoning

D	Defecation
U	Urination
M	Miosis
B	Bronchorrhoea/bronchospasm/bradycardia
E	Emesis
L	Lacrimation
S	Salivation/sweating

UIM ORIGINAL

Organophosphate = Wet, Small Pupils, Weak

Used to remember: Three high-yield toxidrome domains

Wet	Secretions/bronchorrhoea/sweating
Small pupils	Miosis
Weak	Nicotinic neuromuscular weakness can occur

UIM ORIGINAL

Atropine Dries; Oxime Revives Enzyme

Used to remember: The complementary roles of atropine and oxime therapy

Atropine	Antagonises muscarinic effects, particularly bronchorrhoea/bradycardia
Oxime	Pralidoxime can reactivate acetylcholinesterase before irreversible ageing in organophosphate poisoning

Exact indications and dosing should follow current poisoning protocols.

UIM ORIGINAL

In Cholinergic Poisoning, Lungs Kill

Used to remember: The dominant immediate threat

Lungs	Bronchorrhoea, bronchospasm, respiratory muscle weakness and CNS depression can cause respiratory failure

Toxic Alcohols

UIM ORIGINAL

Methanol = Eyes; Ethylene Glycol = Kidneys

Used to remember: The classic target-organ distinction

Methanol	Optic nerve/retinal toxicity can cause visual loss
Ethylene glycol	Renal injury and calcium oxalate crystal deposition

UIM ORIGINAL

Toxic Alcohol = Gap First, Acidosis Later

Used to remember: The evolving laboratory pattern

Gap first	Osmolal gap may be prominent early
Acidosis later	Toxic metabolites produce high-anion-gap metabolic acidosis

Neither a normal osmolal gap nor anion gap excludes toxic alcohol poisoning.

UIM ORIGINAL

Fomepizole Freezes Alcohol Metabolism

Used to remember: The mechanism of fomepizole

Freezes metabolism	Inhibits alcohol dehydrogenase and prevents formation of toxic metabolites

UIM ORIGINAL

Ethylene Glycol = Calcium Oxalate

Used to remember: The classic urinary/metabolic association

Calcium oxalate	Crystals may occur; hypocalcaemia can develop

Carbon Monoxide & Cyanide

UIM ORIGINAL

CO = Headache in the House

Used to remember: A classic exposure clue for carbon monoxide poisoning

Headache	Common early symptom
House	Think enclosed-space combustion, heaters, fires or multiple similarly affected people

UIM ORIGINAL

CO Pulse Oximeter Can Lie

Used to remember: The limitation of standard pulse oximetry

Can lie	Conventional pulse oximetry cannot reliably distinguish oxyhaemoglobin from carboxyhaemoglobin

UIM ORIGINAL

Cyanide = Cells Can't Use Oxygen

Used to remember: The basic mechanism of cyanide toxicity

Can't use oxygen	Inhibits mitochondrial cytochrome oxidase, causing cellular hypoxia despite oxygen delivery

UIM ORIGINAL

Fire + Shock + High Lactate = Think Cyanide

Used to remember: A high-risk clinical context

Fire	Enclosed-space smoke exposure
Shock	Severe cardiovascular collapse
High lactate	Marked lactic acidosis can be a clue

Diagnosis is clinical and treatment should not wait for a cyanide level when suspicion is high.

UIM ORIGINAL

Hydroxocobalamin = Hydroxo Hugs Cyanide

Used to remember: The antidote association

Hydroxo	Hydroxocobalamin binds cyanide to form cyanocobalamin

Hypoglycaemic Agents

UIM ORIGINAL

Insulin = Glucose Down, Potassium In

Used to remember: Two acute metabolic effects of insulin excess

Glucose down	Hypoglycaemia
Potassium in	Intracellular potassium shift may lower serum potassium

UIM ORIGINAL

Sulfonylurea = Sugar Keeps Falling

Used to remember: The recurrent nature of sulfonylurea-induced hypoglycaemia

Keeps falling	Stimulated endogenous insulin secretion can cause recurrent/prolonged hypoglycaemia

UIM ORIGINAL

Octreotide = Stops Sulfonylurea Insulin

Used to remember: The antidotal role of octreotide

Stops insulin	Suppresses pancreatic insulin release and reduces recurrent hypoglycaemia

UIM ORIGINAL

Metformin = Lactate Problem, Not Low Sugar

Used to remember: The key severe toxicity distinction

Lactate	Severe poisoning can cause lactic acidosis
Not low sugar	Hypoglycaemia is not the usual isolated metformin toxicity pattern

Serotonin Syndrome & NMS

UIM ORIGINAL

Serotonin = Fast, Hot, Twitchy

Used to remember: The classic serotonin-toxicity pattern

Fast	Tachycardia/agitation
Hot	Hyperthermia
Twitchy	Clonus and hyperreflexia are characteristic

UIM ORIGINAL

NMS = Slow, Hot, Rigid

Used to remember: The classic neuroleptic malignant syndrome pattern

Slow	Develops more gradually than serotonin syndrome
Hot	Hyperthermia
Rigid	Severe 'lead-pipe' rigidity

UIM ORIGINAL

Serotonin Clonus; NMS Rigidity

Used to remember: A useful examination distinction

Serotonin syndrome	Clonus and hyperreflexia
NMS	Generalised rigidity with reduced/normal reflexes more typical

Real presentations overlap; medication history and time course are essential.

Selected Antidotes

UIM ORIGINAL

NAC = Paracetamol

Used to remember: N-acetylcysteine antidote pairing

NAC	Paracetamol/acetaminophen poisoning

UIM ORIGINAL

Naloxone = Opioids

Used to remember: Opioid antagonist pairing

Naloxone	Reverses opioid effects, particularly respiratory depression

UIM ORIGINAL

Atropine = Organophosphate Secretions

Used to remember: The muscarinic antidote association

Atropine	Treats muscarinic cholinergic features such as bronchorrhoea and bradycardia

UIM ORIGINAL

Fomepizole = Methanol + Ethylene Glycol

Used to remember: The toxic-alcohol antidote pairing

Fomepizole	Alcohol dehydrogenase inhibitor for methanol and ethylene glycol poisoning

UIM ORIGINAL

Hydroxocobalamin = Cyanide

Used to remember: The cyanide antidote pairing

Hydroxocobalamin	Binds cyanide

UIM ORIGINAL

Methylene Blue = Methaemoglobinaemia

Used to remember: The classic antidote pairing

Methylene blue	Reduces methaemoglobin in appropriate patients

Important contraindications/cautions exist, including G6PD deficiency and serotonergic interactions.

UIM ORIGINAL

Pyridoxine = Isoniazid

Used to remember: The classic antidote pairing

Pyridoxine	Vitamin B6 for isoniazid-induced seizures/toxicity

UIM ORIGINAL

Digoxin Fab = Digoxin

Used to remember: The specific antibody antidote pairing

Digoxin-specific Fab	For severe digoxin toxicity

Rapid Reference

Mnemonic	What it recalls
ABCDE Before Antidote	Initial poisoning assessment
Patient, Packet, Pattern	Toxicology diagnosis
Pinpoint, Slow Breathing, Sleepy	Opioid toxidrome
Hot, Dry, Blind, Red, Mad	Anticholinergic toxidrome
Hot, Wet, Wide, Wired	Sympathomimetic toxidrome
DUMBELS	Cholinergic toxidrome
Paracetamol = Quiet Early, Liver Later	Paracetamol
NAPQI Nasty; NAC Neutralises	Paracetamol antidote
Salicylate = Fast Breathing + Acid	Salicylate toxicity
TCA = Coma, Convulsions, Cardiotoxicity	TCA
Wide QRS = Sodium Block	TCA/sodium-channel blockers
Beta Low Sugar; Calcium High Sugar	BB vs CCB
Digoxin = Slow Heart, Sick Gut, Strange Vision	Digoxin
Atropine Dries; Oxime Revives	Organophosphates
Methanol = Eyes; Ethylene Glycol = Kidneys	Toxic alcohols
Gap First, Acidosis Later	Toxic alcohols
CO Pulse Oximeter Can Lie	CO poisoning
Hydroxo Hugs Cyanide	Cyanide
Sulfonylurea = Sugar Keeps Falling	Sulfonylurea
Serotonin = Fast, Hot, Twitchy	Serotonin syndrome
NMS = Slow, Hot, Rigid	NMS
Pyridoxine = Isoniazid	Antidote

Discovery & Verification Sources

Mnemonic discovery: LITFL Toxicology Library and Antidotes Library; Geeky Medics and Epomedicine toxicology mnemonics where relevant; and other sources specified for the Updates in Medicine mnemonic-book project.

Independent verification: 2026 StatPearls paracetamol toxicity review; current StatPearls salicylate references; LITFL drug, toxin and antidote monographs; standard emergency toxicology references. The paracetamol section reflects current use of a timed concentration after a single acute ingestion and emphasises early N-acetylcysteine. Salicylate content highlights the characteristic respiratory alkalosis plus metabolic acidosis and the importance of serial concentrations and pH. Exact decontamination, antidote, alkalinisation and dialysis protocols are deliberately not reduced to memory shortcuts.

UIM Original entries are clearly labelled. Seek specialist poison-centre/toxicology advice for significant or uncertain poisoning.

PART IV | SURGERY

GENERAL SURGERY MNEMONICS

A comprehensive, clinically verified collection of general surgical memory aids

Editorial approach
Only genuine memory devices are included. Surgical scores, staging systems and management algorithms are not presented merely because they use abbreviations. Where a traditional mnemonic is oversimplified, the limitation is stated.

Contents

Acute Abdomen
Appendicitis
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Bowel Ischaemia & Perforation
Hernias
Gallbladder & Biliary Surgery
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Colorectal & Anorectal Surgery
Breast Surgery
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Vascular Surgical Emergencies
Postoperative Complications
Stomas & Wounds
Rapid Reference

Acute Abdomen

6 Fs = Fat, Fluid, Flatus, Faeces, Fetus, Fulminant Mass

Used to remember: The classic causes of abdominal distension

Fat	Adiposity
Fluid	Ascites
Flatus	Gas/distended bowel
Faeces	Faecal loading
Fetus	Pregnancy
Fulminant mass	Large abdominal or pelvic mass

The wording of the final F varies across teaching traditions; the clinical category is an intra-abdominal mass.

UIM ORIGINAL

Peritonitis = Pain with Movement

Used to remember: A bedside clue to parietal peritoneal irritation

Movement	Coughing, percussion and movement worsen pain; patients often prefer to lie still

UIM ORIGINAL

Colic Comes in Waves; Peritonitis Stays

Used to remember: The contrast between hollow-viscus colic and peritoneal pain

Colic	Intermittent cramping pain accompanies peristalsis
Peritonitis	Pain tends to become constant and movement-sensitive

UIM ORIGINAL

Acute Abdomen: Bleed, Block, Burst, Inflame, Ischaemia

Used to remember: Five dangerous surgical mechanisms to consider early

Bleed	Intra-abdominal haemorrhage
Block	Bowel/viscus obstruction
Burst	Perforated viscus/ruptured structure
Inflame	Appendicitis, cholecystitis, pancreatitis and related disease
Ischaemia	Mesenteric or strangulated bowel ischaemia

Appendicitis

UIM ORIGINAL

Appendix Starts Central, Settles Right

Used to remember: The classic migration of appendicitis pain

Central	Early visceral pain is typically poorly localised/periumbilical
Right	Later parietal irritation localises pain to the right iliac fossa

UIM ORIGINAL

Appendicitis = Pain Before Vomiting

Used to remember: A classic historical clue in appendicitis

Pain first	Abdominal pain classically precedes nausea/vomiting
Contrast	Vomiting clearly preceding pain may suggest another diagnosis

This is only a supporting clue; presentations vary.

UIM ORIGINAL

Appendix Obstructs, Swells, Ischaemias, Perforates

Used to remember: The pathological sequence of untreated appendicitis

Obstructs	Luminal obstruction
Swells	Pressure and inflammation increase
Ischaemias	Venous congestion and wall ischaemia
Perforates	Necrosis may progress to perforation

Bowel Obstruction

UIM ORIGINAL

Four Ps = Pain, Puke, Puff, No Passage

Used to remember: The cardinal clinical pattern of bowel obstruction

Pain	Colicky abdominal pain
Puke	Vomiting
Puff	Abdominal distension
No passage	Absolute constipation/obstipation

The relative prominence and timing depend on the level and completeness of obstruction.

UIM ORIGINAL

Small Bowel = Adhesions + Hernias; Large Bowel = Cancer + Volvulus

Used to remember: Common causes by level

Small bowel	Postoperative adhesions and hernias are major causes
Large bowel	Malignancy and volvulus are important causes

UIM ORIGINAL

Proximal = Vomits Early; Distal = Distends More

Used to remember: How obstruction level changes presentation

Proximal	Vomiting tends to occur earlier
Distal	Greater abdominal distension and later vomiting

UIM ORIGINAL

Halfway Haustra; Valvulae Go the Whole Way

Used to remember: The radiographic fold distinction between large and small bowel

Haustra	Do not usually cross the full bowel lumen
Valvulae conniventes	Cross the full small-bowel lumen

UIM ORIGINAL

Strangulation = Pain Becomes Constant + Patient Becomes Sick

Used to remember: A warning pattern for ischaemic bowel in obstruction

Constant pain	Pain may lose its purely colicky pattern
Sick	Peritonism, fever, tachycardia, acidosis or systemic toxicity raise concern

Bowel Ischaemia & Perforation

UIM ORIGINAL

Mesenteric Ischaemia = Pain Out of Proportion

Used to remember: The classic early clinical clue

Pain	Severe abdominal pain may be disproportionate to relatively modest early examination findings

UIM ORIGINAL

Dead Bowel = Pain, Acidosis, Peritonitis

Used to remember: Three concerning domains in advanced bowel ischaemia

Pain	Severe or worsening
Acidosis	Lactate/metabolic acidosis may develop
Peritonitis	Late sign suggesting infarction/perforation

Normal lactate does not exclude early mesenteric ischaemia.

UIM ORIGINAL

Perforation = Sudden Pain + Rigid Abdomen + Free Air

Used to remember: The classic perforated-viscus pattern

Sudden pain	Often abrupt and severe
Rigid abdomen	Generalised guarding/rigidity may occur
Free air	Pneumoperitoneum may be visible on imaging

Hernias

MDs Don't LIe

Used to remember: Direct versus indirect inguinal hernia position relative to inferior epigastric vessels

MD	Medial = Direct
LI	Lateral = Indirect

NAVEL

Used to remember: Structures around the femoral triangle from lateral to medial

N	Nerve
A	Artery
V	Vein
E	Empty space/femoral canal
L	Lymphatics

The femoral hernia emerges through the femoral canal, medial to the femoral vein.

UIM ORIGINAL

Indirect = Into the Internal Ring

Used to remember: The route of an indirect inguinal hernia

Internal ring	Enters the deep inguinal ring and may track through the canal

UIM ORIGINAL

Femoral = Female, Below, Strangulates

Used to remember: Three useful clues to femoral hernia

Female	More common in women
Below	Lump lies below the inguinal ligament
Strangulates	Relatively high risk of incarceration/strangulation

UIM ORIGINAL

Hernia Emergency = Irreducible + Painful + Sick

Used to remember: A warning pattern for incarceration/strangulation

Irreducible	No longer reducible
Painful	Increasing pain/tenderness
Sick	Obstruction, systemic toxicity or peritonism may occur

Gallbladder & Biliary Surgery

UIM ORIGINAL

Murphy = Inspiration Stops

Used to remember: The bedside Murphy sign

Inspiration	Deep inspiration brings the inflamed gallbladder against the examiner's hand
Stops	Pain causes abrupt inspiratory arrest

UIM ORIGINAL

Charcot = Pain, Pyrexia, Pigment

Used to remember: The classic triad of acute cholangitis

Pain	Right upper quadrant pain
Pyrexia	Fever
Pigment	Jaundice

The complete triad is not sensitive; absence does not exclude cholangitis.

UIM ORIGINAL

Reynolds Adds Pressure + Personality

Used to remember: The two severe features added to Charcot's triad

Pressure	Hypotension/shock
Personality	Altered mental state

UIM ORIGINAL

Gallstone Complications = Bladder, Duct, Pancreas, Bowel

Used to remember: Major destinations/complications of gallstones

Bladder	Cholecystitis
Duct	Choledocholithiasis/cholangitis
Pancreas	Gallstone pancreatitis
Bowel	Gallstone ileus

Pancreas

I GET SMASHED

Used to remember: Important causes of acute pancreatitis

I	Idiopathic
G	Gallstones
E	Ethanol
T	Trauma
S	Steroids
M	Mumps/other infections
A	Autoimmune
S	Scorpion sting
H	Hypertriglyceridaemia / hypercalcaemia
E	ERCP
D	Drugs

A cause checklist rather than a ranking; gallstones and alcohol are among the commonest causes in many populations.

UIM ORIGINAL

Pancreas Pain = Epigastrium to Back

Used to remember: The classic pain radiation of acute pancreatitis

Epigastrium	Severe upper abdominal pain
Back	Often radiates through to the back

UIM ORIGINAL

Cullen Centre; Grey Turner Sides

Used to remember: Locations of two haemorrhagic signs

Cullen	Periumbilical ecchymosis
Grey Turner	Flank ecchymosis

Both are uncommon and not specific to pancreatitis.

UIM ORIGINAL

Pancreatic Cancer = Painless Jaundice + Weight Loss

Used to remember: A classic presentation of pancreatic-head malignancy

Painless jaundice	Obstructive jaundice may be painless
Weight loss	Common constitutional feature

Upper GI Surgery

UIM ORIGINAL

Dysphagia: Solids First = Structure; Solids + Liquids = Motility

Used to remember: A classic distinction in oesophageal dysphagia

Solids first	Suggests mechanical narrowing
Solids + liquids from onset	Suggests motility disorder

UIM ORIGINAL

Boerhaave = Vomit Then Violent Chest Pain

Used to remember: The classic presentation of spontaneous oesophageal rupture

Vomit	Forceful vomiting/retching
Chest pain	Sudden severe chest/upper abdominal pain

UIM ORIGINAL

Mallory-Weiss = Vomit Then Blood

Used to remember: The classic sequence in a mucosal tear

Vomiting/retching	Precedes tear
Blood	Haematemesis follows

UIM ORIGINAL

Gastric Outlet Obstruction = Vomit Old Food, Succussion Splash

Used to remember: Two classic clues

Old food	Non-bilious vomiting of retained gastric contents
Splash	Succussion splash from retained gastric fluid/gas

Colorectal & Anorectal Surgery

UIM ORIGINAL

Right Colon = Anaemia; Left Colon = Obstruction

Used to remember: Typical contrasting colorectal-cancer presentations

Right	Occult blood loss and iron-deficiency anaemia are common
Left	Change in bowel habit and obstructive symptoms are more likely

There is substantial overlap.

UIM ORIGINAL

Diverticulitis = Left Lower Pain + Fever

Used to remember: The classic sigmoid diverticulitis pattern in Western populations

Left lower pain	Common due to sigmoid disease
Fever	Inflammatory/infective features may occur

UIM ORIGINAL

Haemorrhoids: Internal = Painless Bleeding; External Thrombosed = Painful

Used to remember: A useful anorectal distinction

Internal	Bright red bleeding/prolapse; usually painless unless complicated
External thrombosed	Acute painful perianal lump

UIM ORIGINAL

Anal Fissure = Pain During and After Poo

Used to remember: The characteristic pain timing

During/after defecation	Severe tearing pain often persists after passing stool

Breast Surgery

UIM ORIGINAL

Breast Triple Assessment = Examine, Image, Sample

Used to remember: The three complementary domains used to assess a breast lump

Examine	Clinical history and examination
Image	Age/setting-appropriate breast imaging
Sample	Cytology or core biopsy when indicated

UIM ORIGINAL

Malignant Lump = Hard, Irregular, Fixed

Used to remember: Features that raise concern in a breast mass

Hard	Firm/hard consistency
Irregular	Irregular contour
Fixed	Reduced mobility/fixation

No single physical sign reliably excludes or confirms breast cancer.

UIM ORIGINAL

Breast Cancer Travels: Bone, Lung, Liver, Brain

Used to remember: Common distant metastatic sites

Bone	Very common
Lung	Common
Liver	Common
Brain	Important metastatic site

Thyroid & Neck Surgery

UIM ORIGINAL

Thyroid Lump = Function, Structure, Nodes

Used to remember: Three major domains in thyroid-nodule assessment

Function	Thyroid function tests
Structure	Ultrasound morphology
Nodes	Cervical lymph-node assessment

UIM ORIGINAL

Recurrent Laryngeal = Voice; External Superior = Pitch

Used to remember: The memorable vocal consequences of laryngeal nerve injury

Recurrent laryngeal	Vocal cord paresis/hoarseness
External superior laryngeal	Loss of high-pitch projection from cricothyroid weakness

UIM ORIGINAL

Post-Thyroidectomy = Airway, Bleeding, Calcium, Voice

Used to remember: Four immediate postoperative concerns

Airway	Compression/airway compromise
Bleeding	Expanding neck haematoma
Calcium	Hypocalcaemia from hypoparathyroidism
Voice	Laryngeal nerve dysfunction

UIM ORIGINAL

Neck Haematoma = Swelling + Stridor = Surgical Emergency

Used to remember: The danger of post-thyroidectomy neck bleeding

Swelling	Rapid neck swelling/tightness
Stridor	Airway compression may progress rapidly

Vascular Surgical Emergencies

Six Ps

Used to remember: The classic features of acute limb ischaemia

P1	Pain
P2	Pallor
P3	Pulselessness
P4	Paraesthesia
P5	Paralysis
P6	Poikilothermia/coldness

UIM ORIGINAL

AAA = Abdomen, Aorta, Aneurysm - Pain + Pulse + Pressure Fall

Used to remember: A memorable ruptured-AAA pattern

Pain	Abdominal/back pain
Pulse	Pulsatile abdominal mass may be present
Pressure fall	Hypotension/shock may occur

The complete classic triad is often absent.

UIM ORIGINAL

Acute Limb: Numb or Weak = Nerve Ischaemia = Urgent

Used to remember: Why neurological deficits indicate threatened limb

Numb	Sensory loss
Weak	Motor weakness/paralysis
Urgent	Suggests advanced ischaemia requiring immediate vascular assessment

Postoperative Complications

UIM ORIGINAL

Post-op Fever = Chest, Urine, Wound, Clot, Drug

Used to remember: A practical source checklist for postoperative fever

Chest	Pneumonia/aspiration and other respiratory infection
Urine	UTI
Wound	Surgical-site or intra-abdominal infection
Clot	DVT/PE can cause fever
Drug	Drug fever/transfusion and other non-infectious causes

Avoid rigid 'postoperative day' rules: timing overlaps and should not replace clinical assessment.

UIM ORIGINAL

Anastomotic Leak = Pain, Pulse, Pyrexia, Peritonism

Used to remember: A warning cluster for postoperative anastomotic leak

Pain	New or worsening abdominal pain
Pulse	Unexplained tachycardia
Pyrexia	Fever
Peritonism	Guarding/rigidity may occur

UIM ORIGINAL

Ileus = Silent, Distended, No Passage

Used to remember: The classic postoperative ileus pattern

Silent	Reduced bowel sounds may occur
Distended	Abdominal distension
No passage	Delayed flatus/stool with nausea/vomiting

UIM ORIGINAL

Wound Dehiscence = Pink Fluid Before It Splits

Used to remember: A classic warning sign of fascial dehiscence

Pink fluid	Sudden serosanguineous discharge can precede wound separation

Any concern for fascial dehiscence/evisceration requires urgent surgical review.

Stomas & Wounds

UIM ORIGINAL

Ileostomy = Spout; Colostomy = Flatter

Used to remember: A visual distinction between common stomas

Ileostomy	Typically spouted to protect skin from liquid effluent
Colostomy	Often more flush or less spouted

UIM ORIGINAL

Ileostomy = Liquid + High Output Risk

Used to remember: The characteristic output and physiological concern

Liquid	Usually looser effluent
High output	Can cause dehydration, sodium/magnesium loss and AKI

UIM ORIGINAL

Stoma Check = Colour, Output, Skin, Size

Used to remember: Four practical stoma-review domains

Colour	Viability/perfusion
Output	Volume and character
Skin	Peristomal condition
Size	Retraction, prolapse, stenosis or swelling

UIM ORIGINAL

Wound Infection = Red, Hot, Painful, Pus

Used to remember: The classic surgical-site infection pattern

Red	Erythema
Hot	Warmth
Painful	Increasing tenderness
Pus	Purulent discharge/collection

Rapid Reference

Mnemonic	What it recalls
6 Fs	Abdominal distension
Colic Comes in Waves; Peritonitis Stays	Abdominal pain
Appendix Starts Central, Settles Right	Appendicitis
Four Ps = Pain, Puke, Puff, No Passage	Bowel obstruction
Halfway Haustra; Valvulae Whole Way	Bowel radiograph
Pain Out of Proportion	Mesenteric ischaemia
MDs Don't LIe	Direct vs indirect inguinal hernia
NAVEL	Femoral triangle
Femoral = Female, Below, Strangulates	Femoral hernia
Murphy = Inspiration Stops	Cholecystitis
Pain, Pyrexia, Pigment	Cholangitis
I GET SMASHED	Pancreatitis
Cullen Centre; Grey Turner Sides	Retroperitoneal bleeding
Solids First = Structure	Dysphagia
Vomit Then Violent Chest Pain	Boerhaave
Right Colon Anaemia; Left Colon Obstruction	Colorectal cancer
Pain During and After Poo	Anal fissure
Examine, Image, Sample	Breast triple assessment
Airway, Bleeding, Calcium, Voice	Post-thyroidectomy
Six Ps	Acute limb ischaemia
Chest, Urine, Wound, Clot, Drug	Post-op fever
Pain, Pulse, Pyrexia, Peritonism	Anastomotic leak
Ileostomy = Spout	Stoma recognition

Discovery & Verification Sources

Mnemonic discovery: TeachMeSurgery general-surgery and perioperative resources; Geeky Medics and Zero to Finals surgical teaching; Epomedicine where relevant; and the wider resource list specified for the Updates in Medicine mnemonic-book project.

Independent verification: TeachMeSurgery 2026 appendicitis and bowel-obstruction resources; NCBI Bookshelf/StatPearls on appendicitis, acute abdomen and small-bowel obstruction; standard general-surgery references. The bowel-obstruction section reflects current teaching that adhesions and hernias are major small-bowel causes, while malignancy and volvulus are important large-bowel causes. Closed-loop obstruction, ischaemia and perforation are treated as surgical emergencies. The traditional postoperative '5 Ws' timing rule was deliberately not used; instead, a source checklist is provided because postoperative-fever timing substantially overlaps.

UIM Original entries are clearly labelled. These mnemonics support recall and do not replace imaging, operative judgement or current surgical protocols.

PART IV | SURGERY

ORTHOPAEDICS MNEMONICS

A comprehensive, clinically verified collection of orthopaedic memory aids

Editorial approach
Only genuine memory devices are included. Orthopaedic classifications are included only where the mnemonic itself genuinely aids recall. Traditional emergency mnemonics are qualified when they describe late rather than early findings.

Contents

Fracture Assessment
Compartment Syndrome
Paediatric Fractures
Shoulder & Upper Limb
Hand & Wrist
Hip & Femur
Knee
Ankle & Foot
Spine & Cauda Equina
Bone Infection
Bone Tumours
Metabolic Bone Disease
Orthopaedic Nerve Injuries
Trauma Pearls
Rapid Reference

Fracture Assessment

UIM ORIGINAL

Fracture = Look, Feel, Move, Nerves, Vessels

Used to remember: A systematic limb assessment after fracture

Look	Deformity, swelling, skin compromise, wounds
Feel	Tenderness, crepitus, compartment tension
Move	Active/passive movement where safe
Nerves	Motor and sensory examination
Vessels	Pulse, capillary refill, temperature and colour

UIM ORIGINAL

Open Fracture = Bone Communicates with Outside

Used to remember: The defining concept of an open fracture

Communication	Any fracture with a wound communicating with the fracture/haematoma is open, even if bone is not visible

UIM ORIGINAL

Displacement = Describe the Distal Fragment

Used to remember: The convention for describing fracture displacement

Distal fragment	Angulation, translation and displacement are conventionally described by the position of the distal fragment relative to the proximal fragment

UIM ORIGINAL

Before and After: Nerves and Vessels

Used to remember: The need to repeat neurovascular examination around manipulation

Before	Document baseline neurovascular status
After	Repeat after reduction, splintage or operative intervention

Compartment Syndrome

UIM ORIGINAL

Pain, Passive Stretch, Pressure

Used to remember: The key early clinical warning pattern of acute compartment syndrome

Pain	Pain out of proportion to the apparent injury
Passive stretch	Pain with passive stretch of muscles in the compartment
Pressure	Tense swollen compartment / rising compartment pressure

UIM ORIGINAL

5 Ps = Mostly Late

Used to remember: Why the traditional five Ps must be interpreted cautiously

Pain	Can be early
Paraesthesia	May occur
Pallor	Usually later
Paralysis	Late
Pulselessness	Very late and may be absent

Do not wait for all five Ps. Pulselessness is particularly late and uncommon unless there is associated arterial injury.

UIM ORIGINAL

Compartment = Closed Box, Rising Pressure

Used to remember: The underlying mechanism

Closed box	Muscle compartments have limited capacity to expand
Rising pressure	Compromises capillary perfusion and eventually nerve/muscle viability

UIM ORIGINAL

Time Is Muscle and Nerve

Used to remember: The urgency of suspected compartment syndrome

Time	Delay increases risk of irreversible muscle necrosis, nerve injury and systemic complications

Paediatric Fractures

SALTeR

Used to remember: Salter-Harris physeal fracture types I-V

S - I	Slipped / Straight through the physis
A - II	Above - physis + metaphysis
L - III	Lower - physis + epiphysis
T - IV	Through everything - metaphysis, physis and epiphysis
R - V	Rammed - crush injury of the physis

Type II is the commonest. Higher-grade injuries generally carry greater risk of growth disturbance.

UIM ORIGINAL

Type II = Two: Physis + Metaphysis

Used to remember: A quick recall of the commonest Salter-Harris pattern

II	Crosses physis and exits through metaphysis; may leave a Thurston-Holland metaphyseal fragment

UIM ORIGINAL

SCFE = Slip in a Heavy Teen with Hip or Knee Pain

Used to remember: The classic clinical pattern of slipped capital femoral epiphysis

Slip	Physeal slip of the proximal femur
Heavy teen	Obesity is the strongest common risk factor
Hip or knee pain	Pain may be referred to the knee; limp and loss of internal rotation are common

UIM ORIGINAL

SCFE = Don't Make Them Walk

Used to remember: The immediate safety principle when SCFE is suspected

Non-weight-bearing	Further displacement can worsen instability and complications; urgent orthopaedic assessment is required

UIM ORIGINAL

Children Bend Before They Break Completely

Used to remember: Why paediatric fractures differ from adult fractures

Bend	Greenstick and buckle/torus fractures occur because paediatric bone is more pliable

Shoulder & Upper Limb

SITS

Used to remember: The rotator cuff muscles

S	Supraspinatus
I	Infraspinatus
T	Teres minor
S	Subscapularis

UIM ORIGINAL

Supraspinatus Starts Abduction

Used to remember: The classic first phase of shoulder abduction

Starts	Supraspinatus initiates the first part of abduction before the deltoid becomes the major mover

UIM ORIGINAL

Axillary Nerve = Badge Patch

Used to remember: The sensory area to test after shoulder dislocation

Badge patch	Regimental-badge area over the lateral deltoid

UIM ORIGINAL

Anterior Shoulder Dislocation = Arm Out and Turned Out

Used to remember: The characteristic limb position

Out	Abducted
Turned out	Externally rotated

UIM ORIGINAL

Posterior Dislocation = Think Seizure or Shock

Used to remember: Two classic mechanisms

Seizure	Powerful internal rotator contraction
Shock	Electrical injury

Hand & Wrist

Some Lovers Try Positions That They Can't Handle

Used to remember: The carpal bones from lateral to medial

S	Scaphoid
L	Lunate
T	Triquetrum
P	Pisiform
T	Trapezium
T	Trapezoid
C	Capitate
H	Hamate

UIM ORIGINAL

Scaphoid = Snuffbox + Slow Blood

Used to remember: Two key scaphoid-fracture facts

Snuffbox	Anatomical snuffbox tenderness is a classic clue
Slow blood	Retrograde blood supply makes the proximal pole vulnerable to avascular necrosis/non-union

UIM ORIGINAL

FOOSH Finds the Scaphoid

Used to remember: The classic mechanism of scaphoid fracture

FOOSH	Fall on an outstretched hand

UIM ORIGINAL

Lunate = Cup Tips Forward

Used to remember: A simple image for lunate dislocation on lateral wrist radiograph

Cup	The lunate is cup-shaped
Tips forward	In lunate dislocation it rotates volarly - the classic spilled-teacup appearance

Median = LOAF

Used to remember: The main recurrent-median-nerve muscles in the hand

L	Lateral two lumbricals
O	Opponens pollicis
A	Abductor pollicis brevis
F	Flexor pollicis brevis

Hip & Femur

UIM ORIGINAL

Neck of Femur = Short, Externally Rotated Leg

Used to remember: The classic displaced intracapsular hip-fracture posture

Short	Limb shortening
Externally rotated	Foot often lies externally rotated

UIM ORIGINAL

Intracapsular = Blood Supply in Danger

Used to remember: Why intracapsular femoral-neck fractures are important

Blood supply	Retinacular vessels to the femoral head may be disrupted, increasing risk of avascular necrosis and non-union

UIM ORIGINAL

Intertrochanteric = Outside Capsule, Bleeds More

Used to remember: A useful contrast with intracapsular femoral-neck fracture

Outside capsule	Extracapsular
Bleeds more	Can cause substantial occult blood loss into tissues

UIM ORIGINAL

Hip Dislocation = Posterior Most Common

Used to remember: The common direction of traumatic native-hip dislocation

Posterior	Most traumatic hip dislocations are posterior, classically with the hip flexed, adducted and internally rotated

UIM ORIGINAL

Posterior Hip = Sciatic Nerve

Used to remember: The major nerve at risk in posterior hip dislocation

Sciatic nerve	Especially the peroneal division

Knee

UIM ORIGINAL

ACL = Anterior Drawer; PCL = Posterior Drawer

Used to remember: The direction of tibial translation tested

ACL	Resists anterior tibial translation
PCL	Resists posterior tibial translation

UIM ORIGINAL

ACL = Pivot and Pop

Used to remember: A classic non-contact ACL injury story

Pivot	Twisting/pivoting mechanism
Pop	Audible or felt pop with rapid haemarthrosis

Unhappy Triad = ACL + MCL + Medial Meniscus

Used to remember: The traditional knee injury triad

ACL	Anterior cruciate ligament
MCL	Medial collateral ligament
Medial meniscus	Traditional teaching component

Modern injury-pattern studies show that associated lateral meniscal injury is also common; use this as a historical recall aid.

UIM ORIGINAL

Locked Knee = Think Meniscus

Used to remember: A mechanical block to extension

Meniscus	Displaced bucket-handle meniscal tear is a classic cause of true locking

Ankle & Foot

UIM ORIGINAL

Ottawa = Bone Tenderness + Can't Walk

Used to remember: The broad concept behind ankle/foot radiography decision rules

Bone tenderness	Specific malleolar/midfoot bony tenderness
Can't walk	Inability to bear weight is part of the rule

The Ottawa Ankle Rules are a validated decision rule, not merely a mnemonic. Use the complete current rule rather than this phrase for decisions.

UIM ORIGINAL

Achilles = Pop Behind + Can't Push Off

Used to remember: The classic Achilles tendon rupture story

Pop behind	Sudden posterior ankle/calf snap or 'kicked' sensation
Can't push off	Weak plantar flexion and impaired toe-off

UIM ORIGINAL

Jones = Fifth Metatarsal, Junction Trouble

Used to remember: The location and healing concern in a Jones fracture

Fifth metatarsal	Proximal fifth metatarsal
Junction trouble	Metaphyseal-diaphyseal watershed region has non-union risk

UIM ORIGINAL

Lisfranc = Midfoot + Plantar Bruise

Used to remember: A classic high-risk clue to tarsometatarsal injury

Midfoot	Pain/swelling over tarsometatarsal region
Plantar bruise	Plantar ecchymosis is highly suggestive

Spine & Cauda Equina

UIM ORIGINAL

Cauda Equina = Saddle, Sphincter, Sciatica

Used to remember: Three red-flag domains of cauda equina syndrome

Saddle	Perineal/saddle sensory change
Sphincter	Bladder, bowel or sexual dysfunction
Sciatica	Often bilateral radicular pain or neurological deficit

UIM ORIGINAL

Back Pain Red Flags = Cancer, Infection, Fracture, Cord

Used to remember: Four dangerous categories to exclude

Cancer	Known malignancy, weight loss, night pain
Infection	Fever, immunosuppression, IV drug use
Fracture	Trauma, osteoporosis, steroid exposure
Cord	Weakness, sphincter disturbance, saddle anaesthesia

UIM ORIGINAL

Cervical Myelopathy = Hands Clumsy, Legs Stiff

Used to remember: A classic clinical contrast

Hands clumsy	Loss of dexterity, hand numbness
Legs stiff	Spastic gait and upper-motor-neuron signs in legs

UIM ORIGINAL

Cord Compression = Pain, Weakness, Sphincter

Used to remember: Three major warning domains

Pain	Back/radicular pain
Weakness	Motor deficit
Sphincter	Bladder/bowel dysfunction

Bone Infection

UIM ORIGINAL

Osteomyelitis = Bone Pain + Infection Clues

Used to remember: The basic clinical pattern

Bone pain	Focal deep pain/tenderness
Infection clues	Fever, raised inflammatory markers, wound or bacteraemia may be present

UIM ORIGINAL

Septic Joint = Hot, Painful, Won't Move

Used to remember: The classic septic arthritis pattern

Hot	Inflamed joint
Painful	Severe pain
Won't move	Both active and passive movement are markedly restricted

UIM ORIGINAL

Hot Monoarthritis = Tap It

Used to remember: Why aspiration matters

Tap	Synovial-fluid analysis is usually needed when septic arthritis is possible

Crystal arthritis and septic arthritis can coexist.

UIM ORIGINAL

Diabetic Foot Bone Infection = Ulcer to Bone

Used to remember: A useful pathway to osteomyelitis

Ulcer	Chronic neuropathic ulcer
Bone	Deep infection may extend contiguously to bone

Bone Tumours

UIM ORIGINAL

Osteosarcoma = Around the Knee

Used to remember: The classic anatomical distribution

Around knee	Distal femur and proximal tibia are common sites

UIM ORIGINAL

Osteosarcoma = Sunburst + Codman

Used to remember: Two classic radiographic associations

Sunburst	Aggressive periosteal bone formation
Codman triangle	Elevated periosteum at lesion edge

UIM ORIGINAL

Ewing = Onion Skin, Young, Shaft

Used to remember: The classic pattern of Ewing sarcoma

Onion skin	Lamellated periosteal reaction
Young	Children/adolescents
Shaft	Diaphyseal predilection

UIM ORIGINAL

Giant Cell Tumour = Soap Bubble Near the Joint

Used to remember: The classic radiographic/location pattern

Soap bubble	Expansile lytic appearance
Near joint	Epiphyseal/subarticular location in skeletally mature patients

UIM ORIGINAL

Bone Mets = More Common than Primary Malignant Bone Tumours

Used to remember: An important adult oncology principle

Metastases	In adults, metastatic bone disease is much more common than a primary malignant bone tumour

Metabolic Bone Disease

UIM ORIGINAL

Osteoporosis = Porous Bone, Normal Chemistry

Used to remember: A key distinction from osteomalacia

Porous bone	Reduced bone mass and microarchitectural deterioration
Normal chemistry	Serum calcium/phosphate/ALP are often normal in uncomplicated osteoporosis

UIM ORIGINAL

Osteomalacia = Soft Bone, Vitamin D Problem

Used to remember: The core concept of osteomalacia

Soft bone	Defective mineralisation of osteoid
Vitamin D problem	Vitamin D deficiency is a common cause

UIM ORIGINAL

Paget = Big Bone, Big ALP

Used to remember: Two high-yield clues to Paget disease

Big bone	Bone enlargement/deformity may occur
Big ALP	Alkaline phosphatase is often raised with normal calcium/phosphate

UIM ORIGINAL

Paget = Picture-Frame Spine

Used to remember: A classic radiographic association

Picture frame	Cortical thickening around vertebral body can create a picture-frame appearance

Orthopaedic Nerve Injuries

UIM ORIGINAL

Radial = Wrist Drop

Used to remember: The classic motor deficit of radial nerve palsy

Wrist drop	Loss of wrist/finger extension

UIM ORIGINAL

Median = Thenar + Thumb Opposition

Used to remember: The characteristic hand-function deficit

Thenar	Thenar weakness/wasting
Opposition	Loss of thumb opposition in severe median neuropathy

UIM ORIGINAL

Ulnar = Claw the Little Fingers

Used to remember: The characteristic motor pattern

Claw	Clawing of ring and little fingers can occur
Little fingers	Ulnar-innervated interossei and medial lumbricals are affected

UIM ORIGINAL

Common Peroneal = Foot Drop

Used to remember: The classic motor deficit

Foot drop	Weak ankle dorsiflexion and eversion

UIM ORIGINAL

Femoral = Can't Kick; Sciatic = Can't Push/Pull the Foot

Used to remember: A broad motor recall aid

Femoral	Weak knee extension
Sciatic	Major weakness below the knee depending on lesion level

Trauma Pearls

UIM ORIGINAL

Fracture + Pulse Gone = Vascular Emergency

Used to remember: The importance of vascular compromise after limb trauma

Pulse gone	Absent/diminished pulses, cool limb or poor perfusion require immediate reassessment and urgent vascular/orthopaedic action

UIM ORIGINAL

Dislocation = Reduce, Then Recheck Nerves and Vessels

Used to remember: A core post-reduction safety step

Reduce	Timely reduction when indicated
Recheck	Repeat and document neurovascular examination

UIM ORIGINAL

Open Fracture = Cover, Antibiotics, Tetanus, Theatre

Used to remember: Four urgent management domains

Cover	Sterile dressing and protect wound
Antibiotics	Early IV antimicrobial prophylaxis
Tetanus	Assess prophylaxis
Theatre	Urgent orthopaedic debridement/fixation planning

Exact antibiotic choice and operative timing should follow current local open-fracture protocols.

UIM ORIGINAL

Never Miss: Compartment, Cauda, Septic Joint, Open Fracture

Used to remember: Four time-critical orthopaedic emergencies

Compartment	Acute compartment syndrome
Cauda	Cauda equina syndrome
Septic joint	Septic arthritis
Open fracture	Open fracture with contamination/soft-tissue injury

Rapid Reference

Mnemonic	What it recalls
Look, Feel, Move, Nerves, Vessels	Fracture assessment
Pain + Passive Stretch + Pressure	Compartment syndrome
5 Ps = Mostly Late	Compartment syndrome caveat
SALTeR	Salter-Harris fractures
SCFE = Heavy Teen + Hip/Knee Pain	SCFE
SITS	Rotator cuff
Badge Patch	Axillary nerve
Some Lovers Try Positions...	Carpal bones
Scaphoid = Snuffbox + Slow Blood	Scaphoid fracture
Short + Externally Rotated	Neck of femur fracture
Posterior Hip = Sciatic Nerve	Hip dislocation
ACL = Pivot and Pop	ACL injury
Achilles = Pop Behind + Can't Push Off	Achilles rupture
Lisfranc = Midfoot + Plantar Bruise	Lisfranc injury
Saddle, Sphincter, Sciatica	Cauda equina
Hot, Painful, Won't Move	Septic arthritis
Osteosarcoma = Around the Knee	Osteosarcoma
Ewing = Onion Skin, Young, Shaft	Ewing sarcoma
Paget = Big Bone, Big ALP	Paget disease
Radial = Wrist Drop	Radial nerve
Common Peroneal = Foot Drop	Common peroneal nerve
Never Miss: Compartment, Cauda, Septic Joint, Open Fracture	Orthopaedic emergencies

Discovery & Verification Sources

Mnemonic discovery: Epomedicine orthopaedic mnemonic resources; Geeky Medics anatomy/clinical mnemonics; Orthobullets teaching resources; and other sources specified for the Updates in Medicine mnemonic-book project.

Independent verification: NCBI Bookshelf/StatPearls on Salter-Harris fractures and slipped capital femoral epiphysis; orthopaedic reviews on acute compartment syndrome; standard orthopaedic references. The chapter explicitly qualifies the traditional 5 Ps because pain out of proportion and pain with passive stretch are earlier warning signs, while paralysis and pulselessness are late. Salter-Harris content uses the classic I-V SALTeR aid, although extended physeal-injury classifications exist beyond type V.

UIM Original entries are clearly labelled. These mnemonics are recall tools and do not replace imaging, fracture classification details, serial neurovascular examination or urgent orthopaedic assessment.

PART IV | SURGERY

UROLOGY MNEMONICS

A comprehensive, clinically verified collection of urology memory aids

Editorial approach

Only genuine memory devices are included. Urological scoring systems and full management algorithms are not treated as mnemonics merely because they use abbreviations. Emergency entries are framed as recognition aids and must be followed by current urological protocols.

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Lower Urinary Tract Symptoms & BPH

UIM ORIGINAL

LUTS = Storage + Voiding + After

Used to remember: The three practical symptom groups in lower urinary tract symptoms

Storage	Frequency, urgency, nocturia, urgency incontinence
Voiding	Weak stream, hesitancy, intermittency, straining
After	Post-micturition dribble and incomplete-emptying sensation

UIM ORIGINAL

BPH = Big Prostate, Blocked Flow

Used to remember: The core clinical concept of benign prostatic enlargement causing obstruction

Big prostate	Benign enlargement commonly occurs with ageing
Blocked flow	Can cause bladder-outflow obstruction and LUTS

UIM ORIGINAL

Obstruction = Hesitate, Strain, Weak Stream, Dribble

Used to remember: Common voiding symptoms of bladder-outflow obstruction

Hesitate	Hesitancy
Strain	Straining
Weak stream	Reduced flow
Dribble	Terminal/post-micturition dribble

UIM ORIGINAL

Storage Symptoms = Frequency, Urgency, Nocturia

Used to remember: Three common storage LUTS

Frequency	Frequent voiding
Urgency	Sudden compelling desire to void
Nocturia	Waking at night to urinate

UIM ORIGINAL

BPH Grows in the Transition Zone

Used to remember: The classic anatomical zone associated with BPH

Transition zone	Periurethral/transition-zone hyperplasia can compress the urethra

Urinary Retention

UIM ORIGINAL

Acute Retention = Painful Full Bladder, Can't Pass Urine

Used to remember: The classic presentation of acute urinary retention

Painful	Suprapubic discomfort/distension
Full bladder	Palpable/percussible bladder may be present
Can't pass urine	Inability to void despite bladder filling

UIM ORIGINAL

Retention Causes = Prostate, Drugs, Nerves, Blockage

Used to remember: Four broad causes of urinary retention

Prostate	BPH/prostate disease
Drugs	Anticholinergics, sympathomimetics, opioids and others
Nerves	Spinal/neurological dysfunction
Blockage	Urethral stricture, stone, clot or other obstruction

UIM ORIGINAL

Chronic Retention Can Be Quiet

Used to remember: Why chronic high-volume retention may be missed

Quiet	Bladder may become large with relatively little pain
Complications	Hydronephrosis, renal impairment, infection and overflow incontinence may occur

UIM ORIGINAL

Overflow = Full Bladder Leaks

Used to remember: The mechanism of overflow incontinence

Full bladder	Chronic incomplete emptying
Leaks	Small-volume leakage occurs when pressure exceeds outlet resistance

Haematuria

UIM ORIGINAL

Haematuria = Stone, Infection, Tumour, Glomerulus

Used to remember: Four major diagnostic categories for blood in urine

Stone	Urolithiasis
Infection	UTI/pyelonephritis
Tumour	Urinary tract malignancy
Glomerulus	Medical renal disease

UIM ORIGINAL

Painless Visible Blood = Cancer Until Explained

Used to remember: The classic urological red flag

Painless visible haematuria	Requires evaluation for urinary-tract malignancy, especially in higher-risk adults

Many benign causes exist, but malignancy must be considered.

UIM ORIGINAL

Cola + Protein + Casts = Think Glomerulus

Used to remember: Features suggesting glomerular haematuria

Cola	Brown/tea-coloured urine may occur
Protein	Proteinuria supports renal parenchymal disease
Casts	RBC casts/dysmorphic RBCs suggest glomerular bleeding

UIM ORIGINAL

Bright Red + Clots = Think Lower Tract

Used to remember: A practical clue to nonglomerular bleeding

Bright red	Fresh blood may be visible
Clots	Clot formation suggests nonglomerular urinary-tract bleeding

UIM ORIGINAL

Dipstick Blood Needs Microscopy

Used to remember: A key interpretation principle

Dipstick	Detects heme and can be positive with haemoglobin/myoglobin
Microscopy	Confirms true microscopic haematuria by identifying RBCs

Renal Colic & Stones

UIM ORIGINAL

Stone Pain = Loin to Groin

Used to remember: The classic radiation of ureteric colic

Loin	Flank/costovertebral region
Groin	Pain may radiate to lower abdomen, groin or testicle/labia

UIM ORIGINAL

Renal Colic Writhes; Peritonitis Lies Still

Used to remember: A classic behavioural distinction

Writhes	Patients with renal colic often cannot get comfortable and move constantly
Lies still	Peritonitis generally worsens with movement, so patients tend to remain still

UIM ORIGINAL

Calcium Most Common; Uric Acid Invisible; Struvite Staghorn; Cystine Hexagon

Used to remember: Four high-yield renal-stone associations

Calcium	Calcium oxalate/phosphate stones are the commonest overall
Uric acid	Often radiolucent on plain radiography
Struvite	Infection stones can form staghorn calculi
Cystine	Hexagonal crystals

UIM ORIGINAL

Stone + Fever = Obstruction Infection Emergency

Used to remember: The danger of an infected obstructed urinary system

Stone	Obstructing calculus
Fever/sepsis	Suggests infected obstruction
Emergency	Requires urgent drainage/decompression in addition to antimicrobial therapy

UIM ORIGINAL

Distal Stone = Bladder Symptoms

Used to remember: Why ureteric symptoms change as a stone descends

Distal ureter	Urgency, frequency and dysuria become more prominent as the stone approaches the bladder

Urinary Tract Infection & Obstruction

UIM ORIGINAL

Cystitis = Burning, Frequency, Suprapubic

Used to remember: The classic lower-UTI symptom cluster

Burning	Dysuria
Frequency	Frequency/urgency
Suprapubic	Discomfort may occur

UIM ORIGINAL

Pyelonephritis = Fever, Flank, Urine

Used to remember: The classic upper-UTI pattern

Fever	Systemic infection
Flank	Flank/CVA pain
Urine	Pyuria/bacteriuria with urinary symptoms may occur

UIM ORIGINAL

Obstruction + Infection = Drain, Don't Delay

Used to remember: The emergency principle in pyonephrosis/obstructed infected kidney

Drain	Urgent upper-tract decompression is required
Don't delay	Antibiotics alone are insufficient when infected urine is trapped behind obstruction

UIM ORIGINAL

Hydronephrosis = Back Pressure on Kidney

Used to remember: The basic concept of hydronephrosis

Back pressure	Urinary obstruction dilates the renal pelvis/calyces and may impair renal function

Acute Scrotum

UIM ORIGINAL

Acute Scrotum = Torsion, Infection, Hernia, Trauma

Used to remember: Four major causes to consider urgently

Torsion	Testicular torsion
Infection	Epididymo-orchitis
Hernia	Incarcerated/strangulated inguinal hernia
Trauma	Testicular injury/haematoma

UIM ORIGINAL

Torsion = Sudden; Epididymitis = Slower

Used to remember: A common timing distinction

Torsion	Abrupt severe unilateral pain is classic
Epididymitis	Often more gradual with urinary/infective symptoms

Clinical overlap exists; torsion must be excluded urgently when uncertain.

UIM ORIGINAL

High Horizontal Testis = Think Torsion

Used to remember: A classic examination clue

High/horizontal	Affected testis may lie high with abnormal transverse orientation

UIM ORIGINAL

Cremaster Gone = Torsion Clue

Used to remember: A classic neurological sign

Absent reflex	Loss of the ipsilateral cremasteric reflex supports testicular torsion

No single examination finding safely excludes torsion.

Testicular Torsion

UIM ORIGINAL

Torsion = Time Is Testis

Used to remember: The urgency of suspected testicular torsion

Time	Testicular salvage falls as duration of ischaemia increases
Action	Urgent urological exploration should not be delayed when clinical suspicion is high

UIM ORIGINAL

Twist Cuts Blood Before It Kills the Testis

Used to remember: The pathophysiology of torsion

Twist	Spermatic cord twists
Blood	Venous outflow is impaired first, followed by arterial inflow
Testis	Prolonged ischaemia causes infarction

UIM ORIGINAL

Pain + Nausea + High Testis = Torsion

Used to remember: A memorable acute presentation pattern

Pain	Sudden severe scrotal pain
Nausea	Nausea/vomiting common
High testis	Abnormal high-riding/transverse lie may occur

Prostate Cancer

UIM ORIGINAL

Prostate Cancer = Bone, Back, Bladder

Used to remember: Three important clinical domains

Bone	Bone metastases are common
Back	Spinal metastases can cause pain or cord compression
Bladder	Urinary symptoms may coexist but are not specific

UIM ORIGINAL

Prostate Bone Mets = Blastic

Used to remember: The characteristic skeletal metastatic pattern

Blastic	Osteoblastic/sclerotic bone lesions are typical

UIM ORIGINAL

PSA = Prostate Specific, Not Cancer Specific

Used to remember: The limitation of PSA

Prostate specific	Produced by prostate tissue
Not cancer specific	Can rise with BPH, inflammation and instrumentation

UIM ORIGINAL

Hard Irregular Prostate = Worry

Used to remember: A suspicious digital rectal examination pattern

Hard/irregular	Nodularity, induration or asymmetry may raise concern for malignancy

Bladder Cancer

UIM ORIGINAL

Bladder Cancer = Painless Visible Haematuria

Used to remember: The classic presentation

Painless haematuria	The most important classic warning symptom

UIM ORIGINAL

Bladder Risk = Smoke + Chemicals

Used to remember: Two major exposure categories

Smoke	Cigarette smoking is a major risk factor
Chemicals	Certain occupational aromatic amine exposures increase risk

UIM ORIGINAL

Bladder Tumour = Blood First, Pain Later

Used to remember: A practical symptom reminder

Blood first	Visible haematuria is often an early presentation
Pain later	Pain may suggest obstruction, invasion or other complications

Testicular Cancer

UIM ORIGINAL

Testicular Cancer = Painless Lump in a Young Man

Used to remember: The classic presentation

Painless lump	A painless intratesticular mass is the key warning sign
Young man	Commonly affects younger adult males

UIM ORIGINAL

AFP Never in Pure Seminoma

Used to remember: A key tumour-marker rule

AFP	Elevation indicates a non-seminomatous component rather than pure seminoma

UIM ORIGINAL

Testis Drains to Para-Aortic Nodes

Used to remember: The expected lymphatic drainage

Para-aortic	Retroperitoneal para-aortic nodes are the primary nodal basin

UIM ORIGINAL

Scrotal Mass: Inside Testis Is More Worrying

Used to remember: A practical examination concept

Intra-testicular	More likely malignant
Extra-testicular	More often benign, though exceptions occur

Priapism

UIM ORIGINAL

Ischaemic Priapism = Painful, Rigid, Emergency

Used to remember: The classic low-flow priapism pattern

Painful	Usually painful
Rigid	Corpora cavernosa rigid
Emergency	Prolonged ischaemia risks permanent erectile dysfunction

UIM ORIGINAL

Non-Ischaemic = Less Pain, Less Rigid

Used to remember: The typical high-flow priapism pattern

Less pain	Often minimally painful
Less rigid	Partially erect rather than fully rigid

UIM ORIGINAL

Priapism = Four Hours Means Emergency Assessment

Used to remember: A practical threshold for prolonged erection

Four hours	An erection persisting about 4 hours without stimulation warrants urgent assessment for ischaemic priapism

UIM ORIGINAL

Sickle Cell + Painful Erection = Think Ischaemia

Used to remember: A classic association

Sickle cell	Important cause of recurrent/ischaemic priapism

Fournier Gangrene

UIM ORIGINAL

Fournier = Perineal Pain Out of Proportion

Used to remember: An early warning clue

Pain	Severe perineal/genital pain may precede dramatic skin changes

UIM ORIGINAL

Fournier = Fast Fascial Infection

Used to remember: The pathophysiological concept

Fast	Rapid progression
Fascial	Necrotising fasciitis of perineal/genital tissues
Infection	Usually polymicrobial

UIM ORIGINAL

Fournier = Resuscitate, Antibiotics, Debride

Used to remember: The three urgent management domains

Resuscitate	Treat sepsis/shock
Antibiotics	Broad-spectrum antimicrobial therapy
Debride	Urgent aggressive surgical debridement

UIM ORIGINAL

Diabetes + Perineal Sepsis = Think Fournier

Used to remember: A classic high-risk context

Diabetes	Common predisposing factor
Perineal sepsis	Pain, swelling, crepitus, skin necrosis or systemic toxicity are warning signs

Catheters & Postoperative Urology

UIM ORIGINAL

Blocked Catheter = Bladder Full, Bag Empty

Used to remember: A practical clue to catheter obstruction

Bladder full	Suprapubic discomfort/distension
Bag empty	Little/no urine draining

UIM ORIGINAL

No Urine After Catheter = Kink, Block, Position, Kidney

Used to remember: A quick troubleshooting sequence

Kink	Tubing kinked/clamped
Block	Debris/clot
Position	Catheter not in bladder or balloon problem
Kidney	True oliguria/anuria from systemic/renal cause

UIM ORIGINAL

Catheter Trauma = Blood at Meatus, Stop and Think

Used to remember: A warning sign of urethral injury

Blood at meatus	Raises concern for urethral injury in trauma
Stop	Avoid blind repeated catheterisation when significant urethral injury is suspected

UIM ORIGINAL

Post-Op Retention = Can't Void + Full Bladder

Used to remember: The classic postoperative urinary retention pattern

Can't void	Failure to pass urine
Full bladder	Pain, distension or bladder-scan retention

Urological Emergencies

UIM ORIGINAL

Four Urological Emergencies = Twist, Block + Infection, Fournier, Priapism

Used to remember: Four time-critical urological conditions

Twist	Testicular torsion
Block + infection	Infected obstructed urinary system
Fournier	Necrotising perineal infection
Priapism	Ischaemic priapism

UIM ORIGINAL

Solitary Kidney + Obstruction = Higher Stakes

Used to remember: Why urinary obstruction is especially dangerous with a single functioning kidney

Solitary kidney	Obstruction can threaten total renal function rather than one renal unit

UIM ORIGINAL

Anuria = Think Both Sides, Solitary Kidney, or Bladder Outlet

Used to remember: Major obstructive patterns causing no urine

Both sides	Bilateral ureteric obstruction
Solitary kidney	Obstruction of the only functioning kidney
Bladder outlet	Lower urinary tract obstruction/retention

UIM ORIGINAL

Urology Red Flags = Fever + Obstruction, Torsion, Painless Blood, Perineal Sepsis

Used to remember: Four presentations requiring particularly urgent attention

Fever + obstruction	Risk of infected hydronephrosis/pyonephrosis
Torsion	Time-sensitive testicular ischaemia
Painless blood	Possible urinary malignancy
Perineal sepsis	Possible Fournier gangrene

Rapid Reference

Mnemonic	What it recalls
LUTS = Storage + Voiding + After	Lower urinary tract symptoms
BPH = Big Prostate, Blocked Flow	BPH
Acute Retention = Painful Full Bladder	Urinary retention
Haematuria = Stone, Infection, Tumour, Glomerulus	Haematuria
Painless Visible Blood = Cancer Until Explained	Haematuria red flag
Loin to Groin	Renal colic
Colic Writhes; Peritonitis Lies Still	Renal colic
Stone + Fever = Emergency	Infected obstruction
Acute Scrotum = Torsion, Infection, Hernia, Trauma	Acute scrotum
Time Is Testis	Testicular torsion
Pain + Nausea + High Testis	Testicular torsion
Prostate = Bone, Back, Bladder	Prostate cancer
PSA = Prostate Specific, Not Cancer Specific	PSA
Bladder Cancer = Painless Visible Haematuria	Bladder cancer
AFP Never in Pure Seminoma	Testicular cancer
Ischaemic Priapism = Painful, Rigid, Emergency	Priapism
Fournier = Fast Fascial Infection	Fournier gangrene
Blocked Catheter = Bladder Full, Bag Empty	Catheter blockage
Twist, Block+Infection, Fournier, Priapism	Urological emergencies

Discovery & Verification Sources

Mnemonic discovery: TeachMeSurgery urology and surgical teaching resources; Geeky Medics and Epomedicine mnemonic/clinical teaching pages where relevant; and other sources specified in the Updates in Medicine mnemonic-book project.

Independent verification: 2026 NCBI/StatPearls resources on acute renal colic, haematuria, BPH, testicular torsion, priapism and Fournier gangrene. The renal-colic section reflects the need for urgent drainage in obstructive pyelonephritis/pyonephrosis. The acute-scrotum section deliberately stresses that no single examination sign safely excludes torsion. Ischaemic priapism is treated as a true emergency. Visible haematuria is presented as a malignancy red flag rather than a diagnosis.

UIM Original entries are clearly labelled. These mnemonics support recall and do not replace cystoscopy, imaging, tumour work-up or urgent specialist assessment.

PART V | WOMEN'S HEALTH & PAEDIATRICS

OBSTETRICS MNEMONICS

A comprehensive, clinically verified collection of obstetric memory aids

Editorial approach

Only genuine memory devices are included. Formal obstetric scores and complete emergency algorithms are not treated as mnemonics merely because they use abbreviations. Time-critical entries are recognition aids and must be followed by current local maternity protocols.

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Rapid Reference

Early Pregnancy & Ectopic Pregnancy

UIM ORIGINAL

Pregnancy + Pain + Bleeding = Think Ectopic Until Located

Used to remember: A safety-first approach to early-pregnancy pain and bleeding

Pregnancy	Confirm pregnancy status
Pain	Especially unilateral pelvic/abdominal pain
Bleeding	Vaginal bleeding may occur
Until located	Pregnancy location requires appropriate ultrasound/serial assessment

Many benign and non-ectopic causes exist; the mnemonic is a safety prompt, not a diagnosis.

UIM ORIGINAL

Ruptured Ectopic = Pain, Shoulder, Collapse

Used to remember: Three classic clues to intraperitoneal bleeding from ectopic pregnancy

Pain	Sudden/severe abdominal or pelvic pain
Shoulder	Shoulder-tip pain from diaphragmatic irritation
Collapse	Syncope, hypotension or shock may occur

UIM ORIGINAL

Ectopic Loves the Tube

Used to remember: The commonest site of ectopic pregnancy

Tube	Most ectopic pregnancies implant in the fallopian tube, especially the ampullary region

UIM ORIGINAL

Early Pregnancy Bleeding = Ectopic, Miscarriage, Molar, Cervix

Used to remember: Four important diagnostic categories

Ectopic	Extrauterine pregnancy
Miscarriage	Threatened or completed pregnancy loss
Molar	Gestational trophoblastic disease
Cervix	Local cervical/vaginal causes

Antenatal Assessment

UIM ORIGINAL

Antenatal = Mother, Baby, Placenta

Used to remember: Three broad domains in antenatal surveillance

Mother	Blood pressure, symptoms, medical disease and wellbeing
Baby	Growth, movements, anatomy and fetal wellbeing
Placenta	Location, function and complications

UIM ORIGINAL

Pregnancy Red Flags = Bleeding, Headache, Breathlessness, Less Movement

Used to remember: Symptoms that warrant prompt assessment

Bleeding	Antepartum bleeding
Headache	Especially with visual/epigastric symptoms or hypertension
Breathlessness	New severe dyspnoea/chest pain
Less movement	Reduced fetal movements

UIM ORIGINAL

Fundus Follows Weeks in Mid-Pregnancy

Used to remember: The broad relationship between symphysis-fundal height and gestational age

Weeks	After about mid-pregnancy, fundal height in centimetres broadly tracks gestational weeks

Use local growth-assessment standards; maternal habitus, fibroids, liquor and multiple pregnancy affect measurement.

UIM ORIGINAL

Small Baby = Dates, Placenta, Fetus, Mother

Used to remember: A practical differential for suspected fetal growth restriction/small size

Dates	Incorrect gestational dating
Placenta	Placental insufficiency
Fetus	Constitutional smallness, anomaly or infection
Mother	Hypertension, smoking, malnutrition or maternal disease

Hypertensive Disorders

UIM ORIGINAL

Pre-Eclampsia = Pressure + Placenta + Organs

Used to remember: The core clinical concept of pre-eclampsia

Pressure	New hypertension after mid-pregnancy
Placenta	Placental dysfunction underlies disease
Organs	Proteinuria and/or maternal organ dysfunction can occur

Proteinuria is not required if other qualifying maternal organ dysfunction is present under modern definitions.

UIM ORIGINAL

Severe Pre-Eclampsia = Brain, Liver, Blood, Kidney, Lung, Baby

Used to remember: The organ systems that signal severe maternal/fetal disease

Brain	Severe headache, visual symptoms, seizures
Liver	RUQ/epigastric pain, transaminitis
Blood	Thrombocytopenia/haemolysis
Kidney	Renal impairment
Lung	Pulmonary oedema
Baby	Growth restriction or fetal compromise

HELLP = Haemolysis, Elevated Liver Enzymes, Low Platelets

Used to remember: The defining laboratory triad of HELLP syndrome

H	Haemolysis
EL	Elevated Liver enzymes
LP	Low Platelets

UIM ORIGINAL

Eclampsia = Pre-Eclampsia + Seizure

Used to remember: The defining clinical event

Seizure	New-onset generalised seizure in the setting of pre-eclampsia when another cause is not more likely

UIM ORIGINAL

Eclampsia = Magnesium Protects the Brain

Used to remember: The key anticonvulsant association

Magnesium sulfate	Core drug for treatment and prevention of recurrent eclamptic seizures

Exact regimen and blood-pressure management should follow current obstetric guidance.

Antepartum Haemorrhage

UIM ORIGINAL

Previa = Painless; Abruption = Painful

Used to remember: The classic clinical contrast between placenta previa and placental abruption

Placenta previa	Classically painless vaginal bleeding
Placental abruption	Classically painful bleeding with uterine tenderness

Presentations overlap; neither pattern is absolute.

UIM ORIGINAL

Abruption = Pain, Hard Uterus, Fetal Trouble

Used to remember: Three important clinical clues

Pain	Abdominal/back pain
Hard uterus	Tender, hypertonic or 'woody' uterus may occur
Fetal trouble	Abnormal fetal heart pattern or fetal compromise

UIM ORIGINAL

Previa = Placenta Precedes the Baby

Used to remember: The anatomical concept of placenta previa

Precedes	Placental tissue lies low and may cover/approach the internal cervical os

UIM ORIGINAL

Late Pregnancy Bleeding = Previa, Abruption, Vasa, Labour

Used to remember: Four major causes to remember

Previa	Placenta previa
Abruption	Placental abruption
Vasa	Vasa previa
Labour	Bloody show/cervical change

UIM ORIGINAL

Unknown Placenta + Bleeding = No Blind Digital Exam

Used to remember: A safety principle in significant antepartum bleeding

No blind exam	Exclude placenta previa before digital vaginal examination when placental location is unknown and previa is possible

Labour & Delivery

Labour Needs 3 Ps = Power, Passenger, Passage

Used to remember: The three classic determinants of progress in labour

Power	Uterine contractions and maternal expulsive effort
Passenger	Fetus - size, presentation, position
Passage	Maternal pelvis and soft tissues

UIM ORIGINAL

Passenger = Lie, Presentation, Position

Used to remember: Three basic descriptors of fetal orientation

Lie	Longitudinal, transverse or oblique
Presentation	Cephalic, breech, shoulder etc.
Position	Relationship of presenting landmark to maternal pelvis

UIM ORIGINAL

Vertex Flexes Best

Used to remember: Why a well-flexed cephalic presentation favours vaginal birth

Flexion	Presents a smaller effective fetal head diameter through the pelvis

UIM ORIGINAL

Breech = Buttocks or Feet First

Used to remember: The defining concept of breech presentation

Breech	Fetal buttocks and/or feet present before the head

Fetal Heart Rate Patterns

VEAL CHOP

Used to remember: Classic fetal heart-rate pattern associations

V - Variable	C - Cord compression
E - Early	H - Head compression
A - Accelerations	O - OK / reassuring feature
L - Late	P - Placental insufficiency / uteroplacental hypoxia

A useful traditional association mnemonic. CTG interpretation requires the complete current framework, baseline, variability, deceleration characteristics and clinical context.

UIM ORIGINAL

Early Mirrors Contractions

Used to remember: The timing of early decelerations

Mirrors	Early deceleration onset, nadir and recovery broadly mirror the uterine contraction

UIM ORIGINAL

Late Lags

Used to remember: The timing of late decelerations

Lags	Deceleration begins after the contraction starts and the nadir occurs after the contraction peak

UIM ORIGINAL

Variable Varies = Cord

Used to remember: The typical appearance and mechanism of variable decelerations

Varies	Abrupt decelerations vary in timing/shape
Cord	Often associated with umbilical cord compression

Shoulder Dystocia

UIM ORIGINAL

Turtle Sign = Shoulder Stuck

Used to remember: The classic visual clue to shoulder dystocia

Turtle sign	Delivered fetal head retracts against the perineum because the shoulder remains impacted

UIM ORIGINAL

Shoulder Dystocia = Help, McRoberts, Suprapubic, Rotate, All-Fours

Used to remember: A practical sequence of manoeuvre categories

Help	Call immediately for experienced obstetric, neonatal and anaesthetic help
McRoberts	Maternal hip hyperflexion
Suprapubic	Apply suprapubic pressure
Rotate	Internal rotational/posterior-arm manoeuvres as appropriate
All-fours	Hands-and-knees/Gaskin position can be used

This is a memory aid, not a complete shoulder-dystocia algorithm. Avoid fundal pressure.

UIM ORIGINAL

No Fundal Pressure in Shoulder Dystocia

Used to remember: A critical safety rule

No fundal pressure	Can worsen impaction and increase fetal/maternal injury

UIM ORIGINAL

Shoulder Dystocia Hurts Nerves, Bones, Mother

Used to remember: Major complication domains

Nerves	Brachial plexus injury
Bones	Clavicle/humerus fracture
Mother	Postpartum haemorrhage and severe perineal trauma

Umbilical Cord Prolapse

UIM ORIGINAL

Cord Prolapse = Cord Before Baby

Used to remember: The defining anatomical event

Cord before baby	Umbilical cord descends through the cervix beside or below the presenting part

UIM ORIGINAL

Sudden Bradycardia After Membranes Rupture = Think Cord

Used to remember: A classic presentation clue

Bradycardia	Sudden fetal bradycardia or recurrent variable decelerations
After rupture	Especially after spontaneous/artificial rupture of membranes

UIM ORIGINAL

Cord = Lift, Position, Fill, Deliver

Used to remember: Four immediate management concepts

Lift	Manually elevate the presenting part off the cord
Position	Knee-chest or head-down position can reduce compression
Fill	Bladder filling can help elevate the presenting part when delay is unavoidable
Deliver	Expedite birth, usually by emergency caesarean unless vaginal birth is immediately achievable

Do not repeatedly handle the exposed cord; keep it warm/moist if prolapsed externally and follow emergency local guidance.

Postpartum Haemorrhage

4 Ts = Tone, Trauma, Tissue, Thrombin

Used to remember: The major causes of postpartum haemorrhage

Tone	Uterine atony - the commonest cause
Trauma	Genital tract/uterine injury
Tissue	Retained placenta or abnormal placentation
Thrombin	Coagulopathy

UIM ORIGINAL

PPH: Rub, Drugs, Blood, Find the Cause

Used to remember: Four simultaneous management domains

Rub	Uterine massage/assess uterine tone
Drugs	Appropriate uterotonics and tranexamic acid according to protocol
Blood	IV access, resuscitation and blood products as needed
Find cause	Actively identify Tone, Trauma, Tissue or Thrombin

Current WHO guidance emphasises early recognition, objective blood-loss assessment where feasible, timely treatment bundles and escalation.

UIM ORIGINAL

Boggy Uterus = Tone

Used to remember: The classic clue to uterine atony

Boggy	Soft enlarged poorly contracted uterus suggests atony

UIM ORIGINAL

Firm Uterus + Bleeding = Look for Trauma

Used to remember: A useful cause distinction in PPH

Firm uterus	A well-contracted uterus makes atony less likely
Trauma	Inspect for cervical, vaginal or perineal laceration and other causes

UIM ORIGINAL

PPH Shock Can Hide in Pregnancy

Used to remember: Why visual appearance and vital signs may underestimate early haemorrhage

Pregnancy reserve	Increased blood volume can delay hypotension despite substantial blood loss

Uterine Inversion & Rupture

UIM ORIGINAL

Inversion = Fundus Falls In

Used to remember: The anatomical concept of uterine inversion

Fundus falls in	Uterine fundus collapses into or through the uterine cavity/cervix

UIM ORIGINAL

Inversion = Bleeding + Shock Bigger Than Expected

Used to remember: The classic emergency presentation

Bleeding	Postpartum haemorrhage
Shock	Haemodynamic collapse can be disproportionate to visible blood loss

UIM ORIGINAL

Rupture = Pain, Fetal Distress, Loss of Station

Used to remember: Important clues to uterine rupture

Pain	Sudden abdominal pain may occur
Fetal distress	Abnormal fetal heart rate often an early sign
Loss of station	Presenting part may recede; contractions may change

UIM ORIGINAL

Previous Scar = Remember Rupture

Used to remember: An important risk association

Scar	Prior uterine surgery, especially caesarean scar, increases uterine rupture risk during labour

Maternal Sepsis

UIM ORIGINAL

Maternal Sepsis = Mother Sick + Infection + Organ Trouble

Used to remember: The core clinical concept

Mother sick	Systemic illness
Infection	Suspected/confirmed maternal infection
Organ trouble	New organ dysfunction or haemodynamic compromise

UIM ORIGINAL

Postpartum Infection = Uterus, Urine, Wound, Breast, Chest

Used to remember: Common infection sources after birth

Uterus	Endometritis
Urine	UTI/pyelonephritis
Wound	Caesarean/perineal wound
Breast	Mastitis/abscess
Chest	Respiratory infection

UIM ORIGINAL

Sepsis = Cultures, Antibiotics, Fluids, Source

Used to remember: Four early treatment domains

Cultures	Appropriate cultures without dangerous delay
Antibiotics	Prompt broad-spectrum therapy
Fluids	Resuscitate and reassess
Source	Drain/remove infected source where required

Venous Thromboembolism

UIM ORIGINAL

Pregnancy = Clot-Prone by All 3 of Virchow

Used to remember: Why pregnancy increases venous thromboembolism risk

Stasis	Venous compression and reduced flow
Vessel injury	Especially around delivery
Hypercoagulability	Pregnancy shifts haemostasis toward clotting

UIM ORIGINAL

DVT = One Leg, Swollen, Painful

Used to remember: The classic DVT presentation

One leg	Usually unilateral
Swollen	Oedema/increased circumference
Painful	Tenderness/discomfort

UIM ORIGINAL

PE = Breathless, Pleuritic, Pulse Up

Used to remember: A common pulmonary embolism symptom cluster

Breathless	Acute unexplained dyspnoea
Pleuritic	Pleuritic chest pain may occur
Pulse up	Tachycardia may occur

Symptoms/signs are nonspecific; pregnancy-specific diagnostic pathways should be used.

Postpartum & Puerperium

UIM ORIGINAL

Postpartum Check = Bleeding, Uterus, Bladder, Breast, Mood

Used to remember: Five practical postpartum review domains

Bleeding	Lochia/haemorrhage
Uterus	Involution/tenderness
Bladder	Urinary retention/infection
Breast	Feeding, mastitis
Mood	Postnatal mental health

UIM ORIGINAL

Mastitis = Red, Hot, Painful Breast + Flu-Like

Used to remember: The classic lactational mastitis pattern

Red/hot/painful	Focal inflammatory breast symptoms
Flu-like	Fever, myalgia and malaise may occur

UIM ORIGINAL

Postpartum Headache = Pressure, Puncture, Pre-Eclampsia, Clot

Used to remember: Four important causes to consider

Pressure	Primary headache or hypertension
Puncture	Post-dural puncture headache
Pre-eclampsia	Can present postpartum
Clot	Cerebral venous thrombosis or other vascular cause

UIM ORIGINAL

Postpartum Pre-Eclampsia Still Exists

Used to remember: The need to recognise disease after delivery

After delivery	New hypertension, headache, visual symptoms, epigastric pain, dyspnoea or seizure can occur postpartum

Obstetric Emergencies

UIM ORIGINAL

Maternal Collapse = Bleed, Clot, Sepsis, Heart, Anaesthetic

Used to remember: Five major emergency categories

Bleed	Obstetric haemorrhage
Clot	Pulmonary embolism/amniotic fluid embolism
Sepsis	Maternal infection
Heart	Cardiac disease, arrhythmia, aortic catastrophe
Anaesthetic	High neuraxial block, LAST, anaphylaxis and related complications

UIM ORIGINAL

Amniotic Fluid Embolism = Sudden Hypoxia, Shock, Coagulopathy

Used to remember: The classic catastrophic presentation

Hypoxia	Abrupt respiratory compromise
Shock	Cardiovascular collapse
Coagulopathy	DIC/major bleeding can develop

UIM ORIGINAL

Obstetric Emergency = Mother First Helps Baby Too

Used to remember: The priority of maternal resuscitation

Mother first	Optimising maternal airway, breathing and circulation is fundamental to fetal perfusion and outcome

UIM ORIGINAL

Never Miss: Ectopic, Eclampsia, PPH, Torsion of Labour - Shoulder/Cord

Used to remember: High-risk obstetric emergencies for rapid recall

Ectopic	Ruptured ectopic pregnancy
Eclampsia	Seizure/hypertensive emergency
PPH	Postpartum haemorrhage
Shoulder/cord	Shoulder dystocia and umbilical cord prolapse

Rapid Reference

Mnemonic	What it recalls
Pregnancy + Pain + Bleeding	Ectopic pregnancy
Pain, Shoulder, Collapse	Ruptured ectopic
Pressure + Placenta + Organs	Pre-eclampsia
HELLP	HELLP syndrome
Previa Painless; Abruption Painful	Antepartum haemorrhage
3 Ps = Power, Passenger, Passage	Labour
VEAL CHOP	Fetal heart patterns
Turtle Sign	Shoulder dystocia
Help, McRoberts, Suprapubic, Rotate, All-Fours	Shoulder dystocia
Cord Before Baby	Cord prolapse
Lift, Position, Fill, Deliver	Cord prolapse
4 Ts	Postpartum haemorrhage
Boggy Uterus = Tone	Uterine atony
Firm Uterus + Bleeding = Trauma	PPH differential
Inversion = Fundus Falls In	Uterine inversion
Pain, Fetal Distress, Loss of Station	Uterine rupture
Postpartum Infection = Uterus, Urine, Wound, Breast, Chest	Maternal sepsis
Pregnancy = Virchow's 3	VTE risk
Bleeding, Uterus, Bladder, Breast, Mood	Postpartum review
Sudden Hypoxia, Shock, Coagulopathy	Amniotic fluid embolism

Discovery & Verification Sources

Mnemonic discovery: AAFP/ALSO shoulder-dystocia teaching; Geeky Medics and obstetric teaching resources; TeachMeObGyn, Zero to Finals and other sources specified for the Updates in Medicine mnemonic-book project.

Independent verification: WHO 2025 Consolidated Guidelines for the Prevention, Diagnosis and Treatment of Postpartum Haemorrhage and 2026 implementation resources; NCBI Bookshelf/StatPearls on ectopic pregnancy, shoulder dystocia, postpartum haemorrhage and umbilical cord prolapse; standard contemporary obstetric references. The 4 Ts are retained as the core PPH-cause mnemonic. Shoulder-dystocia entries stress McRoberts/suprapubic manoeuvres and avoidance of fundal pressure. Cord prolapse is treated as a fetal emergency requiring immediate decompression and expedited delivery. VEAL CHOP is presented only as a pattern association, not a substitute for full CTG interpretation.

UIM Original entries are clearly labelled. Exact drug doses, delivery timing and emergency manoeuvre sequences should follow current local maternity protocols.

PART V | WOMEN'S HEALTH & PAEDIATRICS

GYNAECOLOGY MNEMONICS

A comprehensive, clinically verified collection of gynaecology memory aids

Editorial approach

Only genuine memory aids are included. Formal criteria and scoring systems are not treated as mnemonics merely because they use acronyms. Classification acronyms such as PALM-COEIN are included only because they are genuinely useful recall devices.

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Menstrual Cycle & Amenorrhoea

UIM ORIGINAL

FSH = Follicle; LH = Launches Ovulation

Used to remember: The key gonadotrophin roles in the ovarian cycle

FSH	Stimulates follicular development
LH	The mid-cycle LH surge triggers ovulation

UIM ORIGINAL

Oestrogen Builds; Progesterone Protects

Used to remember: The major endometrial actions of ovarian hormones

Oestrogen	Promotes endometrial proliferation
Progesterone	Converts to secretory endometrium and opposes unopposed oestrogenic proliferation

UIM ORIGINAL

Amenorrhoea = Pregnancy First

Used to remember: The first diagnosis to exclude in reproductive-age amenorrhoea

Pregnancy	Always exclude before pursuing endocrine/anatomical causes

UIM ORIGINAL

Amenorrhoea = Hypothalamus, Pituitary, Ovary, Outflow

Used to remember: Four broad anatomical levels of amenorrhoea

Hypothalamus	Weight loss, stress, exercise, chronic illness
Pituitary	Hyperprolactinaemia or pituitary disease
Ovary	PCOS, primary ovarian insufficiency
Outflow	Uterine/cervical/vaginal abnormalities

UIM ORIGINAL

No Periods + Milk = Think Prolactin

Used to remember: A classic hyperprolactinaemia presentation

No periods	Oligo/amenorrhoea from hypogonadism
Milk	Galactorrhoea may occur

Abnormal Uterine Bleeding

PALM-COEIN

Used to remember: The FIGO classification of causes of abnormal uterine bleeding

P	Polyp
A	Adenomyosis
L	Leiomyoma
M	Malignancy / hyperplasia
C	Coagulopathy
O	Ovulatory dysfunction
E	Endometrial
I	Iatrogenic
N	Not otherwise classified

PALM contains structural causes; COEIN contains non-structural causes.

UIM ORIGINAL

PALM = Picture; COEIN = Physiology

Used to remember: A simple way to remember the structural versus non-structural split

PALM	Structural pathology often demonstrable by imaging/histology
COEIN	Predominantly non-structural functional/systemic causes

UIM ORIGINAL

Heavy Bleeding = Anaemia, Clots, Flooding, Life Impact

Used to remember: Practical indicators of clinically important heavy menstrual bleeding

Anaemia	Iron deficiency may develop
Clots	Large clots may occur
Flooding	Frequent pad/tampon changes or breakthrough flooding
Life impact	Bleeding interferes with normal activities

UIM ORIGINAL

Postmenopausal Bleeding = Cancer Until Excluded

Used to remember: The key safety principle

Bleeding after menopause	Requires evaluation for endometrial and other genital tract malignancy

Most causes are benign, but malignancy must be excluded.

PCOS

UIM ORIGINAL

PCOS = Periods, Pimples, Hair, Metabolic

Used to remember: Four common clinical domains of polycystic ovary syndrome

Periods	Oligo-/anovulation and irregular cycles
Pimples	Acne from hyperandrogenism
Hair	Hirsutism or androgenic alopecia
Metabolic	Insulin resistance, dyslipidaemia and weight-related risk

UIM ORIGINAL

PCOS = Ovulation Off, Androgens Up

Used to remember: The core endocrine pattern

Ovulation off	Ovulatory dysfunction
Androgens up	Clinical or biochemical hyperandrogenism

UIM ORIGINAL

PCOS Doesn't Require Cysts

Used to remember: An important terminology caveat

No cyst requirement	Polycystic ovarian morphology is not required in every accepted diagnostic framework

UIM ORIGINAL

Unopposed Oestrogen = Endometrium at Risk

Used to remember: Why prolonged anovulation matters

Unopposed oestrogen	Absent regular progesterone exposure can promote endometrial hyperplasia
Risk	Long-standing anovulation increases endometrial hyperplasia/cancer risk

Endometriosis & Adenomyosis

3 Ds = Dysmenorrhoea, Dyspareunia, Dyschezia

Used to remember: Three classic pain symptoms of endometriosis

Dysmenorrhoea	Painful menstruation
Dyspareunia	Deep pain with intercourse
Dyschezia	Painful defecation, especially cyclic

UIM ORIGINAL

Endometriosis = Endometrium Outside

Used to remember: The core anatomical concept

Outside	Endometrium-like glands/stroma are present outside the uterine cavity

UIM ORIGINAL

Endometriosis = Pain + Infertility

Used to remember: Two major clinical domains

Pain	Cyclic pelvic pain, dysmenorrhoea, dyspareunia
Infertility	Subfertility is common

UIM ORIGINAL

Adenomyosis = Endometrium In the Muscle

Used to remember: The defining anatomical concept

In muscle	Endometrial glands/stroma within the myometrium

UIM ORIGINAL

Adenomyosis = Bulky, Boggy, Bleeding

Used to remember: The classic clinical pattern

Bulky	Enlarged uterus may occur
Boggy	Tender/boggy consistency
Bleeding	Heavy painful periods are common

Fibroids

UIM ORIGINAL

Fibroids = Heavy Bleeding + Bulk

Used to remember: The two dominant symptom groups of uterine leiomyomas

Heavy bleeding	Especially with submucosal lesions
Bulk	Pelvic pressure, urinary/bowel symptoms and abdominal enlargement

UIM ORIGINAL

Fibroid Location = Submucosal Bleeds, Subserosal Bulks

Used to remember: A practical symptom-location association

Submucosal	More strongly associated with heavy bleeding and fertility effects
Subserosal	More likely to cause pressure/bulk symptoms

UIM ORIGINAL

Fibroids = Firm, Irregular Uterus

Used to remember: The classic bimanual examination clue

Firm/irregular	Enlarged irregular uterine contour may be palpable

UIM ORIGINAL

Fibroids Feed on Oestrogen

Used to remember: Their hormone-sensitive behaviour

Oestrogen-sensitive	Often enlarge during reproductive years/pregnancy and tend to regress after menopause

Growth patterns vary and postmenopausal growth warrants evaluation.

Pelvic Inflammatory Disease

UIM ORIGINAL

PID = Pain, Infection, Discharge

Used to remember: A simple clinical pattern

Pain	Lower abdominal/pelvic pain
Infection	Fever and inflammatory features may occur
Discharge	Abnormal vaginal/cervical discharge may occur

UIM ORIGINAL

Cervix Moves, Pelvis Hurts

Used to remember: The classic cervical motion tenderness clue

Cervical movement	Pain on cervical motion supports upper genital tract inflammation

UIM ORIGINAL

PID Complications = Abscess, Infertility, Ectopic, Chronic Pain

Used to remember: Four important long-term/acute complications

Abscess	Tubo-ovarian abscess
Infertility	Tubal damage
Ectopic	Increased future ectopic-pregnancy risk
Chronic pain	Chronic pelvic pain

UIM ORIGINAL

Fitz-Hugh-Curtis = Liver Capsule, Not Liver

Used to remember: The mechanism of perihepatitis associated with PID

Capsule	Inflammation of the hepatic capsule
Not liver	Liver parenchyma itself is not the primary site

Ovarian Cysts & Torsion

UIM ORIGINAL

Torsion = Sudden Pain + Vomiting + Adnexal Mass

Used to remember: The classic ovarian torsion pattern

Sudden pain	Acute unilateral pelvic/lower abdominal pain
Vomiting	Nausea/vomiting common
Mass	An ovarian/adnexal mass increases torsion risk

UIM ORIGINAL

Torsion = Time Is Ovary

Used to remember: The urgency of ovarian torsion

Time	Persistent torsion compromises venous and then arterial blood flow, risking necrosis and loss of ovarian function

UIM ORIGINAL

Normal Doppler Doesn't Rule Out Torsion

Used to remember: A critical diagnostic limitation

Dual blood supply	Arterial flow may persist despite torsion
Clinical suspicion	Surgical assessment may still be required

UIM ORIGINAL

Cyst Rupture = Sudden Pain, Often After Activity

Used to remember: A common presentation of ruptured ovarian cyst

Sudden pain	Acute unilateral pelvic pain
Activity	May occur after intercourse or exertion

Menopause

UIM ORIGINAL

Menopause = Oestrogen Down, FSH Up

Used to remember: The typical endocrine direction after ovarian follicular failure

Oestrogen	Declines
FSH	Rises because negative feedback is reduced

UIM ORIGINAL

Menopause = Hot, Dry, Sleepy, Moody

Used to remember: Four common symptom domains

Hot	Vasomotor symptoms/hot flushes
Dry	Genitourinary syndrome - vaginal dryness, urinary symptoms
Sleepy	Sleep disturbance
Moody	Mood/cognitive symptoms may occur

UIM ORIGINAL

After Menopause, Bleeding Is Not Normal

Used to remember: The red-flag significance of postmenopausal bleeding

Bleeding	Requires assessment for endometrial and other genital tract pathology

UIM ORIGINAL

Low Oestrogen = Bone Loss

Used to remember: The skeletal consequence of menopause

Bone	Accelerated bone loss increases osteoporosis/fracture risk

Contraception

UIM ORIGINAL

Contraception = Daily, Depot, Device, Barrier, Permanent

Used to remember: Five broad contraceptive categories

Daily	Oral hormonal methods
Depot	Injectable/implant hormonal methods
Device	Intrauterine contraception
Barrier	Condoms/diaphragms
Permanent	Sterilisation

ACHES

Used to remember: Traditional warning symptoms requiring urgent assessment in users of combined hormonal contraception

A	Severe Abdominal pain
C	Chest pain / breathlessness
H	Severe Headache
E	Eye/visual disturbance
S	Severe leg pain/swelling

A traditional safety mnemonic, not a complete adverse-event screen.

UIM ORIGINAL

Combined Hormones = Think Clot Risk

Used to remember: A major safety consideration with oestrogen-containing contraception

Clot	Oestrogen-containing methods increase venous thromboembolism risk, especially when other risk factors coexist

UIM ORIGINAL

IUD = In the Uterus; Implant = In the Arm

Used to remember: A very simple long-acting contraception location cue

IUD/IUS	Intrauterine
Implant	Subdermal upper arm

Infertility

UIM ORIGINAL

Infertility = Ovulation, Tubes, Sperm, Uterus

Used to remember: Four major domains of infertility assessment

Ovulation	Ovulatory function
Tubes	Tubal patency/pelvic disease
Sperm	Male-factor semen assessment
Uterus	Uterine cavity/anatomy

UIM ORIGINAL

Male Factor Is Half the Couple

Used to remember: The need to assess both partners

Both partners	Male-factor infertility is common and semen analysis is a core early test

UIM ORIGINAL

Endometriosis and PID Hurt the Tubes

Used to remember: Two important acquired fertility threats

Endometriosis	Distorts pelvic anatomy/inflammation
PID	Tubal scarring and obstruction

UIM ORIGINAL

Age = Oocyte Quantity and Quality Fall

Used to remember: The major reproductive-age effect

Quantity	Ovarian reserve declines
Quality	Aneuploidy risk rises and fecundity falls with age

Cervical Disease

UIM ORIGINAL

Cervical Cancer = Contact Bleeding

Used to remember: A classic symptom of cervical malignancy

Contact bleeding	Post-coital bleeding is a classic presentation

UIM ORIGINAL

HPV = Cervix Driver

Used to remember: The core causal association

High-risk HPV	Persistent high-risk HPV infection is the major cause of cervical cancer

UIM ORIGINAL

Cervix Red Flags = Post-Coital Bleeding, Discharge, Pain

Used to remember: Three symptoms that warrant evaluation

Post-coital bleeding	Classic warning symptom
Discharge	Persistent offensive/watery/blood-stained discharge may occur
Pain	Pelvic pain can occur in advanced disease

UIM ORIGINAL

Screening Prevents; Symptoms Investigate

Used to remember: The distinction between screening and symptomatic assessment

Screening	Designed for asymptomatic people
Symptoms	Abnormal bleeding/discharge requires diagnostic assessment even if screening is up to date

Endometrial Cancer

UIM ORIGINAL

Endometrial Cancer = Bleeding After Menopause

Used to remember: The classic presenting symptom

Postmenopausal bleeding	Most important warning symptom

UIM ORIGINAL

Unopposed Oestrogen = Endometrium Grows

Used to remember: The hormonal risk mechanism

Unopposed oestrogen	Promotes endometrial proliferation without progesterone opposition

UIM ORIGINAL

Endometrial Risk = Obesity, PCOS, Oestrogen, Tamoxifen

Used to remember: Important risk associations

Obesity	Peripheral oestrogen production
PCOS	Chronic anovulation
Oestrogen	Prolonged unopposed exposure
Tamoxifen	Has oestrogenic endometrial effects

Ovarian Cancer

UIM ORIGINAL

Ovarian Cancer = Bloating, Belly, Bladder, Bites Less

Used to remember: Common symptom domains

Bloating	Persistent abdominal distension
Belly	Pelvic/abdominal pain
Bladder	Urinary frequency/urgency
Bites less	Early satiety/reduced appetite

UIM ORIGINAL

Ovary Hides Until It Grows

Used to remember: Why ovarian cancer may present late

Hides	Early symptoms can be vague/non-specific
Grows	Abdominal distension, ascites and mass effects become more apparent later

UIM ORIGINAL

CA-125 = Association, Not Diagnosis

Used to remember: The limitation of CA-125

Association	Often elevated in epithelial ovarian cancer
Not diagnosis	Can be raised in many benign and malignant conditions

UIM ORIGINAL

Ovarian Cancer = Abdomen + Ascites + Adnexal Mass

Used to remember: A classic advanced-disease pattern

Abdomen	Increasing girth/distension
Ascites	May occur
Adnexal mass	May be found clinically or on imaging

Vulval Disease

UIM ORIGINAL

Vulval Itch = Infection, Dermatosis, Neoplasia

Used to remember: Three broad causes of persistent vulval pruritus

Infection	Candida and other infections
Dermatosis	Lichen sclerosus, eczema and inflammatory disease
Neoplasia	VIN or vulval cancer

UIM ORIGINAL

Lichen Sclerosus = White, Thin, Itchy

Used to remember: The classic clinical pattern

White	Porcelain-white plaques
Thin	Atrophic fragile skin
Itchy	Pruritus is common

UIM ORIGINAL

Persistent Vulval Lesion = Look, Biopsy If Needed

Used to remember: The safety principle for suspicious lesions

Persistent lesion	Ulcer, lump, pigment change or unexplained pruritus
Biopsy	Histology is required when neoplasia is suspected

Rapid Reference

Mnemonic	What it recalls
FSH = Follicle; LH = Launches Ovulation	Menstrual physiology
Amenorrhoea = Pregnancy First	Amenorrhoea
Hypothalamus, Pituitary, Ovary, Outflow	Amenorrhoea causes
PALM-COEIN	Abnormal uterine bleeding
PALM = Picture; COEIN = Physiology	AUB structural vs non-structural
PCOS = Periods, Pimples, Hair, Metabolic	PCOS
3 Ds	Endometriosis
Adenomyosis = Endometrium in Muscle	Adenomyosis
Fibroids = Heavy Bleeding + Bulk	Fibroids
PID = Pain, Infection, Discharge	PID
Cervix Moves, Pelvis Hurts	PID
Torsion = Sudden Pain + Vomiting + Mass	Ovarian torsion
Time Is Ovary	Ovarian torsion
Menopause = Oestrogen Down, FSH Up	Menopause
ACHES	Combined hormonal contraception warnings
Ovulation, Tubes, Sperm, Uterus	Infertility
Cervical Cancer = Contact Bleeding	Cervical cancer
Bleeding After Menopause	Endometrial cancer
Bloating, Belly, Bladder, Bites Less	Ovarian cancer
Lichen Sclerosus = White, Thin, Itchy	Vulval disease

Discovery & Verification Sources

Mnemonic discovery: TeachMeObGyn, Geeky Medics, Zero to Finals, Epomedicine and other clinician-education resources specified for the Updates in Medicine mnemonic-book project.

Independent verification: FIGO PALM-COEIN classification; NCBI Bookshelf/StatPearls on abnormal uterine bleeding, ovarian torsion, menstrual physiology and menopause; standard contemporary gynaecology references. PALM-COEIN is included because it functions as a genuine cause-recall device. Ovarian torsion is explicitly treated as a surgical emergency, and normal Doppler flow is not presented as sufficient to exclude it. Postmenopausal bleeding is treated as a malignancy red flag requiring evaluation.

UIM Original entries are clearly labelled. Contraceptive contraindications, fertility treatment and oncology management should follow current specialist guidance.

PAEDIATRICS MNEMONICS

A comprehensive, clinically verified collection of paediatric memory aids

Editorial approach

Only genuine memory devices are included. Developmental ranges, resuscitation doses and formal paediatric scores are not treated as mnemonics merely because they can be abbreviated. Where age-related normal values vary, the mnemonic is kept conceptual and the limitation is stated.

Contents

Growth & Development
Neonatology
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Rapid Reference

Growth & Development

UIM ORIGINAL

Development = Gross, Fine, Language, Social

Used to remember: The four broad developmental domains

Gross	Posture, sitting, standing, walking
Fine	Hand use and visual-motor skills
Language	Receptive and expressive communication
Social	Interaction, play and adaptive behaviour

UIM ORIGINAL

Head First, Feet Later

Used to remember: The cephalocaudal pattern of early motor development

Head first	Head control develops before trunk control
Feet later	Standing and walking follow later

UIM ORIGINAL

Centre Before Fingers

Used to remember: The proximodistal pattern of motor development

Centre	Proximal trunk/shoulder control precedes precise distal hand/finger skills

UIM ORIGINAL

Two Words Around Two

Used to remember: A memorable language milestone

Around age 2	Two-word spontaneous phrases are a useful approximate developmental landmark

Developmental milestones occur across ranges; use validated local surveillance tools rather than a single milestone to judge development.

UIM ORIGINAL

Regression = Red Flag

Used to remember: The importance of loss of previously acquired skills

Regression	Loss of motor, language, social or cognitive skills requires prompt assessment

Neonatology

UIM ORIGINAL

Newborn Trouble = Airway, Breathing, Glucose, Temperature, Infection

Used to remember: Five common immediate neonatal problem domains

Airway	Airway obstruction/secretions/anatomy
Breathing	Respiratory distress/apnoea
Glucose	Hypoglycaemia
Temperature	Hypothermia/hyperthermia
Infection	Early neonatal sepsis

UIM ORIGINAL

Jaundice on Day One = Danger

Used to remember: Why very early neonatal jaundice is abnormal

Day one	Jaundice within the first 24 hours requires urgent assessment for pathological haemolysis or other causes

UIM ORIGINAL

Neonatal Sepsis = Poor Feed, Cold/Hot, Sleepy, Breathing

Used to remember: A nonspecific but important neonatal sepsis pattern

Poor feed	Reduced feeding
Cold/hot	Temperature instability
Sleepy	Lethargy or irritability
Breathing	Apnoea, tachypnoea or respiratory distress

TORCH

Used to remember: Classic congenital infection group

T	Toxoplasmosis
O	Other infections - classically syphilis, varicella, parvovirus and others
R	Rubella
C	Cytomegalovirus
H	Herpes simplex

TORCH is a historical recall device, not a complete modern list of congenital infections.

UIM ORIGINAL

Premature Baby = Lungs, Brain, Gut, Eyes

Used to remember: Four major organ systems vulnerable to complications of prematurity

Lungs	Respiratory distress/chronic lung disease
Brain	Intraventricular haemorrhage and developmental injury
Gut	Necrotising enterocolitis
Eyes	Retinopathy of prematurity

Respiratory Paediatrics

UIM ORIGINAL

Croup = Bark + Stridor

Used to remember: The characteristic upper-airway pattern of croup

Bark	Seal-like barking cough
Stridor	Inspiratory stridor from subglottic upper-airway narrowing

UIM ORIGINAL

Croup: Keep Calm, Steroid; Adrenaline if Severe

Used to remember: The core treatment pattern

Keep calm	Agitation worsens upper-airway obstruction
Steroid	Corticosteroid treatment reduces symptoms
Adrenaline	Nebulised adrenaline is used for moderate-to-severe airway obstruction according to protocol

Exact severity assessment and dosing should follow current paediatric guidance.

UIM ORIGINAL

Bronchiolitis = Baby + Coryza + Wheeze/Crackles + Poor Feed

Used to remember: The classic bronchiolitis presentation

Baby	Usually under 2 years, especially young infants
Coryza	Viral upper-respiratory prodrome
Wheeze/crackles	Lower-airway signs
Poor feed	Feeding difficulty is common

UIM ORIGINAL

Bronchiolitis = Support, Not Routine Drugs

Used to remember: The main management principle

Support	Hydration, nasal care and oxygen/respiratory support when indicated
Not routine drugs	Routine antibiotics, corticosteroids and bronchodilators are generally not recommended for typical bronchiolitis

UIM ORIGINAL

Stridor = Upper; Wheeze = Lower

Used to remember: A rapid airway localisation clue

Stridor	Usually upper or central airway obstruction
Wheeze	Usually lower-airway narrowing

UIM ORIGINAL

Silent Chest = Severe Threat

Used to remember: A dangerous feature in severe childhood asthma

Silent chest	Very poor airflow may abolish wheeze despite worsening obstruction

Congenital Heart Disease

5 Ts of Cyanotic Congenital Heart Disease

Used to remember: Five classic cyanotic congenital cardiac lesions

T1	Tetralogy of Fallot
T2	Transposition of the great arteries
T3	Tricuspid atresia
T4	Total anomalous pulmonary venous return
T5	Truncus arteriosus

PROVe

Used to remember: The four anatomical components of Tetralogy of Fallot

P	Pulmonary outflow obstruction
R	Right ventricular hypertrophy
O	Overriding aorta
V	Ventricular septal defect

UIM ORIGINAL

Tet Spell = Knees to Chest

Used to remember: A classic immediate positioning manoeuvre

Knees to chest	Increases systemic vascular resistance and can reduce right-to-left shunting during a hypercyanotic spell

A hypercyanotic spell is an emergency; use current paediatric cardiology/resuscitation guidance.

UIM ORIGINAL

Heart Failure in Babies = Feed, Breathe, Grow

Used to remember: Three domains affected by infant heart failure

Feed	Sweating/tiring with feeds
Breathe	Tachypnoea/increased work of breathing
Grow	Poor weight gain/failure to thrive

UIM ORIGINAL

Coarctation = Arms Strong, Legs Weak

Used to remember: The classic pulse/BP clue

Arms	Higher upper-limb pressure/stronger pulses
Legs	Weak/delayed femoral pulses and lower leg pressure

Fever, Sepsis & Kawasaki Disease

UIM ORIGINAL

Sick Child = Behaviour, Breathing, Perfusion

Used to remember: Three rapid domains that reveal serious illness

Behaviour	Interaction, alertness, consolability
Breathing	Rate, effort, oxygenation
Perfusion	Colour, capillary refill, pulse and urine output

UIM ORIGINAL

Sepsis = Infection + Organ Trouble

Used to remember: The key modern concept of sepsis

Infection	Suspected or confirmed infection
Organ trouble	Life-threatening organ dysfunction/poor perfusion

UIM ORIGINAL

Non-Blanching Rash + Unwell = Emergency

Used to remember: A key invasive bacterial infection warning sign

Non-blanching	Petechiae/purpura do not disappear under pressure
Unwell	Systemic toxicity demands urgent assessment

CRASH and Burn

Used to remember: Classic Kawasaki disease features

C	Conjunctivitis - bilateral, non-purulent
R	Rash
A	Adenopathy - classically cervical
S	Strawberry tongue / oral mucosal changes
H	Hands and feet changes
Burn	Persistent fever

Incomplete Kawasaki disease occurs; not every feature must be present.

UIM ORIGINAL

Kawasaki = Fever + Mucocutaneous + Coronaries

Used to remember: The key clinical consequence

Fever	Prolonged inflammatory fever
Mucocutaneous	Characteristic eye, mouth, skin and extremity changes
Coronaries	Coronary artery aneurysm is the major feared complication

Seizures & Neurology

UIM ORIGINAL

Simple Febrile Seizure = Brief, Generalised, Once

Used to remember: The classic pattern of a simple febrile seizure

Brief	Usually <=15 minutes
Generalised	No focal features
Once	Does not recur within 24 hours

UIM ORIGINAL

Complex = Long, Local, or Lots

Used to remember: The three ways a febrile seizure becomes complex

Long	>=15 minutes
Local	Focal features
Lots	More than one seizure within 24 hours

UIM ORIGINAL

Febrile Seizure = Treat the Child, Find the Fever

Used to remember: The main clinical priority after a self-limited seizure

Child	Assess ABC, glucose and recovery
Fever	Look for the source and exclude CNS infection when clinically indicated

UIM ORIGINAL

Meningitis = Fever, Neck/Fontanelle, Behaviour

Used to remember: Age-adjusted neurological warning domains

Fever	Often present
Neck/fontanelle	Neck stiffness in older child; bulging fontanelle may occur in infants
Behaviour	Irritability, lethargy, altered consciousness or seizures

UIM ORIGINAL

Raised ICP = Headache, Vomit, Vision, Behaviour

Used to remember: Four warning domains of raised intracranial pressure

Headache	Often progressive or morning-predominant
Vomit	Especially unexplained/recurrent
Vision	Papilloedema/diplopia
Behaviour	Altered consciousness, irritability or developmental change

Gastrointestinal Paediatrics

UIM ORIGINAL

Pyloric Stenosis = Projectile + Olive + Hungry

Used to remember: Three classic features of hypertrophic pyloric stenosis

Projectile	Forceful non-bilious vomiting
Olive	Palpable pyloric 'olive' may be felt
Hungry	Infant often wants to feed again after vomiting

UIM ORIGINAL

Pyloric = Hypochloraemic, Hypokalaemic Alkalosis

Used to remember: The classic biochemical consequence of prolonged gastric vomiting

Chloride down	Loss of gastric HCl
Potassium down	Renal/GI losses
Alkalosis	Metabolic alkalosis

UIM ORIGINAL

Intussusception = Pain, Pull Legs, Sausage, Red Jelly

Used to remember: The classic intussusception pattern

Pain	Intermittent colicky pain
Pull legs	Child may draw knees to abdomen
Sausage	Sausage-shaped abdominal mass may be present
Red jelly	Red-currant-jelly stool is a late/classic sign

The full classic triad is often absent.

UIM ORIGINAL

Hirschsprung = No Meconium, Big Belly, Blast After Rectal

Used to remember: A classic neonatal Hirschsprung presentation

No meconium	Delayed passage of meconium
Big belly	Abdominal distension
Blast	Explosive stool/gas may follow rectal examination

UIM ORIGINAL

Bilious Vomit = Green Means Surgical Until Proven Otherwise

Used to remember: The significance of bilious vomiting in infants

Green	True bilious emesis suggests obstruction distal to the ampulla
Surgical	Malrotation/volvulus and other obstruction must be excluded urgently

UIM ORIGINAL

Dehydration = Eyes, Mouth, Tears, Urine, Perfusion

Used to remember: Five bedside domains to assess hydration

Eyes	Sunken appearance
Mouth	Dry mucosa
Tears	Reduced/absent
Urine	Reduced output
Perfusion	Capillary refill, pulse and skin temperature

Renal & Urinary Disease

UIM ORIGINAL

Nephrotic = Protein Pours Out

Used to remember: The central feature of nephrotic syndrome

Protein	Heavy proteinuria causes hypoalbuminaemia and oedema

UIM ORIGINAL

Nephritic = Blood + Pressure + Kidney

Used to remember: The classic nephritic pattern

Blood	Haematuria
Pressure	Hypertension
Kidney	Reduced renal function/oliguria may occur

UIM ORIGINAL

Child UTI = Fever Without Focus Can Be Urine

Used to remember: Why UTI should be considered in febrile young children

Fever	UTI may present with nonspecific fever, especially in infants
Urine	Appropriate urine testing is important when clinically indicated

UIM ORIGINAL

HUS = Anaemia, Low Platelets, AKI

Used to remember: The classic triad of haemolytic uraemic syndrome

Anaemia	Microangiopathic haemolytic anaemia
Low platelets	Thrombocytopenia
AKI	Acute kidney injury

UIM ORIGINAL

Post-Strep Kidney = Cola Urine + Puffy Face

Used to remember: A classic acute post-streptococcal glomerulonephritis pattern

Cola urine	Macroscopic haematuria
Puffy face	Periorbital oedema, often with hypertension

Endocrine & Metabolic Paediatrics

UIM ORIGINAL

Type 1 Diabetes = Pee, Thirst, Weight Loss

Used to remember: Three common presenting clues

Pee	Polyuria/enuresis
Thirst	Polydipsia
Weight loss	Catabolic weight loss despite appetite

UIM ORIGINAL

DKA = Dehydrated, Kussmaul, Ketones

Used to remember: A classic diabetic ketoacidosis pattern

Dehydrated	Volume depletion
Kussmaul	Deep acidotic breathing
Ketones	Ketonaemia/ketonuria with acidosis

UIM ORIGINAL

DKA Brain Warning = Headache, Behaviour, Bradycardia

Used to remember: Concerning features for cerebral injury during paediatric DKA

Headache	New/worsening headache
Behaviour	Irritability, confusion or reduced consciousness
Bradycardia	Relative bradycardia with hypertension/neurological deterioration is concerning

Use current paediatric DKA protocols; cerebral injury can present variably.

UIM ORIGINAL

Congenital Hypothyroid = Sleepy, Slow, Large Tongue

Used to remember: Classic neonatal/infant hypothyroid clues

Sleepy	Lethargy/poor feeding
Slow	Constipation, bradycardia and delayed development may occur
Large tongue	Macroglossia may be present

UIM ORIGINAL

Adrenal Crisis = Low Pressure, Low Sugar, Low Sodium

Used to remember: Three important abnormalities

Low pressure	Shock/hypotension
Low sugar	Hypoglycaemia
Low sodium	Hyponatraemia; hyperkalaemia may occur in primary adrenal failure

Haematology & Oncology

UIM ORIGINAL

Iron Deficiency = Pale, Tired, Pica

Used to remember: Three common clues

Pale	Pallor
Tired	Fatigue/reduced activity
Pica	Non-food cravings may occur

UIM ORIGINAL

Leukaemia = Pale, Bruised, Fever, Bone Pain

Used to remember: Four classic paediatric leukaemia presentation domains

Pale	Anaemia
Bruised	Thrombocytopenia
Fever	Infection/neutropenia or disease
Bone pain	Marrow expansion/infiltration

UIM ORIGINAL

Childhood Cancer Red Flags = Lump, Persistent Bone Pain, Neuro Change, Weight Loss

Used to remember: Four broad warning domains

Lump	Persistent/unexplained mass or lymphadenopathy
Bone pain	Persistent/night pain or limp
Neuro change	Morning headache/vomiting, focal deficit or regression
Weight loss	Unexplained systemic symptoms

UIM ORIGINAL

Sickle Crisis = Pain, Chest, Brain, Infection

Used to remember: Four dangerous sickle-cell complication domains

Pain	Vaso-occlusive crisis
Chest	Acute chest syndrome
Brain	Stroke
Infection	Functional asplenia increases severe infection risk

Genetic & Chromosomal Syndromes

UIM ORIGINAL

Down Syndrome = Heart, Gut, Thyroid, Blood

Used to remember: Four important medical association groups

Heart	Congenital heart disease, especially AV septal defects
Gut	Duodenal atresia/Hirschsprung and feeding issues
Thyroid	Hypothyroidism risk
Blood	Transient abnormal myelopoiesis/leukaemia risk

UIM ORIGINAL

Turner = Short + Shield + Coarctation

Used to remember: Three classic Turner syndrome associations

Short	Short stature
Shield	Broad shield chest/webbed neck features may occur
Coarctation	Coarctation/bicuspid aortic valve are important cardiac associations

UIM ORIGINAL

Noonan = Turner-Like but Both Sexes

Used to remember: A classic comparison memory aid

Turner-like	Short stature, webbed neck/chest features
Both sexes	Autosomal-dominant RASopathy affecting males and females
Heart	Pulmonary valve stenosis/hypertrophic cardiomyopathy are important associations

UIM ORIGINAL

Marfan = Tall, Lens, Aorta

Used to remember: Three high-yield Marfan syndrome domains

Tall	Long limbs/arachnodactyly
Lens	Ectopia lentis
Aorta	Aortic root dilatation/dissection risk

Paediatric Emergencies

UIM ORIGINAL

Sick Child = Behaviour, Breathing, Perfusion

Used to remember: A rapid first-look assessment

Behaviour	Alertness, interaction, tone
Breathing	Effort, sounds, oxygenation
Perfusion	Colour, pulse, capillary refill

UIM ORIGINAL

Anaphylaxis = Airway, Breathing, Circulation After Allergen

Used to remember: The life-threatening systems involved

Airway	Swelling/stridor
Breathing	Wheeze/hypoxaemia
Circulation	Hypotension/collapse
Allergen	Often follows food, drug, insect or other exposure

UIM ORIGINAL

IM Adrenaline = First-Line

Used to remember: The cornerstone of paediatric anaphylaxis treatment

IM	Intramuscular route
Adrenaline	First-line treatment when anaphylaxis is present

Use current age/weight-specific emergency dosing guidance.

UIM ORIGINAL

Seizure >5 Minutes = Treat as Prolonged

Used to remember: The practical emergency threshold

>5 minutes	A convulsive seizure persisting beyond about 5 minutes is unlikely to stop promptly on its own and requires emergency treatment

UIM ORIGINAL

Shock in Children = Fast Pulse Before Low Pressure

Used to remember: Why hypotension is a late sign

Fast pulse	Tachycardia and vasoconstriction often compensate initially
Low pressure	Hypotension usually indicates decompensated shock

UIM ORIGINAL

Never Miss: Sepsis, Torsion, DKA, Meningitis, Non-Accidental Injury

Used to remember: Five time-critical paediatric diagnoses

Sepsis	Infection with organ dysfunction
Torsion	Testicular/ovarian torsion
DKA	Diabetic ketoacidosis
Meningitis	CNS infection
Non-accidental injury	Safeguarding emergency

Safeguarding

UIM ORIGINAL

Bruise That Doesn't Fit the Story = Stop and Think

Used to remember: The central safeguarding principle

Doesn't fit	Injury pattern, developmental ability, mechanism and history should be coherent

UIM ORIGINAL

Non-Mobile Baby + Bruise = Red Flag

Used to remember: Why bruising in a non-mobile infant deserves careful evaluation

Non-mobile	Accidental bruising is uncommon before independent mobility
Red flag	Consider non-accidental injury and follow safeguarding pathways

UIM ORIGINAL

Safeguarding = Child, Story, Pattern, Delay

Used to remember: Four domains that raise concern

Child	Developmental ability and vulnerability
Story	Inconsistent/changing explanation
Pattern	Unusual injury sites/shapes or multiple injuries
Delay	Unexplained delay seeking care

UIM ORIGINAL

Document What You See, Not What You Assume

Used to remember: A key medicolegal safeguarding principle

See	Record exact history, examination, measurements, diagrams/photos per policy
Assume	Avoid speculative labels unsupported by evidence

Rapid Reference

Mnemonic	What it recalls
Gross, Fine, Language, Social	Development
Head First, Feet Later	Motor development
Jaundice on Day One = Danger	Neonatal jaundice
TORCH	Congenital infections
Croup = Bark + Stridor	Croup
Bronchiolitis = Baby + Coryza + Wheeze/Crackles + Poor Feed	Bronchiolitis
Stridor Upper; Wheeze Lower	Airway localisation
5 Ts	Cyanotic congenital heart disease
PROVe	Tetralogy of Fallot
CRASH and Burn	Kawasaki disease
Brief, Generalised, Once	Simple febrile seizure
Long, Local, or Lots	Complex febrile seizure
Projectile + Olive + Hungry	Pyloric stenosis
Pain, Pull Legs, Sausage, Red Jelly	Intussusception
Green Means Surgical	Bilious vomiting
Protein Pours Out	Nephrotic syndrome
Blood + Pressure + Kidney	Nephritic syndrome
Anaemia + Low Platelets + AKI	HUS
Pee, Thirst, Weight Loss	Type 1 diabetes
Dehydrated, Kussmaul, Ketones	DKA
Pale, Bruised, Fever, Bone Pain	Leukaemia
Tall, Lens, Aorta	Marfan syndrome
Behaviour, Breathing, Perfusion	Sick child
Non-Mobile Baby + Bruise = Red Flag	Safeguarding

Discovery & Verification Sources

Mnemonic discovery: Don't Forget the Bubbles paediatric emergency and teaching resources; Geeky Medics paediatric teaching; Epomedicine and other mnemonic resources specified for the Updates in Medicine project.

Independent verification: NCBI Bookshelf/StatPearls paediatric bronchiolitis, croup and febrile-seizure references; Don't Forget the Bubbles croup and febrile-seizure reviews; standard paediatric references. The bronchiolitis section emphasises supportive care and avoids routine antibiotic/corticosteroid treatment. Croup is distinguished as an

upper-airway illness with barking cough and inspiratory stridor. Febrile seizure content preserves the standard simple-versus-complex distinctions while avoiding unnecessary investigation rules as mnemonics. Developmental milestones are intentionally expressed as broad memory anchors rather than rigid cut-offs.

UIM Original entries are clearly labelled. Exact paediatric drug doses, fluid calculations, resuscitation algorithms and age-specific normal ranges should be taken from current local paediatric protocols.

PART VI | OTHER SPECIALTIES

PSYCHIATRY MNEMONICS

A comprehensive, clinically verified collection of psychiatry memory aids

Editorial approach
Only genuine memory devices are included. Screening tools, diagnostic scores and suicide-risk checklists are not presented merely because they have acronyms. Risk assessment is treated as a clinical process, not a score.

Contents

Mental State Examination
Depression
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Anxiety & Panic
Obsessive-Compulsive Disorder
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Suicide & Self-Harm Risk
Capacity & Insight
Rapid Reference

Mental State Examination

UIM ORIGINAL

Appearance, Speech, Mood, Thought, Perception, Cognition, Insight, Risk

Used to remember: The core domains of the mental state examination

Appearance/behaviour	Grooming, eye contact, psychomotor activity and engagement
Speech	Rate, volume, quantity, tone and fluency
Mood/affect	Subjective mood and observed affect
Thought	Form and content
Perception	Hallucinations and related phenomena
Cognition	Orientation, attention and memory
Insight	Understanding of illness/need for help
Risk	Self-harm, suicide, harm to others, vulnerability and self-neglect

UIM ORIGINAL

Mood Is Said; Affect Is Seen

Used to remember: The distinction between subjective mood and observed affect

Mood	Patient's sustained internal emotional state
Affect	Clinician-observed emotional expression

UIM ORIGINAL

Thought = Form + Content

Used to remember: The two broad dimensions of thought assessment

Form	How thoughts are organised - e.g. flight, loosening, blocking
Content	What the person thinks - e.g. delusions, guilt, obsession, suicidal ideas

UIM ORIGINAL

Hallucination = Perception Without Stimulus

Used to remember: The defining concept of hallucination

Perception	Experience in a sensory modality
Without stimulus	Occurs without a corresponding external sensory input

UIM ORIGINAL

Illusion = Real Stimulus, Wrong Interpretation

Used to remember: The contrast between illusion and hallucination

Real stimulus	External sensory input exists
Wrong interpretation	It is misperceived

Depression

SIGECAPS

Used to remember: Common symptom domains of a major depressive episode

S	Sleep disturbance
I	Interest/pleasure reduced
G	Guilt or worthlessness
E	Energy reduced
C	Concentration impaired
A	Appetite/weight change
P	Psychomotor change
S	Suicidal thoughts

A mnemonic for symptom recall, not a substitute for formal diagnostic duration, impairment and exclusion criteria.

UIM ORIGINAL

Depression = Low Mood + Loss of Pleasure

Used to remember: The two hallmark clinical features

Low mood	Persistent depressed mood
Loss of pleasure	Anhedonia/loss of interest

UIM ORIGINAL

Depression Slows: Speech, Thought, Movement

Used to remember: The psychomotor pattern of severe depression

Speech	Reduced/slow speech
Thought	Slow cognition/rumination
Movement	Psychomotor retardation may occur

UIM ORIGINAL

Melancholia = Morning Worse, Early Wake, No Pleasure

Used to remember: A classic biological symptom pattern

Morning worse	Diurnal variation may occur
Early wake	Early-morning waking
No pleasure	Marked anhedonia/non-reactive mood

Not every patient with severe depression has melancholic features.

Bipolar Disorder & Mania

DIGFAST

Used to remember: Classic manic symptom domains

D	Distractibility
I	Impulsivity / indiscretion
G	Grandiosity
F	Flight of ideas
A	Activity / agitation increased
S	Sleep need decreased
T	Talkativeness / pressured speech

A symptom mnemonic, not a complete diagnostic rule; duration and functional impact matter.

UIM ORIGINAL

Mania = Mood Up, Energy Up, Sleep Need Down

Used to remember: Three high-yield manic features

Mood up	Elevated, expansive or irritable mood
Energy up	Increased activity/drive
Sleep need down	Reduced need for sleep without feeling tired

UIM ORIGINAL

Flight of Ideas = Fast but Connected

Used to remember: The distinction from severely disorganised thought

Fast	Rapidly shifting thoughts
Connected	Associations are still traceable, often via understandable links

UIM ORIGINAL

Bipolar = Treat the Pole You're In

Used to remember: Why treatment depends on the current episode

Pole	Acute mania, bipolar depression and maintenance require different treatment approaches

Medication choices require specialist assessment and current guidance.

Psychosis & Schizophrenia

UIM ORIGINAL

Positive Adds; Negative Subtracts

Used to remember: The broad distinction between positive and negative psychotic symptoms

Positive adds	Hallucinations, delusions and disorganised phenomena are added experiences
Negative subtracts	Reduced motivation, speech, emotional expression and social drive

5 As of Negative Symptoms

Used to remember: A classic negative-symptom recall aid

Affective flattening	Reduced emotional expression
Alogia	Reduced speech
Avolition	Reduced motivation
Anhedonia	Reduced pleasure
Asociality	Reduced social interest

Terminology overlaps and modern negative-symptom frameworks separate experiential and expressive domains.

UIM ORIGINAL

Delusion = Fixed False Belief, Not Shared by Culture

Used to remember: The classical clinical concept of delusion

Fixed	Held with strong conviction
False	Not supported by evidence
Culture	Must be judged in the person's cultural/religious context

UIM ORIGINAL

First-Rank Style = Voices, Thought Interference, Passivity

Used to remember: Three classic Schneiderian psychosis themes

Voices	Voices commenting/discussing
Thought interference	Insertion, withdrawal or broadcasting
Passivity	Experiences of external control

These features are neither necessary nor specific for schizophrenia.

UIM ORIGINAL

Psychosis Differential = Primary, Drugs, Mood, Brain, Body

Used to remember: Five major categories to consider

Primary	Schizophrenia-spectrum psychosis
Drugs	Intoxication/withdrawal/medications
Mood	Mania or severe depression with psychotic features
Brain	Delirium, epilepsy, neurological disease
Body	Endocrine, metabolic, autoimmune or infectious causes

Anxiety & Panic

UIM ORIGINAL

Panic = Peaks Fast

Used to remember: The time course of a panic attack

Peaks fast	Abrupt intense fear/discomfort typically reaches a peak within minutes

UIM ORIGINAL

Panic = Heart, Breath, Tremble, Doom

Used to remember: Four memorable symptom domains

Heart	Palpitations/chest discomfort
Breath	Dyspnoea/choking sensation
Tremble	Tremor/sweating/paraesthesia
Doom	Fear of dying, losing control or going crazy

UIM ORIGINAL

GAD = Worry Everywhere, Most Days

Used to remember: The core pattern of generalised anxiety disorder

Everywhere	Excessive worry across multiple domains
Most days	Persistent rather than episodic

UIM ORIGINAL

Anxiety = Mind + Body

Used to remember: The dual presentation of anxiety

Mind	Worry, fear, hypervigilance, rumination
Body	Palpitations, tremor, sweating, GI symptoms and muscle tension

Obsessive-Compulsive Disorder

UIM ORIGINAL

Obsessions Intrude; Compulsions Are Done

Used to remember: The core distinction in OCD

Obsessions	Recurrent intrusive thoughts, images or urges
Compulsions	Repeated behaviours or mental acts performed in response

UIM ORIGINAL

OCD = Unwanted Thought, Repeated Act, Temporary Relief

Used to remember: The reinforcing cycle

Thought	Intrusive obsession
Act	Compulsion/ritual
Relief	Anxiety briefly falls, reinforcing the behaviour

UIM ORIGINAL

OCD Insight Often Present

Used to remember: A useful distinction from fixed delusional belief

Insight	Many patients recognise thoughts/rituals as excessive or unreasonable, though insight varies

Post-Traumatic Stress Disorder

HARD

Used to remember: Core symptom domains of post-traumatic stress disorder

H	Hyperarousal / persistent sense of threat
A	Avoidance
R	Re-experiencing
D	Distress / functional impairment

A recall device for major domains; formal diagnostic criteria include duration and additional cognitive/mood features.

UIM ORIGINAL

PTSD = Past Event Feels Present

Used to remember: The essence of intrusive re-experiencing

Past event	Traumatic memory
Feels present	Flashbacks, intrusive memories or nightmares can recreate a sense of current threat

UIM ORIGINAL

Trauma Disorders = Re-live, Avoid, Stay Alert

Used to remember: Three clinically memorable PTSD processes

Re-live	Intrusive memories/nightmares/flashbacks
Avoid	Avoid reminders, thoughts or feelings
Stay alert	Hypervigilance/startle/sleep disturbance

Personality Disorders

Weird, Wild, Worried

Used to remember: The traditional three personality-disorder clusters

Weird - Cluster A	Paranoid, schizoid, schizotypal
Wild - Cluster B	Antisocial, borderline, histrionic, narcissistic
Worried - Cluster C	Avoidant, dependent, obsessive-compulsive personality disorder

A traditional descriptive mnemonic. Personality-disorder classification systems and terminology continue to evolve.

UIM ORIGINAL

Cluster A = Odd; B = Dramatic; C = Anxious

Used to remember: The broad cluster themes

A	Odd/eccentric
B	Dramatic/emotional/erratic
C	Anxious/fearful

UIM ORIGINAL

Borderline = Unstable Self, Mood, Relationships

Used to remember: Three central clinical domains

Self	Unstable identity/self-image
Mood	Marked affective instability
Relationships	Intense unstable relationships; impulsivity and self-harm risk may occur

Eating Disorders

UIM ORIGINAL

Anorexia = Low Weight + Fear of Weight Gain

Used to remember: Two central clinical features

Low weight	Significantly low body weight in the clinical context
Fear	Persistent fear of gaining weight or behaviours preventing weight gain

UIM ORIGINAL

Bulimia = Binge + Compensate

Used to remember: The defining behavioural cycle

Binge	Recurrent episodes of objectively large intake with loss of control
Compensate	Vomiting, laxatives, fasting or excessive exercise

UIM ORIGINAL

Eating Disorder Red Flags = Heart, Electrolytes, Temperature, Syncope

Used to remember: Four markers of medical instability

Heart	Bradycardia/arrhythmia
Electrolytes	Potassium/phosphate and other abnormalities
Temperature	Hypothermia
Syncope	Hypotension/dehydration/cardiovascular compromise

UIM ORIGINAL

Refeeding = Phosphate Falls

Used to remember: The key biochemical danger during nutritional rehabilitation

Phosphate	Hypophosphataemia is a hallmark of refeeding syndrome; potassium, magnesium, thiamine and fluid balance also matter

Substance Use & Withdrawal

UIM ORIGINAL

Alcohol Withdrawal = Shake, Sweat, Seizure, See Things

Used to remember: A memorable progression of alcohol withdrawal

Shake	Tremor
Sweat	Autonomic overactivity
Seizure	Withdrawal seizures may occur
See things	Hallucinations/delirium can develop in severe withdrawal

UIM ORIGINAL

Delirium Tremens = Confused + Autonomic + Hallucinating

Used to remember: The severe alcohol-withdrawal syndrome

Confused	Delirium
Autonomic	Tachycardia, sweating, hypertension, fever
Hallucinating	Visual/tactile hallucinations may occur

UIM ORIGINAL

Opioid Withdrawal = Flu-Like + Big Pupils + Diarrhoea

Used to remember: The classic opioid withdrawal pattern

Flu-like	Aches, rhinorrhoea, lacrimation
Big pupils	Mydriasis
Diarrhoea	GI hyperactivity

UIM ORIGINAL

Opioid Overdose = Pinpoint + Slow Breathing + Sleepy

Used to remember: The contrasting opioid toxidrome

Pinpoint	Miosis
Slow breathing	Respiratory depression
Sleepy	Reduced consciousness

Delirium & Dementia

UIM ORIGINAL

Delirium = Acute, Fluctuating, Inattentive

Used to remember: The defining clinical pattern of delirium

Acute	Hours to days
Fluctuating	Severity changes over short periods
Inattentive	Attention is impaired

UIM ORIGINAL

Dementia = Slow and Steady

Used to remember: The usual time course of major neurocognitive disorder

Slow	Usually develops over months/years
Steady	More persistent than the hour-to-hour fluctuation of delirium

Some dementias progress rapidly or fluctuate; this is a broad contrast.

UIM ORIGINAL

Delirium Causes = Drugs, Infection, Metabolic, Pain, Environment

Used to remember: Five common reversible domains

Drugs	New medication, intoxication or withdrawal
Infection	Common trigger
Metabolic	Hypoxia, glucose/electrolytes, organ failure
Pain	Pain, retention or constipation
Environment	Sleep loss, sensory deprivation and unfamiliar setting

UIM ORIGINAL

Delirium = Brain Failure

Used to remember: The seriousness of acute confusion

Brain failure	Delirium reflects acute cerebral dysfunction and should prompt investigation for an underlying medical cause

Psychiatric Medication Adverse Effects

UIM ORIGINAL

SSRIs = Stomach, Sex, Serotonin

Used to remember: Three memorable SSRI adverse-effect domains

Stomach	Nausea/diarrhoea
Sex	Sexual dysfunction
Serotonin	Serotonin toxicity risk with serotonergic combinations

UIM ORIGINAL

Lithium = Tremor, Thyroid, Kidney

Used to remember: Three high-yield long-term lithium adverse-effect domains

Tremor	Fine tremor may occur
Thyroid	Hypothyroidism
Kidney	Nephrogenic diabetes insipidus/chronic renal effects

Lithium has a narrow therapeutic index; toxicity risk rises with dehydration and interacting drugs.

UIM ORIGINAL

Clozapine = Blood, Heart, Gut, Seizure

Used to remember: Four important serious clozapine adverse-effect domains

Blood	Neutropenia/agranulocytosis
Heart	Myocarditis/cardiomyopathy
Gut	Severe constipation/ileus
Seizure	Dose-related seizure risk

UIM ORIGINAL

Antipsychotic EPSE = Acute Dystonia, Akathisia, Parkinsonism, Tardive

Used to remember: The four classic extrapyramidal syndromes

Acute dystonia	Sustained abnormal muscle contractions
Akathisia	Inner restlessness
Parkinsonism	Rigidity, bradykinesia, tremor
Tardive	Late involuntary dyskinetic movements

UIM ORIGINAL

Serotonin = Fast, Hot, Twitchy; NMS = Slow, Hot, Rigid

Used to remember: A useful contrast between serotonin syndrome and neuroleptic malignant syndrome

Serotonin	Rapid onset, hyperreflexia/clonus and autonomic activation
NMS	More gradual onset, severe rigidity and dopamine-blockade association

Both are medical emergencies and real cases may not follow textbook patterns.

Suicide & Self-Harm Risk

UIM ORIGINAL

Suicide Risk = Thoughts, Intent, Plan, Means, Past, Supports

Used to remember: A structured clinical risk conversation

Thoughts	Current suicidal thoughts
Intent	Likelihood of acting
Plan	Specificity and preparation
Means	Access to lethal methods
Past	Previous attempts/self-harm, psychiatric illness and recent losses
Supports	Protective factors, relationships and ability to seek help

UIM ORIGINAL

Past Attempt = Powerful Warning

Used to remember: The importance of previous suicidal behaviour

Past attempt	Previous suicide attempt is one of the strongest clinical risk indicators for future suicidal behaviour

UIM ORIGINAL

Ask Directly - It Does Not Plant the Idea

Used to remember: The importance of direct suicide questioning

Direct questions	Ask clearly about suicidal thoughts, intent, plan and preparations

UIM ORIGINAL

Risk Is Dynamic, Not a Score

Used to remember: Why suicide-risk assessment must be repeated

Dynamic	Intent, access to means, intoxication, stressors and protective factors can change rapidly
Not a score	Do not use a mnemonic/checklist such as SAD PERSONS to predict who will die by suicide

Capacity & Insight

Capacity = Understand, Retain, Weigh, Communicate

Used to remember: The four functional abilities commonly assessed in decision-making capacity

Understand	Relevant information
Retain	Long enough to make the decision
Weigh	Use/balance information in reaching a choice
Communicate	Express the decision by any effective means

Legal tests vary by jurisdiction; capacity is decision-specific and time-specific.

UIM ORIGINAL

Capacity Is Decision-Specific, Time-Specific

Used to remember: Two key principles

Decision-specific	A person may have capacity for one choice but not another
Time-specific	Capacity can fluctuate or improve

UIM ORIGINAL

Insight = Problem, Cause, Need for Help

Used to remember: Three practical domains of psychiatric insight

Problem	Recognition that something is wrong
Cause	Understanding of the nature/origin of symptoms
Help	Recognition of need for treatment/support

UIM ORIGINAL

Disagreeing Is Not Incapacity

Used to remember: An important autonomy principle

Disagreeing	A person may make an unwise or unconventional decision and still have capacity if the functional test is met

Rapid Reference

Mnemonic	What it recalls
Mood Is Said; Affect Is Seen	MSE
Thought = Form + Content	MSE
SIGECAPS	Depression
DIGFAST	Mania
Positive Adds; Negative Subtracts	Schizophrenia
5 As	Negative symptoms
Panic = Peaks Fast	Panic attack
Obsessions Intrude; Compulsions Are Done	OCD
HARD	PTSD
Weird, Wild, Worried	Personality clusters
Anorexia = Low Weight + Fear	Eating disorders
Bulimia = Binge + Compensate	Bulimia nervosa
Shake, Sweat, Seizure, See Things	Alcohol withdrawal
Delirium = Acute, Fluctuating, Inattentive	Delirium
Lithium = Tremor, Thyroid, Kidney	Lithium adverse effects
Clozapine = Blood, Heart, Gut, Seizure	Clozapine adverse effects
Serotonin Fast/Hot/Twitchy; NMS Slow/Hot/Rigid	Drug emergencies
Thoughts, Intent, Plan, Means, Past, Supports	Suicide risk
Understand, Retain, Weigh, Communicate	Capacity
Problem, Cause, Need for Help	Insight

Discovery & Verification Sources

Mnemonic discovery: Geeky Medics psychiatry mnemonic and mental-state-examination resources; standard psychiatry teaching resources in the Updates in Medicine source list.

Independent verification: Geeky Medics Mental State Examination guide (updated August 2026); NCBI/StatPearls on neuroleptic malignant syndrome and related psychiatric emergencies; standard contemporary psychiatry references. SIGECAPS, DIGFAST and HARD are retained as symptom-domain memory aids. The traditional SAD PERSONS checklist was deliberately not used as a suicide-prediction tool because clinical risk assessment should not rely on a score. Personality-cluster and psychosis mnemonics are explicitly presented as broad teaching aids rather than diagnostic criteria.

UIM Original entries are clearly labelled. Diagnostic thresholds, legal frameworks and medication management should follow current local psychiatric guidance.

PART VI | OTHER SPECIALTIES

OPHTHALMOLOGY MNEMONICS

A comprehensive, clinically verified collection of ophthalmology memory aids

Editorial approach

Only genuine memory devices and clinically useful pattern-recognition aids are included. Visual-acuity charts, glaucoma staging systems and formal retinal classifications are not presented merely because they use abbreviations. Acute visual loss and painful red-eye entries are framed as recognition aids for urgent referral.

Contents

Eye Examination
Pupils & Cranial Nerves
The Red Eye
Sudden Visual Loss
Glaucoma
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Retinal Detachment & Vitreous Disease
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Diabetic & Hypertensive Retinopathy
Optic Nerve Disease
Cataract & Lens
Eye Trauma
Paediatric Ophthalmology
Rapid Reference

Eye Examination

UIM ORIGINAL

Vision First, Eye Second

Used to remember: The priority of documenting visual acuity before detailed examination

Vision first	Record visual acuity in each eye whenever possible
Eye second	Then examine pupils, movements, anterior segment and fundus

Acute ophthalmic guidance consistently emphasises documenting visual acuity early.

UIM ORIGINAL

Look, Acuity, Pupils, Movements, Fields, Fundus

Used to remember: A practical sequence for basic eye examination

Look	External eye, lids, redness, discharge, trauma
Acuity	Each eye separately
Pupils	Size, reaction and RAPD
Movements	Extraocular movements/diplopia
Fields	Confrontation visual fields
Fundus	Disc, macula, vessels and retina

UIM ORIGINAL

Pin-Hole Improves = Think Refractive

Used to remember: The interpretation of pinhole visual acuity

Improves	Visual acuity improvement with pinhole suggests refractive blur rather than fixed retinal/optic-nerve pathology

UIM ORIGINAL

Red Reflex Gone = Media Is Cloudy

Used to remember: Why the red reflex can be reduced

Media cloudy	Corneal opacity, cataract, vitreous haemorrhage or other media opacity can reduce the red reflex

Pupils & Cranial Nerves

UIM ORIGINAL

Swinging Light Finds RAPD

Used to remember: The bedside test for a relative afferent pupillary defect

Swinging light	Alternate a bright light between the two eyes
RAPD	Affected afferent pathway produces paradoxical relative dilation when light is swung to that eye

UIM ORIGINAL

RAPD = Retina or Optic Nerve

Used to remember: The main anatomical localisations of a relative afferent pupillary defect

Retina	Severe asymmetric retinal disease
Optic nerve	Optic neuropathy is a classic cause

LR6 SO4, All the Rest 3

Used to remember: The cranial nerve supply to extraocular muscles

LR6	Lateral rectus - CN VI
SO4	Superior oblique - CN IV
Rest 3	Most other extraocular muscles - CN III

UIM ORIGINAL

Third Nerve = Down and Out, Often a Big Pupil

Used to remember: The classic complete oculomotor palsy pattern

Down and out	Unopposed lateral rectus and superior oblique
Big pupil	Parasympathetic fibre involvement can dilate the pupil

A painful pupil-involving third-nerve palsy is an emergency because aneurysmal compression must be excluded.

UIM ORIGINAL

Fourth Nerve = Trouble Looking Down While In

Used to remember: The functional deficit of superior oblique palsy

Down while in	Diplopia is often worse looking down in adduction, e.g. stairs or reading

UIM ORIGINAL

Sixth Nerve = Can't Look Out

Used to remember: The deficit of lateral rectus palsy

Can't look out	Weak abduction causes horizontal diplopia

The Red Eye

UIM ORIGINAL

Red Eye Danger = Pain, Photophobia, Vision Loss

Used to remember: Three features suggesting a potentially sight-threatening red eye

Pain	Moderate/severe ocular pain
Photophobia	Especially consensual photophobia
Vision loss	Reduced acuity

UIM ORIGINAL

Conjunctivitis = Gritty, Discharge, Vision Preserved

Used to remember: The typical uncomplicated conjunctivitis pattern

Gritty	Irritation rather than deep pain
Discharge	Watery or mucopurulent
Vision preserved	No true significant visual loss after clearing discharge

UIM ORIGINAL

Cornea = Pain + Photophobia + Fluorescein

Used to remember: The clinical pattern of keratitis/corneal epithelial disease

Pain	Often significant
Photophobia	Common
Fluorescein	Epithelial defect may stain

UIM ORIGINAL

Uveitis = Pain, Photophobia, Small Pupil

Used to remember: A classic anterior uveitis pattern

Pain	Aching ocular pain
Photophobia	Often prominent, including consensual photophobia
Small pupil	Miosis/irregularity can occur from iris spasm or synechiae

UIM ORIGINAL

Angle Closure = Pain, Halos, Nausea, Mid-Dilated Pupil

Used to remember: The classic acute angle-closure glaucoma presentation

Pain	Severe unilateral ocular/periocular pain
Halos	Blurred vision with coloured halos
Nausea	Headache, nausea and vomiting may occur
Mid-dilated pupil	Poorly reactive mid-dilated pupil can be seen

Acute angle closure is an ophthalmic emergency requiring immediate pressure-lowering treatment and definitive ophthalmic management.

Sudden Visual Loss

UIM ORIGINAL

Sudden Visual Loss = Retina, Artery, Nerve, Angle, Blood

Used to remember: Five important anatomical/mechanistic categories

Retina	Retinal detachment
Artery	Retinal artery occlusion
Nerve	Optic neuritis/ischemic optic neuropathy
Angle	Acute angle-closure glaucoma
Blood	Vitreous haemorrhage

UIM ORIGINAL

Painful Loss = Angle, Cornea, Uvea, Optic Nerve

Used to remember: Major painful causes of acute visual loss

Angle	Acute angle closure
Cornea	Severe keratitis
Uvea	Anterior uveitis can reduce vision
Optic nerve	Optic neuritis classically hurts with eye movement

UIM ORIGINAL

Painless Loss = Artery, Retina, Vitreous

Used to remember: Major painless causes of acute monocular visual loss

Artery	CRAO
Retina	Retinal detachment
Vitreous	Vitreous haemorrhage

UIM ORIGINAL

Curtain = Retina; Cherry Red = Artery; Blood and Thunder = Vein

Used to remember: Three classic fundal/patient-description associations

Curtain	Retinal detachment often causes a curtain/shadow
Cherry red	CRAO classically produces retinal whitening with a cherry-red macula
Blood and thunder	CRVO classically produces widespread retinal haemorrhages and venous congestion

UIM ORIGINAL

Pain with Eye Movement = Think Optic Neuritis

Used to remember: A classic symptom association

Eye movement pain	Retro-orbital pain worsened by eye movement commonly accompanies optic neuritis

Glaucoma

UIM ORIGINAL

Glaucoma = Pressure Damages the Nerve, Field Goes

Used to remember: The broad concept of glaucomatous optic neuropathy

Nerve	Progressive optic nerve damage
Field	Characteristic visual-field loss develops

Glaucoma can occur with statistically normal intraocular pressure; pressure is an important risk factor, not the sole definition.

UIM ORIGINAL

Open Angle = Quiet; Acute Closure = Loud

Used to remember: The typical symptom contrast

Open angle	Usually chronic and asymptomatic until field loss is advanced
Acute closure	Painful red eye, halos, blurred vision, headache and nausea

UIM ORIGINAL

Angle Closure = Hard Eye, Hazy Cornea, High Pressure

Used to remember: Three examination clues

Hard eye	Markedly raised IOP
Hazy cornea	Corneal oedema
High pressure	Tonometry confirms elevated IOP when safe

UIM ORIGINAL

Glaucoma Field = Peripheral First

Used to remember: The usual functional pattern

Peripheral	Arcuate/nasal step and peripheral loss often precede end-stage central loss

Retinal Vascular Disease

UIM ORIGINAL

CRAO = Sudden, Painless, Profound

Used to remember: The classic presentation of central retinal artery occlusion

Sudden	Abrupt onset
Painless	No ocular pain
Profound	Marked monocular visual loss

CRAO is an ophthalmic and vascular emergency requiring immediate stroke-style systemic evaluation.

UIM ORIGINAL

CRAO = Pale Retina, Cherry-Red Macula

Used to remember: The classic fundus appearance

Pale retina	Diffuse retinal whitening from ischaemia
Cherry-red macula	Foveal contrast produces the classic cherry-red spot

CRVO = Blood and Thunder

Used to remember: The classic central retinal vein occlusion fundus

Blood	Widespread retinal haemorrhages
Thunder	Dilated tortuous veins, disc oedema and retinal swelling create a dramatic appearance

UIM ORIGINAL

Artery = Pale; Vein = Bloody

Used to remember: A rapid distinction between arterial and venous retinal occlusion

Artery	Retinal pallor/whitening
Vein	Retinal haemorrhage and venous engorgement

Retinal Detachment & Vitreous Disease

UIM ORIGINAL

Retinal Detachment = Flashes, Floaters, Curtain

Used to remember: The classic symptom triad

Flashes	Photopsia from vitreoretinal traction
Floaters	New floaters may accompany posterior vitreous detachment/tear
Curtain	Peripheral shadow or curtain as retina detaches

UIM ORIGINAL

Macula On = Save It Fast

Used to remember: Why macular status matters in retinal detachment

Macula on	Central vision is still preserved
Save fast	Urgent repair aims to prevent macular detachment

UIM ORIGINAL

Vitreous Haemorrhage = Floaters + Haze + Poor Red Reflex

Used to remember: A classic presentation pattern

Floaters	Sudden spots/cobwebs
Haze	Diffuse visual obscuration
Poor red reflex	Dense blood can obscure fundus/red reflex

UIM ORIGINAL

Posterior Vitreous Detachment = Flash and Floater, Check the Retina

Used to remember: Why new PVD symptoms require retinal assessment

Flash/floaters	Common symptoms
Check retina	Retinal tear/detachment can coexist

Uveitis

UIM ORIGINAL

Anterior Uveitis = Pain, Photophobia, Cells

Used to remember: Three high-yield features

Pain	Deep ocular ache
Photophobia	Direct and consensual photophobia
Cells	Anterior chamber cells/flare on slit lamp

UIM ORIGINAL

Uveitis = Small Sticky Pupil

Used to remember: Why the pupil can become irregular

Small	Iris sphincter spasm causes miosis
Sticky	Posterior synechiae can make the pupil irregular

UIM ORIGINAL

Uveitis Associations = Spine, Bowel, Skin, Infection

Used to remember: Four useful systemic association groups

Spine	Spondyloarthritis
Bowel	Inflammatory bowel disease
Skin	Psoriasis and related inflammatory disease
Infection	Herpes, syphilis, TB and others depending on phenotype

Diabetic & Hypertensive Retinopathy

UIM ORIGINAL

Diabetic Retina = Microaneurysms, Blood, Exudates, New Vessels

Used to remember: The broad progression of diabetic retinopathy lesions

Microaneurysms	Early visible lesion
Blood	Dot/blot haemorrhages
Exudates	Hard exudates and retinal oedema
New vessels	Neovascularisation marks proliferative disease

UIM ORIGINAL

Proliferative = New Vessels

Used to remember: The defining feature of proliferative diabetic retinopathy

New vessels	Neovascularisation at the disc or elsewhere

UIM ORIGINAL

Diabetic Macula = Central Vision at Risk

Used to remember: Why diabetic macular oedema is important

Macula	Retinal thickening/oedema involving the central retina can reduce central acuity at any retinopathy stage

UIM ORIGINAL

Hypertension = Narrow, Nick, Flame, Cotton

Used to remember: Classic hypertensive retinal changes

Narrow	Arteriolar narrowing
Nick	AV crossing/nicking changes
Flame	Flame-shaped haemorrhages
Cotton	Cotton-wool spots in more severe disease

UIM ORIGINAL

Disc Swelling + Severe Hypertension = Emergency

Used to remember: The significance of hypertensive papilloedema/optic-disc swelling

Disc swelling	Suggests severe hypertensive end-organ injury
Emergency	Requires urgent systemic assessment and controlled BP management

Optic Nerve Disease

UIM ORIGINAL

Optic Neuritis = Pain, Colour, Central Vision

Used to remember: Three classic optic-neuritis features

Pain	Often worse with eye movement
Colour	Dyschromatopsia/red desaturation
Central vision	Central scotoma and reduced acuity are common

UIM ORIGINAL

Optic Nerve = Acuity, Colour, Pupil, Field

Used to remember: Four bedside functions affected by optic neuropathy

Acuity	May fall
Colour	Often disproportionately reduced
Pupil	RAPD if asymmetric
Field	Central, altitudinal or other defects depending on cause

UIM ORIGINAL

Papilloedema = Raised Pressure Until Proven Otherwise

Used to remember: The key significance of true bilateral optic-disc swelling from raised ICP

Raised pressure	Papilloedema reflects raised intracranial pressure and requires evaluation of the underlying cause

UIM ORIGINAL

GCA = Head, Jaw, Vision

Used to remember: Three classic giant-cell arteritis domains

Head	New headache/scalp tenderness
Jaw	Jaw claudication
Vision	Transient or permanent visual loss

Suspected arteritic visual loss requires immediate treatment; do not delay corticosteroids for biopsy.

Cataract & Lens

UIM ORIGINAL

Cataract = Cloudy Lens, Gradual Glare

Used to remember: The typical cataract presentation

Cloudy lens	Lens opacity
Gradual glare	Progressive painless blur, glare and reduced contrast

UIM ORIGINAL

Cataract = Painless and Progressive

Used to remember: A useful contrast with acute painful eye disease

Painless	No inflammatory pain
Progressive	Usually gradual rather than sudden visual decline

UIM ORIGINAL

Lens Dislocation = Think Trauma, Marfan, Homocystinuria

Used to remember: Three classic causes/associations of ectopia lentis

Trauma	Common acquired cause
Marfan	Classically superotemporal lens displacement
Homocystinuria	Classically inferonasal displacement

Direction is a traditional teaching association and should not replace clinical examination.

Eye Trauma

UIM ORIGINAL

Open Globe = Shield, No Pressure

Used to remember: The immediate safety principle in suspected globe rupture

Shield	Protect with a rigid eye shield
No pressure	Do not press, patch tightly or perform tonometry

UIM ORIGINAL

Open Globe Clues = Sharp Injury, Odd Pupil, Low Pressure, Uveal Tissue

Used to remember: Features that raise concern for globe rupture

Sharp injury	Penetrating mechanism
Odd pupil	Peaked/irregular pupil
Low pressure	Hypotony may occur
Uveal tissue	Prolapsed iris/uvea is diagnostic

UIM ORIGINAL

Chemical Eye = Irrigate First, History Later

Used to remember: The first priority in chemical ocular injury

Irrigate first	Immediate copious irrigation is time-critical
History later	Do not delay irrigation to identify the exact chemical

UIM ORIGINAL

Orbital Compartment = Pain, Proptosis, Pressure, Vision Falls

Used to remember: A classic orbital compartment syndrome pattern

Pain	Severe orbital pain
Proptosis	Tense forward displacement
Pressure	Tense orbit/raised IOP
Vision falls	Reduced acuity/RAPD can signal optic nerve ischaemia

UIM ORIGINAL

Blowout Fracture = Diplopia + Numb Cheek

Used to remember: Two classic orbital-floor fracture clues

Diplopia	Inferior rectus/soft-tissue entrapment can restrict movement
Numb cheek	Infraorbital nerve injury causes V2 numbness

Paediatric Ophthalmology

UIM ORIGINAL

White Reflex = Refer Fast

Used to remember: The significance of leukocoria

White reflex	Can reflect retinoblastoma, cataract and other serious pathology
Refer fast	Requires urgent specialist assessment

UIM ORIGINAL

Squint = Brain May Suppress an Eye

Used to remember: Why childhood strabismus can cause amblyopia

Suppression	Developing visual cortex may suppress input from the misaligned eye
Amblyopia	Persistent reduced vision can result if untreated

UIM ORIGINAL

Amblyopia = Eye Looks Normal, Vision Learns Poorly

Used to remember: The developmental nature of amblyopia

Looks normal	No structural lesion may explain the acuity deficit
Learns poorly	Abnormal visual experience during development reduces cortical visual acuity

UIM ORIGINAL

Child Eye Red Flags = White Pupil, Constant Squint, Abnormal Red Reflex

Used to remember: Three important screening findings

White pupil	Leukocoria
Constant squint	Persistent strabismus
Abnormal red reflex	Asymmetric/absent reflex needs assessment

Rapid Reference

Mnemonic	What it recalls
Vision First, Eye Second	Eye examination
Pin-Hole Improves = Refractive	Visual acuity
Swinging Light Finds RAPD	Pupils
LR6 SO4, Rest 3	Extraocular muscles
Red Eye = Pain + Photophobia + Vision Loss	Dangerous red eye
Angle Closure = Pain, Halos, Nausea	Acute glaucoma
Curtain / Cherry Red / Blood and Thunder	Acute visual loss
CRAO = Sudden, Painless, Profound	Retinal artery occlusion
CRVO = Blood and Thunder	Retinal vein occlusion
Flashes, Floaters, Curtain	Retinal detachment
Uveitis = Pain, Photophobia, Cells	Anterior uveitis
Proliferative = New Vessels	Diabetic retinopathy
Narrow, Nick, Flame, Cotton	Hypertensive retinopathy
Optic Neuritis = Pain, Colour, Central Vision	Optic neuritis
GCA = Head, Jaw, Vision	Giant-cell arteritis
Cataract = Painless and Progressive	Cataract
Open Globe = Shield, No Pressure	Eye trauma
Chemical Eye = Irrigate First	Chemical injury
White Reflex = Refer Fast	Leukocoria

Discovery & Verification Sources

Mnemonic discovery: Geeky Medics ophthalmology and medical-mnemonic resources; AAO EyeWiki teaching pages; and other clinician-education sources specified for the Updates in Medicine mnemonic-book project.

Independent verification: 2026 StatPearls acute angle-closure glaucoma review; NCBI/StatPearls central retinal artery occlusion; AAO EyeWiki on-call ophthalmology guidance; contemporary sudden-vision-loss reviews and standard ophthalmology references. Acute angle closure is treated as an ophthalmic emergency. CRAO is presented as sudden painless severe visual loss requiring immediate ophthalmic and vascular/stroke assessment. Open-globe entries explicitly avoid tonometry or pressure on the eye. Red-eye mnemonics emphasise pain, photophobia and reduced vision as danger features rather than attempting to diagnose all red eyes from a checklist.

UIM Original entries are clearly labelled. These memory aids do not replace slit-lamp examination, tonometry when safe, dilated fundus examination or urgent ophthalmology referral.

PART VI | OTHER SPECIALTIES

ENT MNEMONICS

A comprehensive, clinically verified collection of ear, nose and throat memory aids

Editorial approach

Only genuine memory devices and clinically useful pattern-recognition aids are included. Formal scores and complete airway algorithms are not presented merely because they use abbreviations. Sudden hearing loss and upper-airway emergencies are framed as recognition aids for urgent specialist assessment.

Contents

Ear Examination & Hearing Tests
Conductive vs Sensorineural Hearing Loss
Otitis & Mastoid Disease
Cholesteatoma
Vertigo & Vestibular Disorders
Facial Nerve Palsy
Epistaxis
Nasal & Sinus Disease
Tonsillitis & Peritonsillar Abscess
Upper Airway Emergencies
Voice & Larynx
Head & Neck Cancer
Salivary Glands
ENT Emergencies
Rapid Reference

Ear Examination & Hearing Tests

UIM ORIGINAL

Look, Canal, Drum, Hearing

Used to remember: A practical sequence for routine ear examination

Look	Pinna, scars, swelling, discharge and mastoid region
Canal	Wax, oedema, foreign body and inflammation
Drum	Colour, position, perforation, fluid and landmarks
Hearing	Bedside hearing assessment and tuning-fork tests when appropriate

UIM ORIGINAL

Rinne Positive = Air Better

Used to remember: The normal/sensorineural Rinne pattern

Air better	Air conduction is heard better than bone conduction in normal hearing and most sensorineural loss

UIM ORIGINAL

Rinne Negative = Bone Beats Air = Blocked Ear

Used to remember: The conductive hearing-loss Rinne pattern

Bone beats air	Bone conduction is heard better than air conduction
Blocked ear	Supports conductive hearing loss in that ear

UIM ORIGINAL

Weber Walks to the Blocked Ear

Used to remember: Weber lateralisation in conductive hearing loss

Blocked ear	Sound lateralises toward the ear with conductive loss

UIM ORIGINAL

Sensorineural Runs from the Bad Ear

Used to remember: Weber lateralisation in asymmetric sensorineural hearing loss

Bad ear	Sound lateralises away from the worse sensorineural ear, toward the better ear

Tuning-fork tests are screening aids; formal audiometry is needed when hearing loss is suspected.

Conductive vs Sensorineural Hearing Loss

UIM ORIGINAL

Conductive = Problem Before the Cochlea

Used to remember: The anatomical concept of conductive hearing loss

Before cochlea	External canal, tympanic membrane or ossicular/middle-ear transmission problem

UIM ORIGINAL

Sensorineural = Cochlea or Nerve

Used to remember: The anatomical concept of sensorineural hearing loss

Cochlea	Hair-cell/cochlear disease
Nerve	Auditory nerve or central auditory pathway disease

UIM ORIGINAL

Sudden Sensorineural Loss = ENT Emergency

Used to remember: The urgency of sudden unexplained sensorineural hearing loss

Sudden	Hearing loss developing over hours to a few days
Emergency	Prompt ENT/audiological assessment improves opportunity for time-sensitive treatment

Sudden sensorineural hearing loss should not be mistaken for wax or middle-ear blockage without appropriate examination/testing.

UIM ORIGINAL

Conductive Sounds Quiet; Sensorineural Sounds Quiet and Distorted

Used to remember: A useful patient-description contrast

Conductive	Sound intensity mainly reduced
Sensorineural	Clarity/discrimination may also be impaired

Otitis & Mastoid Disease

UIM ORIGINAL

Otitis Externa = Tragus Hurts

Used to remember: A classic examination clue to external-ear canal inflammation

Tragus	Pain with tragal pressure or pinna manipulation strongly supports otitis externa

UIM ORIGINAL

Swimmer's Ear = Wet Canal, Sore Canal

Used to remember: The typical otitis externa setting

Wet canal	Swimming/humidity predispose
Sore canal	Canal inflammation causes pain, oedema and discharge

UIM ORIGINAL

Acute Otitis Media = Bulging Drum

Used to remember: The most useful otoscopic clue

Bulging	A bulging tympanic membrane with middle-ear effusion strongly supports acute otitis media

UIM ORIGINAL

Mastoiditis = Ear Infection + Post-Auricular Pain/Swelling

Used to remember: The classic complication pattern

Ear infection	Often follows acute otitis media
Behind ear	Mastoid tenderness, erythema or swelling; pinna may be displaced

UIM ORIGINAL

Mastoid Trouble Can Travel to Brain

Used to remember: Why mastoiditis requires urgent assessment

Spread	Complications include meningitis, intracranial abscess and venous sinus thrombosis

Cholesteatoma

UIM ORIGINAL

Cholesteatoma = Foul Discharge + Hearing Loss

Used to remember: The classic presentation

Foul discharge	Persistent/recurrent offensive otorrhoea
Hearing loss	Progressive conductive or mixed hearing loss is common

UIM ORIGINAL

Cholesteatoma = Skin Where Skin Shouldn't Be

Used to remember: The basic pathological concept

Skin	Keratinising squamous epithelium accumulates in the middle ear/mastoid
Shouldn't be	It can erode ossicles, bone and adjacent structures

UIM ORIGINAL

Cholesteatoma Eats Bone

Used to remember: The locally destructive behaviour

Bone	Can erode ossicles, facial canal, labyrinth and skull-base structures

UIM ORIGINAL

Persistent Smelly Ear = Look for Cholesteatoma

Used to remember: A practical red flag

Persistent	Chronic/recurrent despite simple treatment
Smelly	Offensive discharge, especially with hearing loss, deserves otoscopic/ENT evaluation

Vertigo & Vestibular Disorders

UIM ORIGINAL

BPPV = Brief + Positional + Provoked

Used to remember: The classic benign paroxysmal positional vertigo pattern

Brief	Episodes generally last seconds to under a minute
Positional	Triggered by specific head positions
Provoked	Dix-Hallpike or equivalent positional testing can reproduce typical vertigo/nystagmus

UIM ORIGINAL

BPPV = Crystals Moved; Epley Moves Them Back

Used to remember: The conceptual mechanism and treatment

Crystals moved	Displaced otoconia enter a semicircular canal
Epley	Canalith-repositioning manoeuvres return particles toward the utricle

UIM ORIGINAL

Meniere = Vertigo + Hearing + Tinnitus + Fullness

Used to remember: The classic symptom cluster

Vertigo	Recurrent spontaneous attacks
Hearing	Fluctuating sensorineural loss
Tinnitus	Often roaring/low-pitched
Fullness	Aural pressure/fullness

UIM ORIGINAL

Meniere Lasts Minutes-Hours; BPPV Seconds

Used to remember: A useful time-course contrast

Meniere	Attacks classically last 20 minutes to hours
BPPV	Typically seconds, triggered by position

UIM ORIGINAL

Central Vertigo Red Flags = Neuro Signs, Severe Gait, New Headache

Used to remember: Features that should raise concern for a central cause

Neuro signs	Focal neurological deficit
Severe gait	Marked truncal/gait ataxia
New headache	Especially sudden or unusual headache

Bedside oculomotor algorithms such as HINTS require appropriate training and are not simple screening mnemonics.

Facial Nerve Palsy

UIM ORIGINAL

Bell Palsy = Whole Half of Face

Used to remember: The typical peripheral facial-nerve pattern

Whole half	Forehead, eye closure and lower face are weak on the affected side

UIM ORIGINAL

Stroke Often Spares the Forehead

Used to remember: The traditional central versus peripheral facial-weakness clue

Forehead sparing	Because the upper face has bilateral cortical innervation, a cortical lesion may predominantly affect the lower face

Not absolute: brainstem lesions and atypical patterns occur; assess for other neurological deficits.

UIM ORIGINAL

Facial Nerve = Face, Tears, Taste, Sound

Used to remember: Four important facial-nerve functions

Face	Facial-expression muscles
Tears	Parasympathetic lacrimation pathways
Taste	Anterior two-thirds of tongue via chorda tympani
Sound	Stapedius dysfunction can cause hyperacusis

UIM ORIGINAL

Bell Palsy Eye = Close and Protect

Used to remember: The key immediate complication to prevent

Close	Weak eyelid closure exposes cornea
Protect	Lubrication/taping or other eye-protection measures prevent exposure keratopathy

Epistaxis

UIM ORIGINAL

Nosebleed = Sit, Forward, Pinch the Soft Part

Used to remember: Correct first aid for uncomplicated anterior epistaxis

Sit	Keep upright
Forward	Lean forward so blood does not run into the pharynx
Pinch	Firm continuous pressure
Soft part	Compress the lower soft nose, not the bony bridge

Maintain uninterrupted pressure for about 10-15 minutes before checking.

UIM ORIGINAL

Kiesselbach = Common Anterior Bleed

Used to remember: The most common source of anterior epistaxis

Kiesselbach plexus	Anterior septal vascular plexus; common source of nosebleeds

UIM ORIGINAL

Posterior Bleed = Older, Brisker, Harder

Used to remember: The typical clinical context

Older	More common in older adults
Brisker	Can cause heavier bleeding into the pharynx
Harder	More difficult to visualise/control and more likely to need specialist intervention

UIM ORIGINAL

Epistaxis Review = Pressure, Drugs, Blood, Nose

Used to remember: Four important cause/risk domains

Pressure	Hypertension does not usually directly cause bleeding but may complicate control
Drugs	Anticoagulants/antiplatelets
Blood	Coagulopathy/haematological disease
Nose	Trauma, dryness, inflammation, tumour or foreign body

Nasal & Sinus Disease

UIM ORIGINAL

Rhinitis = Sneeze, Itch, Run, Block

Used to remember: The classic allergic-rhinitis symptom pattern

Sneeze	Paroxysmal sneezing
Itch	Nasal/ocular itching
Run	Watery rhinorrhoea
Block	Nasal congestion

UIM ORIGINAL

Sinusitis = Face Pain + Block + Discharge

Used to remember: Three common symptom domains

Face pain	Facial pressure/pain
Block	Nasal obstruction
Discharge	Purulent/postnasal discharge may occur

UIM ORIGINAL

Unilateral Nasal Symptoms = Look Harder

Used to remember: Why persistent one-sided nasal disease deserves attention

Unilateral	Persistent obstruction, bleeding or discharge may indicate foreign body, structural disease or neoplasm

UIM ORIGINAL

Child + One-Sided Smelly Nose = Foreign Body

Used to remember: A classic paediatric presentation

One-sided	Unilateral discharge
Smelly	Offensive purulent discharge is typical

Tonsillitis & Peritonsillar Abscess

UIM ORIGINAL

Tonsillitis = Sore Throat + Fever + Red Tonsils

Used to remember: The basic acute tonsillitis pattern

Sore throat	Odynophagia/dysphagia
Fever	May occur
Red tonsils	Tonsillar erythema/exudate and cervical nodes may be present

UIM ORIGINAL

Quinsy = One-Sided Pain + Hot-Potato Voice + Trismus

Used to remember: The classic peritonsillar abscess pattern

One-sided pain	Severe unilateral throat pain
Hot-potato voice	Muffled voice
Trismus	Difficulty opening mouth

UIM ORIGINAL

Quinsy Pushes the Uvula Away

Used to remember: A classic oropharyngeal sign

Away	Peritonsillar swelling can deviate the uvula toward the opposite side

UIM ORIGINAL

Deep Neck Infection = Neck Swelling + Toxic + Airway Risk

Used to remember: The high-risk pattern of deep neck space infection

Neck swelling	Painful swelling/limited movement
Toxic	Fever/systemic illness
Airway risk	Drooling, voice change, stridor or respiratory distress demand urgent airway assessment

Upper Airway Emergencies

UIM ORIGINAL

Epiglottitis = Drool, Dysphagia, Distress

Used to remember: Three high-yield features of supraglottic inflammation

Drool	Difficulty handling secretions
Dysphagia	Painful/difficult swallowing
Distress	Stridor, respiratory distress or inability to lie flat can occur

UIM ORIGINAL

Epiglottitis = Don't Upset the Airway

Used to remember: A key safety principle

Don't upset	Avoid unnecessary throat manipulation in a patient with threatened airway; secure expert airway support

UIM ORIGINAL

Stridor = Upper Airway Until Proven Otherwise

Used to remember: The localisation sign

Stridor	Harsh upper-airway sound, usually inspiratory, signalling significant obstruction

UIM ORIGINAL

Airway Red Flags = Stridor, Drool, Voice Change, Exhaustion

Used to remember: Four features of potentially critical upper-airway compromise

Stridor	Narrowed upper airway
Drool	Unable to swallow secretions
Voice change	Muffled/hoarse voice
Exhaustion	Falling effort or reduced consciousness can precede collapse

Voice & Larynx

UIM ORIGINAL

Hoarseness = Voice Box Until Proven Otherwise

Used to remember: The anatomical localisation of persistent dysphonia

Voice box	Laryngeal/vocal-fold disease is the main source of persistent hoarseness

UIM ORIGINAL

Persistent Hoarseness + Smoker = Look at the Larynx

Used to remember: A head-and-neck cancer red flag

Persistent hoarseness	Needs laryngeal visualisation when unexplained/persistent
Smoker	Tobacco exposure increases malignancy risk

UIM ORIGINAL

Recurrent Laryngeal = Voice; Superior Laryngeal = Pitch

Used to remember: The key functional distinction

Recurrent laryngeal	Vocal-fold movement and voice
External superior laryngeal	Cricothyroid tension and high pitch

UIM ORIGINAL

Bilateral Vocal Cord Paralysis = Voice May Be Better Than Airway

Used to remember: A clinically important paradox

Airway	Both folds near midline can cause stridor/airway obstruction
Voice	Voice can be relatively preserved compared with airway compromise

Head & Neck Cancer

UIM ORIGINAL

Head-Neck Red Flags = Lump, Ulcer, Hoarseness, Unilateral Symptoms

Used to remember: Four concerning presentations

Lump	Persistent neck mass
Ulcer	Non-healing oral ulcer
Hoarseness	Persistent unexplained dysphonia
Unilateral symptoms	One-sided nasal obstruction/bleeding, otalgia or throat symptoms

UIM ORIGINAL

Adult Neck Lump = Cancer Until Explained

Used to remember: A safety-first approach to persistent adult cervical lymphadenopathy

Persistent lump	Especially firm, fixed, enlarging or unexplained in an adult
Explain	Requires appropriate malignancy work-up rather than repeated empirical treatment

UIM ORIGINAL

Oral Cancer = Ulcer > Weeks, Red/White Patch, Lump

Used to remember: Common oral-cavity warning signs

Ulcer	Persistent non-healing ulcer
Red/white patch	Erythroplakia/leukoplakia
Lump	Persistent oral or neck mass

UIM ORIGINAL

Referred Ear Pain + Normal Ear = Think Throat

Used to remember: A classic head-and-neck cancer clue

Normal ear	Otoscopy may be normal
Think throat	Oropharyngeal/laryngeal disease can refer pain via shared sensory innervation

Salivary Glands

UIM ORIGINAL

Salivary Stone = Meal-Time Pain and Swelling

Used to remember: The classic sialolithiasis pattern

Meal-time	Salivary stimulation increases pressure behind obstruction
Pain/swelling	Affected gland enlarges and hurts during eating

UIM ORIGINAL

Submandibular Stones More Common

Used to remember: The gland most often affected by sialolithiasis

Submandibular	Wharton's duct anatomy and more mucous/alkaline saliva favour stone formation

UIM ORIGINAL

Parotid Lump + Facial Weakness = Worry

Used to remember: A red flag for malignant salivary-gland disease

Parotid lump	Salivary mass
Facial weakness	Facial-nerve involvement is concerning for malignancy

UIM ORIGINAL

Mumps = Parotids Puff

Used to remember: The classic gland involved in mumps

Parotids	Painful parotid swelling is characteristic

ENT Emergencies

UIM ORIGINAL

ENT Never Miss = Airway, Sudden Hearing, Mastoid, Deep Neck, Severe Epistaxis

Used to remember: Five time-critical ENT presentations

Airway	Stridor/epiglottitis/deep neck infection
Sudden hearing	Sudden sensorineural hearing loss
Mastoid	Mastoiditis with possible intracranial spread
Deep neck	Peritonsillar/retropharyngeal or other deep-space infection
Severe epistaxis	Ongoing haemorrhage or haemodynamic compromise

UIM ORIGINAL

Sudden Hearing Loss = Don't Assume Wax

Used to remember: A common diagnostic pitfall

Don't assume	Normal or minimally abnormal otoscopy with sudden unilateral hearing loss should prompt tuning-fork/audiological assessment for sensorineural loss

UIM ORIGINAL

ENT Airway = Call Early, Don't Chase Late

Used to remember: The importance of early expert help in threatened upper-airway obstruction

Call early	ENT/anaesthesia/airway expertise before deterioration
Don't chase late	Repeated upsetting examination can precipitate collapse in severe obstruction

UIM ORIGINAL

Bleeding + Airway = Airway Wins

Used to remember: The priority in severe ENT haemorrhage

Airway wins	Massive epistaxis/oropharyngeal bleeding can threaten oxygenation; airway and haemodynamic stabilisation take priority

Rapid Reference

Mnemonic	What it recalls
Rinne Positive = Air Better	Normal/SN hearing
Rinne Negative = Bone Beats Air	Conductive hearing loss
Weber Walks to the Blocked Ear	Conductive hearing loss
Sensorineural Runs from the Bad Ear	SN hearing loss
Sudden SN Loss = ENT Emergency	Sudden hearing loss
Otitis Externa = Tragus Hurts	Otitis externa
AOM = Bulging Drum	Acute otitis media
Foul Discharge + Hearing Loss	Cholesteatoma
BPPV = Brief + Positional + Provoked	BPPV
Meniere = Vertigo + Hearing + Tinnitus + Fullness	Meniere disease
Bell Palsy = Whole Half of Face	Peripheral CN VII palsy
Sit, Forward, Pinch Soft Part	Epistaxis first aid
One-Sided Smelly Nose = Foreign Body	Nasal foreign body
Quinsy = One-Sided Pain + Hot-Potato Voice + Trismus	Peritonsillar abscess
Epiglottitis = Drool, Dysphagia, Distress	Epiglottitis
Stridor = Upper Airway	Upper airway obstruction
Persistent Hoarseness + Smoker = Look at Larynx	Cancer red flag
Adult Neck Lump = Cancer Until Explained	Head and neck cancer
Meal-Time Pain and Swelling	Salivary stone

Discovery & Verification Sources

Mnemonic discovery: Geeky Medics ENT/hearing examination resources and general medical mnemonic collections; other clinician-education resources specified for the Updates in Medicine mnemonic-book project.

Independent verification: 2026 StatPearls resources on acute otitis media, Meniere disease and peritonsillar abscess; NCBI/StatPearls on BPPV, hearing loss, mastoiditis, cholesteatoma, Bell palsy and epiglottitis; NICE hearing-loss guidance for sudden sensorineural hearing loss; NHS epistaxis first-aid guidance. Sudden sensorineural hearing loss is treated as an ENT emergency. BPPV is characterised as brief and position-triggered. Meniere disease is distinguished by episodic vertigo with fluctuating sensorineural hearing loss, tinnitus and aural fullness. Epistaxis first aid uses forward posture and continuous soft-nose compression for about 10-15 minutes. Peritonsillar abscess and epiglottitis entries emphasise upper-airway risk.

UIM Original entries are clearly labelled. These aids do not replace audiometry, nasendoscopy, imaging, specialist airway management or current ENT protocols.

PART VI | OTHER SPECIALTIES

RADIOLOGY MNEMONICS

A comprehensive, clinically verified collection of diagnostic imaging memory aids

Editorial approach

Only genuine memory devices and useful pattern-recognition aids are included. Imaging classifications, measurements and reporting systems are not treated as mnemonics merely because they use abbreviations. Every imaging mnemonic is a prompt to complete a systematic review, not to stop searching after the first abnormality.

Contents

Image Quality & Systematic Review
Chest X-Ray
Chest Radiology Patterns
Mediastinum & Pulmonary Oedema
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Image Quality & Systematic Review

PACEMAN

Used to remember: Systematic technical evaluation of a radiograph

P	Positioning
A	Anatomical area adequately covered
C	Collimation
E	Exposure
M	Marker present and correct
A	Aesthetics / artefacts
N	Name / patient identification correct

Radiopaedia lists PACEMAN as a commonly used systematic radiographic technical-evaluation mnemonic.

UIM ORIGINAL

RIP Before You Read

Used to remember: Three basic technical checks on a chest radiograph

R	Rotation
I	Inspiration
P	Penetration / exposure

UIM ORIGINAL

First the Film, Then the Finding

Used to remember: The principle of checking technique before interpreting pathology

Film	Projection, rotation, inspiration, exposure and artefact
Finding	Only then interpret anatomy/pathology

UIM ORIGINAL

Find One Abnormality - Keep Looking

Used to remember: Avoiding satisfaction-of-search error

Keep looking	Complete the same systematic review even after identifying an obvious abnormality

Chest X-Ray

ABCDE

Used to remember: A systematic chest radiograph review

A	Airway
B	Breathing - lungs and pleura
C	Cardiomediastinal contours
D	Diaphragm
E	Everything else - bones, soft tissues, lines and review areas

Radiopaedia supports ABCDEF-style systematic chest radiograph review; exact final letters vary by teaching source.

UIM ORIGINAL

Airway = Trachea, Carina, Bronchi

Used to remember: The structures to review first

Trachea	Position, calibre and deviation
Carina	Angle and level
Bronchi	Patency, asymmetry and obstruction

UIM ORIGINAL

Breathing = Lungs + Pleura

Used to remember: The B in the chest X-ray sequence

Lungs	Compare zones, vascularity and opacities
Pleura	Pneumothorax, effusion and pleural thickening

UIM ORIGINAL

Diaphragm = Right Slightly Higher

Used to remember: A normal chest radiograph relationship

Right	Usually slightly higher because of the liver
Angles	Check both costophrenic angles

UIM ORIGINAL

Lines Finish the Film

Used to remember: The importance of checking tubes and lines

Lines/tubes	ET tube, enteric tube, central lines, drains and devices must be deliberately reviewed

Chest Radiology Patterns

UIM ORIGINAL

Pneumothorax = Pleural Line + No Markings Beyond

Used to remember: The classic chest X-ray appearance

Pleural line	Visible visceral pleural edge
No markings beyond	Peripheral lung markings are absent outside the line

UIM ORIGINAL

Pleural Effusion = Blunted Angle + Meniscus

Used to remember: The classic erect-film signs

Blunted angle	Costophrenic angle obscured
Meniscus	Curved upper fluid margin may be seen

UIM ORIGINAL

Consolidation = White Lung + Air Bronchograms

Used to remember: A common air-space pattern

White lung	Air-space opacity
Air bronchograms	Air-filled bronchi may remain visible through alveolar opacity

UIM ORIGINAL

Collapse = White + Volume Loss

Used to remember: The key distinction between atelectasis and simple consolidation

White	Increased opacity
Volume loss	Fissure/hilum/mediastinum may shift toward the affected region

Air Trapping = HSBC

Used to remember: Classic causes of air trapping on expiratory HRCT

H	Hypersensitivity pneumonitis
S	Sarcoidosis
B	Bronchiolitis obliterans
C	Cystic fibrosis / bronchiectasis

Radiopaedia lists HSBC as a mnemonic for causes of air trapping. The differential is broader than these four diagnoses.

Mediastinum & Pulmonary Oedema

4 Ts

Used to remember: Classic anterior mediastinal mass differential

T	Thymic lesion / thymoma
T	Teratoma / germ-cell tumour
T	Thyroid lesion
T	'Terrible' lymphoma

Pulmonary Oedema = ABCDE

Used to remember: Classic chest radiograph features of cardiogenic pulmonary oedema

A	Alveolar oedema - often bat-wing/perihilar
B	Kerley B lines
C	Cardiomegaly
D	Dilated upper-lobe vessels
E	Pleural effusions

Radiopaedia uses this ABCDE mnemonic for radiographic heart-failure/pulmonary-oedema findings.

UIM ORIGINAL

Bat Wings = Alveolar Oedema

Used to remember: The classic central air-space distribution

Bat wings	Bilateral perihilar air-space opacity can occur in pulmonary oedema

UIM ORIGINAL

Kerley B = Basal Short Horizontal Lines

Used to remember: The appearance of interlobular septal thickening

Basal	Usually lower peripheral lungs
Short horizontal	Thin short lines perpendicular to pleura

Abdominal Radiographs

UIM ORIGINAL

Bowel Gas = Small Central, Large Peripheral

Used to remember: A broad distribution clue on abdominal radiographs

Small bowel	More central
Large bowel	More peripheral

UIM ORIGINAL

Valvulae Cross the Whole; Haustra Halt Halfway

Used to remember: How small- and large-bowel folds differ

Valvulae	Small-bowel valvulae conniventes traverse the entire lumen
Haustra	Colonic haustra usually do not cross the full lumen

UIM ORIGINAL

Coffee Bean = Sigmoid Volvulus

Used to remember: The classic radiographic sign

Coffee bean	Markedly dilated loop of sigmoid colon may resemble a coffee bean

UIM ORIGINAL

Free Air = Look Under the Diaphragm

Used to remember: The erect-film location for pneumoperitoneum

Under diaphragm	Subdiaphragmatic free gas, especially on the right, can indicate hollow-viscus perforation

UIM ORIGINAL

Abdominal Film = Bowel, Bones, Calcification, Soft Tissue

Used to remember: A practical review sequence

Bowel	Gas pattern and dilation
Bones	Spine, pelvis and lower ribs
Calcification	Renal, biliary, vascular and other calcifications
Soft tissue	Organ outlines, masses and free gas

CT Brain

UIM ORIGINAL

Blood Bright, CSF Dark

Used to remember: A basic non-contrast CT density relationship

Acute blood	Typically hyperdense/bright
CSF	Low attenuation/dark

UIM ORIGINAL

CT Head = Blood, Brain, Bone, Spaces

Used to remember: A practical systematic CT-brain review

Blood	Extra-axial, subarachnoid and intraparenchymal haemorrhage
Brain	Grey-white differentiation, infarct, mass and oedema
Bone	Fractures/skull base
Spaces	Ventricles, sulci, cisterns and midline shift

UIM ORIGINAL

Loss of Grey-White = Early Ischaemia

Used to remember: An early CT clue to acute infarction

Grey-white loss	Reduced differentiation from cytotoxic oedema can be an early infarct sign

UIM ORIGINAL

Mass Effect = Sulci Close, Ventricle Squeezes, Midline Moves

Used to remember: Three manifestations of intracranial mass effect

Sulci close	Effacement
Ventricle squeezes	Compression
Midline moves	Midline shift

Intracranial Haemorrhage

UIM ORIGINAL

EDH = Lens; SDH = Crescent

Used to remember: The classic CT shapes of extra-axial haemorrhage

Epidural	Biconvex/lentiform collection
Subdural	Crescentic collection

UIM ORIGINAL

Epidural = Lens Limited by Sutures

Used to remember: Why epidural haemorrhage has its characteristic shape

Sutures	Dura is tightly attached at sutures, limiting spread

UIM ORIGINAL

Subdural = Crescent Crosses Sutures

Used to remember: The usual spread of subdural haemorrhage

Crosses sutures	Can extend over a large convexity
Limits	Does not freely cross dural reflections such as falx/tentorium

UIM ORIGINAL

SAH = Blood in Sulci and Cisterns

Used to remember: The CT distribution of subarachnoid haemorrhage

Sulci	Hyperdensity in cortical sulci
Cisterns	Basal cisternal blood can produce a star-like pattern

ABC/2 = A x B x C / 2

Used to remember: A rapid estimate of intracerebral haemorrhage volume

A	Largest axial diameter
B	Perpendicular axial diameter
C	Craniocaudal depth / slice-based height
/2	Ellipsoid approximation

Radiopaedia notes that ABC/2 is quick and validated but can overestimate irregular haematomas.

Musculoskeletal Radiographs

UIM ORIGINAL

ABCS

Used to remember: A systematic musculoskeletal radiograph review

A	Alignment
B	Bone
C	Cartilage / joint spaces
S	Soft tissues

UIM ORIGINAL

Fracture = Cortex First

Used to remember: A practical way to detect fractures

Cortex	Trace the cortical margin of each bone continuously before assessing internal trabeculae

UIM ORIGINAL

One View Is No View

Used to remember: The need for orthogonal projections

Two views	Most suspected fractures require at least two orthogonal projections because displacement can hide on one view

UIM ORIGINAL

Describe the Distal Fragment

Used to remember: The convention for fracture displacement

Distal	Displacement and angulation are described by the position of the distal fragment relative to the proximal fragment

Charcot = 6 Ds

Used to remember: Radiographic features of neuropathic arthropathy

D1	Density change
D2	Destruction
D3	Debris
D4	Distension
D5	Disorganisation
D6	Dislocation

Radiopaedia lists the 5D/6D mnemonic for Charcot arthropathy.

Bone Lesions

UIM ORIGINAL

Bone Lesion = Age, Site, Margin, Matrix, Periosteum

Used to remember: Five high-yield features for narrowing a bone-lesion differential

Age	Patient age is often highly discriminating
Site	Bone and position within bone
Margin	Zone of transition and sclerosis
Matrix	Bone, cartilage, fibrous or none
Periosteum	Type of periosteal reaction

UIM ORIGINAL

Narrow Margin = Slow; Wide Margin = Aggressive

Used to remember: The basic meaning of the zone of transition

Narrow	Usually slower-growing lesion
Wide	More aggressive lesion such as malignancy or infection

There are exceptions; imaging features must be integrated.

UIM ORIGINAL

Sunburst = Osteoid-Producing Aggression

Used to remember: A classic aggressive periosteal pattern

Sunburst	Radiating spicules of periosteal bone are classically associated with osteosarcoma but are not exclusive to it

UIM ORIGINAL

Onion Skin = Ewing Pattern

Used to remember: A classic lamellated periosteal reaction

Onion skin	Multiple periosteal layers are classically seen with Ewing sarcoma, although not specific

UIM ORIGINAL

Soap Bubble = Giant Cell Tumour

Used to remember: A classic descriptive appearance

Soap bubble	Expansile lytic subarticular lesion is a classic giant-cell tumour appearance

Spine Imaging

UIM ORIGINAL

Spine X-Ray = Alignment, Bones, Disc Spaces, Soft Tissue

Used to remember: A systematic spinal radiograph review

Alignment	Vertebral lines, listhesis and curvature
Bones	Body height, cortex and posterior elements
Disc spaces	Height and endplates
Soft tissue	Prevertebral/paraspinal swelling

UIM ORIGINAL

Compression Fracture = Height Falls

Used to remember: The basic radiographic feature

Height falls	Anterior wedge, biconcave or crush loss of vertebral-body height

UIM ORIGINAL

Disc Infection = Endplates + Disc

Used to remember: A classic imaging pattern of spondylodiscitis

Endplates	Adjacent endplate destruction/oedema
Disc	Intervening disc-space abnormality

UIM ORIGINAL

Cord Problem = MRI Wins

Used to remember: The preferred modality for spinal cord and soft-tissue compression

MRI	Best demonstrates spinal cord, discs, epidural disease and marrow abnormalities in most non-traumatic settings

Ultrasound

UIM ORIGINAL

FAST = Fluid Around the Four

Used to remember: The key trauma ultrasound search concept

Pericardium	Pericardial fluid
RUQ	Hepatorenal recess
LUQ	Splenorenal/perisplenic spaces
Pelvis	Dependent pelvic free fluid

UIM ORIGINAL

Black = Fluid, Bright = Reflector

Used to remember: A basic ultrasound echogenicity concept

Black	Simple fluid is usually anechoic
Bright	Bone, gas interfaces and calcification can be strongly echogenic

UIM ORIGINAL

Gallstones = Bright + Shadow

Used to remember: The classic ultrasound appearance of calculi

Bright	Echogenic focus
Shadow	Posterior acoustic shadowing

UIM ORIGINAL

Pneumothorax Ultrasound = No Slide, No B-Lines, Lung Point

Used to remember: Three important sonographic features

No slide	Absent pleural sliding can occur
No B-lines	True B-lines exclude pneumothorax at that point
Lung point	Transition between sliding and non-sliding pleura is highly specific when present

Absent sliding alone is not specific. Radiopaedia describes the lung point as highly specific but incompletely sensitive.

CT & MRI Basics

UIM ORIGINAL

CT Density = Air Black, Bone White

Used to remember: The ends of the CT attenuation scale

Air	Very low attenuation / black
Bone	High attenuation / white

UIM ORIGINAL

T1 = Fat Bright; T2 = Water Bright

Used to remember: A basic MRI signal memory aid

T1	Fat is characteristically bright on non-fat-suppressed T1
T2	Fluid/water is usually bright on T2-weighted imaging

MRI signal depends on sequence parameters; fat suppression, inversion recovery and other sequences alter these appearances.

UIM ORIGINAL

FLAIR = Fluid Suppressed

Used to remember: The purpose of FLAIR MRI

Fluid suppressed	CSF signal is nulled, making periventricular and cortical/subcortical T2-hyperintense lesions more conspicuous

UIM ORIGINAL

Diffusion Bright + ADC Dark = Restriction

Used to remember: The common MRI pattern of true restricted diffusion

DWI bright	High signal on diffusion-weighted imaging
ADC dark	Low apparent diffusion coefficient confirms restriction

UIM ORIGINAL

CT Fast for Blood/Bone; MRI Strong for Brain/Soft Tissue

Used to remember: A broad modality-strength comparison

CT	Fast, excellent for acute blood, bone and many emergencies
MRI	Superior soft-tissue contrast and many brain/spinal applications

Emergency Radiology

UIM ORIGINAL

Chest Emergency = Air, Blood, Fluid, Tube

Used to remember: Four high-priority checks on an emergency chest image

Air	Pneumothorax/free air
Blood	Haemothorax or major vascular catastrophe when relevant
Fluid	Effusion/oedema
Tube	Airway and line/device positions

UIM ORIGINAL

Trauma CT = Head, Chest, Abdomen, Pelvis - Don't Stop at One Injury

Used to remember: The concept of systematic multi-region trauma review

Head	Bleeding, fractures, mass effect
Chest	Pneumothorax, haemothorax, aorta, lung
Abdomen	Solid organs, bowel, mesentery
Pelvis	Bleeding, pelvic ring and viscera

UIM ORIGINAL

Tension Pneumothorax = Treat the Patient, Not the Film

Used to remember: The emergency clinical principle

Treat	In an unstable patient with convincing tension physiology, treatment should not be delayed for imaging

UIM ORIGINAL

Free Air + Acute Abdomen = Perforation Until Proven Otherwise

Used to remember: The significance of pneumoperitoneum

Free air	Extraluminal intraperitoneal gas
Acute abdomen	Raises major concern for perforated viscus

Contrast & Radiation Safety

UIM ORIGINAL

Contrast Check = Allergy, Kidney, Pregnancy, Drug Context

Used to remember: Four practical pre-contrast safety domains

Allergy	Prior contrast reaction history
Kidney	Renal function where clinically relevant
Pregnancy	Consider fetal radiation/contrast implications
Drug context	Medication and disease context, including metformin according to local policy

UIM ORIGINAL

Radiation = Justify, Optimise, Minimise

Used to remember: Three core radiation-protection principles

Justify	Only perform ionising imaging when benefit outweighs risk
Optimise	Use the lowest dose that answers the clinical question
Minimise	Avoid unnecessary repeat or duplicate exposure

ALARA = As Low As Reasonably Achievable

Used to remember: The traditional radiation-dose principle

ALARA	Keep exposure as low as reasonably achievable while preserving diagnostic quality

UIM ORIGINAL

Ultrasound/MRI = No Ionising Radiation

Used to remember: A fundamental modality distinction

Ultrasound	Uses sound waves
MRI	Uses magnetic fields and radiofrequency energy

Rapid Reference

Mnemonic	What it recalls
PACEMAN	Radiograph technical quality
RIP	CXR technical check
ABCDE	Chest X-ray review
Pleural Line + No Markings	Pneumothorax
HSBC	Air trapping
4 Ts	Anterior mediastinal mass
ABCDE pulmonary oedema	Heart failure CXR
Valvulae Whole; Haustra Half	Bowel identification
Blood Bright, CSF Dark	Non-contrast CT brain
EDH Lens; SDH Crescent	Intracranial haemorrhage
ABC/2	ICH volume estimate
ABCS	MSK radiograph
6 Ds	Charcot arthropathy
Age, Site, Margin, Matrix, Periosteum	Bone lesion
Black Fluid, Bright Reflector	Ultrasound
Gallstones = Bright + Shadow	Ultrasound
T1 Fat; T2 Water	MRI
DWI Bright + ADC Dark	Restricted diffusion
Air Black, Bone White	CT density
ALARA	Radiation protection

Discovery & Verification Sources

Mnemonic discovery: Radiopaedia was the principal radiology-specific discovery resource, including its dedicated mnemonic and systematic-approach pages; Geeky Medics and other clinician-education resources from the Updates in Medicine source list were used secondarily.

Independent verification: Radiopaedia systematic chest radiograph review, PACEMAN technical-evaluation mnemonic, HSBC air-trapping mnemonic, Charcot 6 Ds, ABC/2 intracerebral-haemorrhage volume method and pulmonary-oedema ABCDE; NCBI/StatPearls on pneumothorax and intracranial haemorrhage; contemporary radiology references. The pneumothorax section preserves the key visceral pleural line with absent peripheral lung markings and notes that suspected tension pneumothorax in an unstable patient is a clinical emergency that should not wait for imaging. The epidural-versus-subdural memory aid is presented as a shape/location clue rather than a complete diagnostic rule.

UIM Original entries are clearly labelled. These mnemonics support systematic review but do not replace specialist radiology interpretation or correlation with the clinical picture.

PART VI | OTHER SPECIALTIES

GERIATRIC MEDICINE MNEMONICS

A comprehensive, clinically verified collection of geriatric medicine memory aids

Editorial approach

This chapter prioritises multidomain assessment. Frailty scores, delirium screens and falls-risk tools are not presented merely because they are abbreviated. Mnemonics are used to remember what to assess, while diagnosis and management remain individualised.

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Comprehensive Geriatric Assessment
Frailty & Function
Falls
Delirium
Dementia & Cognitive Decline
Polypharmacy
Continence
Nutrition & Weight Loss
Pressure Injury & Skin
Osteoporosis & Fracture Prevention
Sensory Impairment
Syncope & Orthostatic Hypotension
Hospital Care of Older Adults
Goals of Care & Advance Planning
Rapid Reference

Comprehensive Geriatric Assessment

4Ms = What Matters, Medication, Mentation, Mobility

Used to remember: Four core domains of age-friendly care

What Matters	Goals, preferences and outcomes important to the person
Medication	Use only medicines that support goals and do not worsen function
Mentation	Delirium, dementia and depression
Mobility	Safe movement and preservation of function

The 4Ms framework is widely used in age-friendly care; it complements, rather than replaces, full comprehensive geriatric assessment.

SPICES

Used to remember: Common geriatric syndromes that should trigger further assessment

S	Sleep disorders
P	Problems with eating or feeding
I	Incontinence
C	Confusion
E	Evidence of falls
S	Skin breakdown

Fulmer SPICES is an established geriatric assessment framework, not a severity score.

UIM ORIGINAL

CGA = Medical, Mind, Mobility, Medicines, Meaning, Milieu

Used to remember: A memorable multidomain approach to comprehensive geriatric assessment

Medical	Active diseases and symptom burden
Mind	Cognition, delirium and mood
Mobility	Function, gait, ADLs and falls
Medicines	Polypharmacy, adherence and harm
Meaning	Goals, preferences and social priorities
Milieu	Home, carers, finances and environment

UIM ORIGINAL

Older Person = Function Is a Vital Sign

Used to remember: Why function should be assessed explicitly

Function	Change in mobility, ADLs or independence may be the earliest sign of acute illness or frailty progression

Frailty & Function

UIM ORIGINAL

Frailty = Less Reserve, More Vulnerability

Used to remember: The central concept of frailty

Less reserve	Reduced physiological resilience across multiple systems
More vulnerability	Minor stressors can cause disproportionate deterioration

UIM ORIGINAL

Frailty Shows as Falls, Delirium, Immobility, Incontinence

Used to remember: Four common geriatric-syndrome presentations

Falls	Reduced balance/strength/reserve
Delirium	Brain vulnerability to illness
Immobility	Rapid deconditioning
Incontinence	Loss of reserve and environmental/functional effects

UIM ORIGINAL

ADL = Basic; IADL = Living Independently

Used to remember: The difference between basic and instrumental activities

ADL	Washing, dressing, toileting, transferring, feeding
IADL	Shopping, cooking, medication, finances, transport and household tasks

UIM ORIGINAL

Ask Baseline Before the Illness

Used to remember: How to interpret function in an acutely ill older person

Baseline	Compare current cognition, mobility and ADLs with usual pre-illness function

Falls

UIM ORIGINAL

Falls = Person, Pressure, Pills, Path, Perception

Used to remember: Five major domains in a multifactorial falls assessment

Person	Strength, balance, gait and neurological disease
Pressure	Orthostatic blood pressure/cardiovascular causes
Pills	Medication review
Path	Footwear, feet and environmental hazards
Perception	Vision, hearing, cognition and fear of falling

Current NICE falls guidance supports comprehensive assessment across gait, cardiovascular, cognition, medications, vision, continence, footwear and environmental factors.

UIM ORIGINAL

Fall Is a Symptom, Not a Diagnosis

Used to remember: The need to search for the underlying cause

Symptom	Falls may reflect syncope, infection, delirium, medication effects, weakness, sensory loss or hazards

UIM ORIGINAL

After a Fall = Injury, Cause, Get-Up, Future Risk

Used to remember: Four questions after any significant fall

Injury	Head injury, fracture and soft-tissue damage
Cause	Mechanical, syncope, seizure, illness or medication
Get-up	Could the person rise independently?
Future risk	Gait, balance, home and recurrence

UIM ORIGINAL

Strength + Balance + Home + Medicines

Used to remember: Four important modifiable fall-prevention domains

Strength/balance	Targeted exercise
Home	Hazard assessment
Medicines	Review fall-risk-increasing drugs
Vision/feet	Address sensory and footwear/foot problems

Delirium

UIM ORIGINAL

Delirium = Acute, Fluctuating, Inattentive

Used to remember: The defining clinical pattern

Acute	Hours to days
Fluctuating	Changes over the day
Inattentive	Impaired attention is central

I WATCH DEATH

Used to remember: A traditional differential for causes of delirium

I	Infection
W	Withdrawal
A	Acute metabolic disturbance
T	Trauma
C	CNS pathology
H	Hypoxia
D	Deficiencies
E	Endocrinopathies
A	Acute vascular
T	Toxins / drugs
H	Heavy metals

A broad traditional differential; in older adults, multiple causes often coexist.

DELIRIUM = Drugs, Eyes/Ears, Low O2, Infection, Retention, Ictal, Uncontrolled Pain, Metabolic

Used to remember: Common reversible precipitant domains in older adults

Drugs	New medicines, withdrawal or toxicity
Eyes/Ears	Sensory deprivation
Low O2	Hypoxia/ischaemic insults
Infection	Common trigger
Retention	Urine or stool
Ictal	Seizure/postictal
Uncontrolled pain	Pain and distress
Metabolic	Electrolyte, glucose and organ dysfunction

This practical variant reflects causes commonly highlighted in geriatric delirium reviews.

UIM ORIGINAL

Delirium = Brain Failure

Used to remember: Why acute confusion should be treated seriously

Brain failure	Acute cerebral dysfunction usually reflects an underlying medical, drug or environmental precipitant

UIM ORIGINAL

Delirium Care = Cause, Calm, Clock, Glasses, Hearing, Move

Used to remember: Non-pharmacological management priorities

Cause	Treat precipitants
Calm	Reassurance and familiar people
Clock	Orientation and sleep-wake support
Glasses	Restore vision
Hearing	Use hearing aids
Move	Avoid unnecessary restraints and immobility

Dementia & Cognitive Decline

UIM ORIGINAL

Dementia = Slow Decline that Affects Function

Used to remember: The core distinction from delirium

Slow	Usually progressive over months to years
Decline	Cognitive deterioration
Function	Interferes with everyday independence

UIM ORIGINAL

Delirium Fast; Dementia Slow

Used to remember: A simple time-course contrast

Delirium	Acute and fluctuating
Dementia	Chronic and progressive

UIM ORIGINAL

Dementia Domains = Memory, Language, Visuospatial, Executive, Behaviour

Used to remember: Major cognitive domains affected

Memory	Learning and recall
Language	Word-finding/comprehension
Visuospatial	Navigation and recognition
Executive	Planning and judgement
Behaviour	Personality, mood and social conduct

UIM ORIGINAL

Reversible Mimics = Drugs, Depression, Delirium, Thyroid/B12

Used to remember: Common conditions that can mimic or worsen cognitive decline

Drugs	Sedatives, anticholinergics and others
Depression	Can impair concentration and memory
Delirium	Acute superimposed cognitive change
Thyroid/B12	Treatable metabolic contributors

Polypharmacy

UIM ORIGINAL

Every Drug Needs: Indication, Benefit, Harm, Fit

Used to remember: A structured medication review

Indication	Why is it prescribed?
Benefit	Is it still helping?
Harm	Adverse effects/interactions
Fit	Does it fit current goals, frailty and prognosis?

UIM ORIGINAL

New Symptom? Think New Drug

Used to remember: The prescribing-cascade warning principle

New drug	Medication adverse effects can mimic new disease and lead to unnecessary additional prescribing

UIM ORIGINAL

Older Kidneys, Older Liver, Same Dose Can Hit Harder

Used to remember: Why medication toxicity risk increases with age

Kidney	Renal clearance commonly falls
Liver	Metabolism may change
Sensitivity	Pharmacodynamic sensitivity can increase

UIM ORIGINAL

High-Risk Geriatric Drugs = Sedate, Drop Pressure, Bleed, Lower Sugar

Used to remember: Four major medication-harm domains

Sedate	Opioids, benzodiazepines and sedating anticholinergics
Drop pressure	Antihypertensives/vasodilators
Bleed	Anticoagulants/antiplatelets
Lower sugar	Insulin and sulfonylureas

Continence

DIAPPERS

Used to remember: Traditional reversible causes of transient urinary incontinence

D	Delirium
I	Infection
A	Atrophic urethritis/vaginitis
P	Pharmaceuticals
P	Psychological / excess urine production in some variants
E	Excess urine output
R	Restricted mobility
S	Stool impaction

Published expansions vary. The useful principle is to search for reversible causes before labelling chronic incontinence.

UIM ORIGINAL

Urge = Can't Wait; Stress = Cough Leak; Overflow = Full and Drips

Used to remember: Three common incontinence patterns

Urge	Urgency with leakage
Stress	Leakage with cough, sneeze or exertion
Overflow	Retention with dribbling/incomplete emptying

UIM ORIGINAL

Incontinence = Bladder + Brain + Legs + Toilet

Used to remember: Why functional assessment matters

Bladder	Lower urinary tract disease
Brain	Cognition/delirium
Legs	Mobility and dexterity
Toilet	Access, clothing and environment

Nutrition & Weight Loss

UIM ORIGINAL

Weight Loss = Mouth, Mood, Medicines, Malignancy, Money

Used to remember: Five broad causes of unintentional weight loss in older adults

Mouth	Dentition, dysphagia and taste
Mood	Depression, grief and dementia
Medicines	Nausea, dry mouth and appetite effects
Malignancy	Cancer and chronic disease
Money	Food insecurity, isolation and inability to shop/cook

UIM ORIGINAL

Poor Intake = Ask Can Eat, Want Eat, Get Food

Used to remember: Three practical nutritional questions

Can eat	Chewing/swallowing and physical ability
Want eat	Appetite, mood, nausea
Get food	Shopping, finances, cooking and social support

UIM ORIGINAL

Sarcopenia = Strength Falls Before the Scale

Used to remember: The importance of muscle function

Strength	Loss of muscle strength/function may be clinically important even before dramatic weight loss is obvious

UIM ORIGINAL

Refeeding = Phosphate Falls

Used to remember: A key metabolic risk when refeeding a severely malnourished person

Phosphate	Hypophosphataemia is a hallmark; potassium, magnesium, thiamine and fluid balance also matter

Pressure Injury & Skin

UIM ORIGINAL

Pressure Injury = Pressure + Time + Vulnerability

Used to remember: The core pathophysiology

Pressure	Sustained pressure/shear
Time	Duration matters
Vulnerability	Immobility, poor perfusion, malnutrition and moisture increase risk

UIM ORIGINAL

Skin Risk = Move, Moisture, Meals, Mattress

Used to remember: Four prevention domains

Move	Regular repositioning/mobility
Moisture	Manage incontinence and skin moisture
Meals	Nutrition/hydration
Mattress	Pressure-redistributing surface when indicated

UIM ORIGINAL

Non-Blanching Red = Pressure Warning

Used to remember: An early pressure-injury clue

Non-blanching	Persistent erythema over a pressure point suggests early tissue injury

Osteoporosis & Fracture Prevention

UIM ORIGINAL

Fragility Fracture = Fall from Standing, Bone Should Have Survived

Used to remember: The concept of a low-trauma fragility fracture

Low trauma	Fall from standing height or less
Bone should survive	Suggests reduced bone strength/osteoporosis

UIM ORIGINAL

Hip Fracture = Short + Externally Rotated

Used to remember: The classic displaced hip-fracture posture

Short	Limb shortening
Externally rotated	Foot commonly lies externally rotated

UIM ORIGINAL

Bone Health = Calcium/Vit D, Strength, Falls, Medicines

Used to remember: Four fracture-prevention domains

Calcium/Vit D	Correct deficiency and ensure adequate intake
Strength	Weight-bearing/resistance activity where appropriate
Falls	Reduce fall risk
Medicines	Use osteoporosis pharmacotherapy when indicated

Sensory Impairment

UIM ORIGINAL

Glasses and Hearing Aids Are Delirium Prevention

Used to remember: Why sensory aids matter in hospital

Vision/hearing	Uncorrected sensory loss increases disorientation, isolation and functional impairment

UIM ORIGINAL

Hearing Loss = Face Me, Slow Down, Lower Pitch

Used to remember: Communication strategies

Face me	Allow lip-reading/facial cues
Slow down	Clear speech without shouting
Lower pitch	Lower-pitched speech is often easier than high-frequency shouting

UIM ORIGINAL

Vision Loss = Falls + Function

Used to remember: Two major consequences of visual impairment

Falls	Reduced hazard detection and depth perception
Function	Medication, cooking, reading and mobility can deteriorate

Syncope & Orthostatic Hypotension

UIM ORIGINAL

Syncope = Heart, Pressure, Reflex

Used to remember: Three major mechanism groups

Heart	Arrhythmia/structural cardiac disease
Pressure	Orthostatic hypotension/volume loss
Reflex	Vasovagal/situational syncope

UIM ORIGINAL

Orthostatic = Stand Up, Pressure Down

Used to remember: The basic mechanism

Stand up	Symptoms are triggered by postural change
Pressure down	Blood pressure falls because compensation is inadequate

UIM ORIGINAL

Falls Without Memory = Ask About Syncope

Used to remember: Why unwitnessed falls may be cardiovascular

No memory	Transient loss of consciousness may be forgotten or denied
Syncope	Check orthostatic BP, pulse/rhythm and cardiovascular history

Hospital Care of Older Adults

UIM ORIGINAL

Hospital Hazards = Delirium, Deconditioning, Drugs, Devices

Used to remember: Four common iatrogenic risks

Delirium	Sleep disruption, illness and sensory deprivation
Deconditioning	Bed rest rapidly reduces strength
Drugs	Medication adverse effects
Devices	Catheters, lines and restraints can cause harm

UIM ORIGINAL

Bed Rest = Strength Loss

Used to remember: Why mobility should be preserved

Strength loss	Older adults can lose functional reserve quickly during unnecessary immobility

UIM ORIGINAL

Catheter = Infection + Immobility + Delirium

Used to remember: Three common harms of unnecessary urinary catheters

Infection	CAUTI risk
Immobility	Tethers mobility
Delirium	Discomfort, restraint and sleep disruption can contribute

UIM ORIGINAL

Discharge Starts on Admission

Used to remember: The need for early functional and social planning

Early planning	Baseline function, home layout, carers, medicines and rehabilitation needs should be assessed from the start

Goals of Care & Advance Planning

UIM ORIGINAL

What Matters Most?

Used to remember: The central question in person-centred geriatric care

What matters	Treatment should align with the person's goals, function, acceptable burden and priorities

UIM ORIGINAL

Goals = Live Longer, Live Better, Stay Independent, Stay Comfortable

Used to remember: Four broad outcome priorities that may guide decisions

Live longer	Life prolongation
Live better	Symptom/quality-of-life improvement
Independent	Maintain function and residence
Comfortable	Reduce treatment burden and suffering

Capacity = Understand, Retain, Weigh, Communicate

Used to remember: The functional abilities relevant to decision-making capacity

Understand	Relevant information
Retain	Long enough to decide
Weigh	Use and balance information
Communicate	Express the decision

Legal tests vary by jurisdiction; capacity is decision-specific and time-specific.

UIM ORIGINAL

Frailty Changes the Question from 'Can We?' to 'Will It Help?'

Used to remember: The role of frailty in treatment decisions

Will it help	Consider likelihood of meaningful recovery, treatment burden, baseline function and patient goals

Rapid Reference

Mnemonic	What it recalls
4Ms	Age-friendly care
SPICES	Common geriatric syndromes
Medical, Mind, Mobility, Medicines, Meaning, Milieu	CGA
Less Reserve, More Vulnerability	Frailty
Person, Pressure, Pills, Path, Perception	Falls
Acute, Fluctuating, Inattentive	Delirium
I WATCH DEATH	Delirium differential
Delirium Fast; Dementia Slow	Cognition
Indication, Benefit, Harm, Fit	Medication review
DIAPPERS	Transient incontinence causes
Urge / Stress / Overflow	Incontinence
Mouth, Mood, Medicines, Malignancy, Money	Weight loss
Move, Moisture, Meals, Mattress	Pressure injury prevention
Fragility Fracture = Standing Fall	Osteoporosis
Glasses/Hearing Aids = Delirium Prevention	Sensory impairment
Heart, Pressure, Reflex	Syncope
Delirium, Deconditioning, Drugs, Devices	Hospital hazards
What Matters Most?	Goals of care

Discovery & Verification Sources

Mnemonic discovery: Fulmer SPICES original/geriatric assessment resources; geriatric teaching resources and the British Geriatrics Society source list specified for the Updates in Medicine mnemonic-book project.

Independent verification: NICE 2025 falls guideline and evidence reviews; NCBI Bookshelf/StatPearls falls and Clinical Frailty Scale reviews; NIHR comprehensive geriatric assessment evidence; contemporary delirium reviews. The falls section reflects current guidance that recurrent falls, frailty, injury, loss of consciousness or impaired gait/balance should trigger a comprehensive multifactorial assessment covering cardiovascular factors, cognition, medications, vision, continence, footwear, mobility and environment. Fulmer SPICES is retained as an established geriatric assessment framework. Delirium is explicitly distinguished from dementia by acute onset, fluctuation and inattention.

UIM Original entries are clearly labelled. These mnemonics support multidomain assessment and do not replace validated frailty assessment, comprehensive geriatric assessment or individualised clinical judgement.

PALLIATIVE MEDICINE MNEMONICS

A comprehensive, clinically verified collection of palliative care memory aids

Editorial approach

This chapter uses mnemonics to support symptom assessment, communication and person-centred care. Opioid conversion tables, prognostic scores and full end-of-life prescribing protocols are deliberately not converted into memory shortcuts. Treatment must remain individualised to diagnosis, organ function, prior exposure, goals and local guidance.

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Pain Assessment
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Principles of Palliative Care

UIM ORIGINAL

Palliative Care = Person, Symptoms, Family, Future

Used to remember: Four core palliative-care domains

Person	Values, dignity and individual goals
Symptoms	Relief of physical and psychological suffering
Family	Support for carers and those important to the patient
Future	Planning for likely changes and future decisions

UIM ORIGINAL

Total Pain = Body, Mind, Social, Spirit

Used to remember: The multidimensional concept of suffering

Body	Physical symptoms
Mind	Anxiety, depression, fear and cognition
Social	Relationships, finances, caring roles and practical problems
Spirit	Meaning, beliefs, existential or spiritual distress

WHO describes palliative care as addressing physical, psychological, social and spiritual suffering.

UIM ORIGINAL

Palliative Is Alongside, Not Only After

Used to remember: The role of palliative care alongside disease-directed treatment

Alongside	Palliative care can be delivered together with active disease-modifying or life-prolonging treatment
Not only after	It is not limited to the final days of life

UIM ORIGINAL

Comfort = Find the Cause, Treat the Symptom, Match the Goal

Used to remember: A general palliative symptom-management approach

Find cause	Look for reversible or treatable contributors
Treat symptom	Use pharmacological and non-pharmacological measures
Match goal	Balance burden and benefit with patient priorities

Pain Assessment

SOCRATES

Used to remember: A structured pain history

S	Site
O	Onset
C	Character
R	Radiation
A	Associated symptoms
T	Timing
E	Exacerbating/relieving factors
S	Severity

The mnemonic structures assessment; palliative pain assessment should also consider function, meaning, mood and prior analgesic response.

UIM ORIGINAL

Pain = Nociceptive, Neuropathic, Mixed

Used to remember: Three common pain-mechanism categories

Nociceptive	Somatic or visceral tissue injury/inflammation
Neuropathic	Lesion/disease of the somatosensory system
Mixed	More than one mechanism

UIM ORIGINAL

Bone Pain = Local, Movement Hurts

Used to remember: A common somatic-pain pattern

Local	Often well localised
Movement hurts	Mechanical movement or weight-bearing can exacerbate pain

UIM ORIGINAL

Neuropathic = Burning, Shooting, Electric

Used to remember: Classic descriptors of neuropathic pain

Burning	Dysaesthetic burning
Shooting	Lance-like pain
Electric	Electric shock-like sensations

UIM ORIGINAL

Pain Score Is a Number; Function Tells the Story

Used to remember: Why symptom severity alone is not enough

Number	Intensity rating is useful
Function	Sleep, movement, communication and desired activities show clinical impact

Opioids & Analgesia

UIM ORIGINAL

Opioid Start = Pain Better, Bowels Slower

Used to remember: The predictable bowel effect when regular opioids are introduced

Pain better	Opioids are effective for moderate-to-severe pain in appropriate patients
Bowels slower	Constipation is common and tolerance develops poorly

Prophylactic bowel management is usually needed when starting regular opioids, unless diarrhoea or another contraindication exists.

UIM ORIGINAL

Opioid Review = Pain, Sleepiness, Breathing, Bowels

Used to remember: Four high-yield domains after opioid initiation or titration

Pain	Analgesic benefit
Sleepiness	Sedation/neurotoxicity
Breathing	Respiratory rate and clinical respiratory depression
Bowels	Constipation

UIM ORIGINAL

Morphine Metabolites Mind the Kidneys

Used to remember: Why renal function matters

Kidneys	Active morphine metabolites can accumulate in renal impairment and increase toxicity

UIM ORIGINAL

Breakthrough Pain = Breakthrough Dose

Used to remember: The principle of rescue medication for episodic pain

Breakthrough	Transient pain flare despite baseline analgesia
Rescue	A suitable rapid-onset rescue dose may be required

Exact rescue doses and opioid conversions should use current local palliative-care guidance.

UIM ORIGINAL

Change Opioid? Recalculate, Reduce, Reassess

Used to remember: Three safety steps during opioid rotation

Recalculate	Estimate equianalgesic dose using a trusted source
Reduce	Account for incomplete cross-tolerance where appropriate
Reassess	Review analgesia and toxicity after conversion

Opioid Adverse Effects

UIM ORIGINAL

Opioid Side Effects = Sick, Sleepy, Slow Gut

Used to remember: Three common adverse-effect domains

Sick	Nausea/vomiting can occur
Sleepy	Sedation, especially after initiation/escalation
Slow gut	Constipation is very common

UIM ORIGINAL

Opioid Neurotoxicity = Confusion, Myoclonus, Hallucinations

Used to remember: Common manifestations of opioid-induced neurotoxicity

Confusion	Delirium/cognitive change
Myoclonus	Jerking/twitching
Hallucinations	Perceptual disturbance may occur

Risk increases with high doses, dehydration, renal impairment and some opioid metabolites.

UIM ORIGINAL

Constipation Persists When Nausea Fades

Used to remember: The difference in tolerance to opioid adverse effects

Constipation	Tolerance develops little or not at all
Nausea/sedation	May improve over several days in some patients

UIM ORIGINAL

Too Much Opioid = Sleepy Before Slow Breathing

Used to remember: A common progression of opioid toxicity

Sleepy	Increasing sedation is often an early warning sign
Slow breathing	Clinically significant respiratory depression is a later serious feature

Breathlessness

UIM ORIGINAL

Breathlessness = Lung, Heart, Blood, Muscle, Mind

Used to remember: Five broad contributors to dyspnoea in serious illness

Lung	Obstruction, infection, effusion, tumour or fibrosis
Heart	Failure/ischaemia
Blood	Anaemia or thromboembolism
Muscle	Weakness/deconditioning
Mind	Anxiety and fear amplify distress

UIM ORIGINAL

Dyspnoea Care = Cause, Position, Airflow, Calm, Drug

Used to remember: Five symptom-relief domains

Cause	Treat reversible contributors when consistent with goals
Position	Upright/supportive positioning
Airflow	Cool facial airflow/fan can reduce sensation
Calm	Reassurance and anxiety management
Drug	Opioids can relieve refractory breathlessness in appropriate patients

UIM ORIGINAL

Oxygen Treats Hypoxaemia, Not Every Breathless Feeling

Used to remember: The distinction between low oxygen and perceived dyspnoea

Hypoxaemia	Supplemental oxygen is appropriate when clinically indicated
Dyspnoea	Non-hypoxaemic breathlessness may respond better to airflow, positioning, opioids and anxiety support

UIM ORIGINAL

Opioids Can Ease Breathlessness

Used to remember: An important palliative use of opioids

Breathlessness	Systemic opioids can reduce refractory dyspnoea in selected seriously ill patients

WHO identifies breathlessness as a major palliative symptom and notes that opioids can alleviate it.

Nausea & Vomiting

UIM ORIGINAL

Nausea = Gut, Drugs, Brain, Blood, Balance

Used to remember: Five major mechanism groups

Gut	Obstruction, stasis, constipation and inflammation
Drugs	Opioids, chemotherapy and other medicines
Brain	Raised intracranial pressure or central causes
Blood	Metabolic/biochemical causes such as uraemia or hypercalcaemia
Balance	Vestibular causes

UIM ORIGINAL

Vomiting? Ask Blocked, Backed-Up, Biochemical

Used to remember: Three common palliative causes

Blocked	Bowel obstruction/gastric outlet obstruction
Backed-up	Constipation or gastric stasis
Biochemical	Renal failure, hypercalcaemia and other metabolic disturbances

UIM ORIGINAL

Match Antiemetic to Mechanism

Used to remember: The mechanism-based principle of antiemetic prescribing

Match	Choose therapy according to likely emetic pathway/cause rather than cycling drugs randomly

UIM ORIGINAL

Persistent Vomiting = Route Matters

Used to remember: Why route of administration must change

Route	When oral absorption is unreliable, consider subcutaneous, intravenous, transdermal or other suitable routes

Constipation

UIM ORIGINAL

Constipation = Drugs, Dry, Diet, Disease, Disability

Used to remember: Five broad causes in palliative patients

Drugs	Especially opioids and anticholinergics
Dry	Dehydration
Diet	Reduced fibre/intake when relevant
Disease	Metabolic, neurological or obstructive causes
Disability	Immobility and inability to toilet

UIM ORIGINAL

Opioid + Bowel Plan = Together

Used to remember: The preventive principle in opioid-induced constipation

Together	A bowel regimen should usually accompany regular opioid therapy rather than waiting for severe constipation

PCNOW 2026 notes that opioid-induced constipation is common and frequently persistent.

UIM ORIGINAL

No Stool + Pain/Vomit = Think Impaction or Obstruction

Used to remember: Red flags before simply escalating laxatives

Pain/vomit	Abdominal pain, distension or vomiting may indicate faecal impaction or bowel obstruction

UIM ORIGINAL

Constipation Review = Last Stool, Stool Type, Flatus, Abdomen, Rectum

Used to remember: A practical assessment sequence

Last stool	Timing/frequency
Stool type	Hardness and difficulty
Flatus	Suggests bowel transit
Abdomen	Distension/tenderness
Rectum	Rectal examination when clinically indicated

Delirium & Agitation

UIM ORIGINAL

Delirium = Acute, Fluctuating, Inattentive

Used to remember: The defining pattern of delirium

Acute	Rapid onset
Fluctuating	Varies over hours
Inattentive	Difficulty sustaining attention

UIM ORIGINAL

Terminal Agitation = Pain, Bladder, Bowel, Drugs, Brain

Used to remember: Reversible contributors to restlessness near end of life

Pain	Uncontrolled discomfort
Bladder	Urinary retention
Bowel	Constipation/impaction
Drugs	Toxicity or withdrawal
Brain	Delirium, hypoxia, metabolic or CNS disease

UIM ORIGINAL

Agitation Care = Cause, Calm, Company, Medication if Needed

Used to remember: A stepped approach

Cause	Look for reversible contributors
Calm	Quiet environment and reassurance
Company	Familiar people/orientation when helpful
Medication	Use appropriate pharmacotherapy when distress persists

UIM ORIGINAL

Confused and Dying Does Not Always Mean Sedate

Used to remember: The need to distinguish delirium from distress requiring sedation

Assess	Identify whether the person is distressed and whether causes can be relieved
Sedation	Reserved for refractory symptoms and individualised goals, not simply altered consciousness

Respiratory Secretions & Dry Mouth

UIM ORIGINAL

Death Rattle = Secretions + Weak Swallow

Used to remember: The mechanism of noisy respiratory secretions near death

Secretions	Oropharyngeal/airway secretions accumulate
Weak swallow	Reduced ability to clear them causes noisy breathing

UIM ORIGINAL

Secretions Sound Worse to Family Than Patient

Used to remember: A useful counselling point

Family	The sound can be very distressing to relatives
Patient	The unconscious dying person may not experience equivalent distress

Repositioning, reducing unnecessary fluids and antimuscarinic medication may be considered when appropriate.

UIM ORIGINAL

Dry Mouth = Mouth Care Before More Fluid

Used to remember: Why oral care matters in the last days of life

Mouth care	Frequent mouth/lip care and small sips if safe often relieve dryness
Fluid	Clinically assisted hydration has uncertain benefit and potential harms and should be individualised

UIM ORIGINAL

Hydration = Trial, Review, Stop if Harm

Used to remember: The NICE approach to clinically assisted hydration near death

Trial	Consider when symptoms may relate to dehydration and oral intake is inadequate
Review	Monitor for benefit and harm
Stop if harm	Reduce/stop with fluid overload or no benefit

Last Days of Life

UIM ORIGINAL

Dying Changes = Sleep More, Eat Less, Drink Less, Interact Less

Used to remember: Common changes as death approaches

Sleep more	Increasing drowsiness/weakness
Eat less	Reduced appetite is common
Drink less	Swallowing and thirst patterns change
Interact less	Reduced communication/consciousness

The trajectory varies; no single sign precisely predicts time to death.

UIM ORIGINAL

Last Days = Stop What Doesn't Help

Used to remember: Medication review near the end of life

Stop	Review and discontinue medicines that no longer provide symptomatic or meaningful benefit or may cause harm

UIM ORIGINAL

Anticipate = Pain, Breathlessness, Nausea, Agitation, Secretions

Used to remember: Symptoms for which anticipatory medication may be needed

Pain	Analgesia
Breathlessness	Dyspnoea relief
Nausea	Antiemetic
Agitation	Anxiolytic/antidelirium therapy as appropriate
Secretions	Antisecretory medication if needed

NICE recommends individualised anticipatory prescribing based on likely symptoms, setting and route availability.

UIM ORIGINAL

Can't Swallow? Change the Route

Used to remember: The route-of-administration principle near death

Change route	Use subcutaneous, intravenous, transdermal or other suitable route when oral medication is no longer safe/effective

UIM ORIGINAL

Comfort Care = Symptom, Mouth, Position, Family

Used to remember: Four practical bedside priorities

Symptom	Relieve distressing symptoms
Mouth	Frequent mouth/lip care
Position	Comfortable repositioning
Family	Explain changes and support those present

Serious-Illness Communication

NURSE

Used to remember: Responding empathically to emotion

N	Name the emotion
U	Understand / show understanding
R	Respect
S	Support
E	Explore

VitalTalk teaches NURSE statements as a practical framework for responding to emotion.

REMAP

Used to remember: A framework for goals-of-care conversations when the clinical situation changes

R	Reframe the situation
E	Expect emotion and empathise
M	Map what matters / the future
A	Align with values
P	Plan based on those values

VitalTalk presents REMAP as a talking map for transitions and goals-of-care discussions.

PAUSE

Used to remember: Early goals-of-care conversations before an immediate crisis

P	Pause / make the time
A	Ask permission and explain why
U	Understand big-picture values
S	Suggest choosing a surrogate
E	Expect emotion and respond empathically

VitalTalk uses PAUSE for early advance-care conversations.

UIM ORIGINAL

Serious News = Ask, Tell, Pause, Respond

Used to remember: A simple rhythm for delivering difficult information

Ask	What does the person understand and want to know?
Tell	Give a clear headline in small chunks
Pause	Allow silence
Respond	Attend to emotion before adding more information

UIM ORIGINAL

Silence Is a Tool

Used to remember: The value of therapeutic pauses

Silence	Allows processing, emotion and patient/family priorities to emerge without immediately filling the space

Goals of Care & Advance Planning

UIM ORIGINAL

Goals = What Matters, What Worries, What Helps

Used to remember: Three questions that clarify values

What matters	Functions, people and experiences most important
What worries	Fears, unacceptable outcomes and burdens
What helps	Treatments/supports that fit those priorities

UIM ORIGINAL

Plan = Values First, Treatment Second

Used to remember: The order of person-centred decision-making

Values first	Clarify goals and trade-offs
Treatment second	Recommend treatments that best match those goals

UIM ORIGINAL

Advance Care Planning = Voice, Surrogate, Preferences

Used to remember: Three major components

Voice	Document the person's own wishes
Surrogate	Identify who should speak if capacity is lost
Preferences	Record treatment goals and unacceptable outcomes where appropriate

Capacity = Understand, Retain, Weigh, Communicate

Used to remember: A common functional framework for decision-making capacity

Understand	Relevant information
Retain	Long enough to decide
Weigh	Use and balance the information
Communicate	Express a decision

Legal tests vary by jurisdiction; capacity is decision-specific and time-specific.

UIM ORIGINAL

DNACPR = CPR Decision, Not 'Do Not Treat'

Used to remember: A crucial scope distinction

CPR decision	Relates specifically to cardiopulmonary resuscitation
Not no-treatment	Other clinically appropriate treatments, comfort care and escalation decisions remain separate

Psychological, Social & Spiritual Care

UIM ORIGINAL

Distress = Body, Mind, Money, Meaning

Used to remember: Four domains that can drive suffering

Body	Pain and other symptoms
Mind	Fear, depression, anxiety and grief
Money	Financial/caregiving/practical burden
Meaning	Existential or spiritual distress

UIM ORIGINAL

Spiritual Care = Meaning, Hope, Beliefs, Community

Used to remember: Four areas to explore when spiritual distress is relevant

Meaning	What gives life meaning?
Hope	What is hoped for now?
Beliefs	Religious or philosophical beliefs
Community	Faith/community relationships and supports

UIM ORIGINAL

Family Is Part of the Unit of Care

Used to remember: The palliative-care role of caregiver support

Family/carers	Need information, preparation, practical support and bereavement care alongside the patient's care

UIM ORIGINAL

Don't Fix Emotion Before You Name It

Used to remember: A communication principle

Name first	Acknowledge fear, sadness, anger or uncertainty before moving to problem-solving

Palliative Emergencies

UIM ORIGINAL

Palliative Emergency = Cord, Calcium, Bleed, Seizure, Airway

Used to remember: Five time-critical complications in advanced illness

Cord	Malignant spinal cord compression
Calcium	Severe symptomatic hypercalcaemia
Bleed	Catastrophic haemorrhage
Seizure	Prolonged/recurrent seizure
Airway	Acute airway obstruction or severe respiratory distress

UIM ORIGINAL

Cord Compression = Back Pain + Weakness + Sphincter

Used to remember: Three major warning domains

Back pain	New severe or progressive spinal/radicular pain
Weakness	Motor deficit
Sphincter	Bladder/bowel dysfunction or saddle symptoms

UIM ORIGINAL

Hypercalcaemia = Thirst, Constipation, Confusion

Used to remember: Three common symptom domains

Thirst	Polyuria/polydipsia and dehydration
Constipation	GI slowing
Confusion	Neurocognitive change, drowsiness or weakness

UIM ORIGINAL

Catastrophic Bleed = Stay, Calm, Dark Towels, Rapid Sedation if Prescribed

Used to remember: Practical crisis preparation for a massive terminal haemorrhage

Stay	Do not abandon the patient
Calm	Reassure and maintain presence
Dark towels	Reduce the visual impact of blood for patient/family
Medication	Use pre-prescribed crisis medication according to local protocol

Advance planning is important when catastrophic bleeding is a recognised risk; exact medicines and doses should follow specialist/local guidance.

UIM ORIGINAL

Palliative Emergency = Treat What Is Reversible and Wanted

Used to remember: Balancing urgency with goals of care

Reversible	Identify time-sensitive treatable causes
Wanted	Ensure intervention burden and escalation are consistent with the patient's goals

Rapid Reference

Mnemonic	What it recalls
Person, Symptoms, Family, Future	Palliative care principles
Body, Mind, Social, Spirit	Total pain
SOCRATES	Pain assessment
Burning, Shooting, Electric	Neuropathic pain
Pain, Sleepiness, Breathing, Bowels	Opioid review
Sick, Sleepy, Slow Gut	Opioid adverse effects
Lung, Heart, Blood, Muscle, Mind	Breathlessness causes
Cause, Position, Airflow, Calm, Drug	Dyspnoea care
Gut, Drugs, Brain, Blood, Balance	Nausea
Drugs, Dry, Diet, Disease, Disability	Constipation
Acute, Fluctuating, Inattentive	Delirium
Pain, Bladder, Bowel, Drugs, Brain	Terminal agitation
Dry Mouth = Mouth Care First	End-of-life care
Pain, Breathlessness, Nausea, Agitation, Secretions	Anticipatory prescribing
NURSE	Responding to emotion
REMAP	Goals-of-care transitions
PAUSE	Early advance care planning
Values First, Treatment Second	Shared decisions
Voice, Surrogate, Preferences	Advance care planning
CPR Decision, Not Do Not Treat	DNACPR
Cord, Calcium, Bleed, Seizure, Airway	Palliative emergencies

Discovery & Verification Sources

Mnemonic discovery: VitalTalk serious-illness communication resources (NURSE, REMAP and PAUSE); Palliative Care Network of Wisconsin Fast Facts; and the palliative-care resources specified in the Updates in Medicine mnemonic-book project.

Independent verification: WHO palliative-care guidance; NICE Care of Dying Adults in the Last Days of Life; Palliative Care Network of Wisconsin 2026 opioid-induced constipation guidance; VitalTalk communication frameworks. WHO emphasises relief of physical, psychological, social and spiritual suffering and supports palliative care alongside other treatment. NICE recommends individualised hydration decisions, frequent mouth care, review of non-beneficial medicines, flexible routes when swallowing fails, and anticipatory prescribing for likely symptoms. Current PCNOW guidance confirms opioid-induced constipation is common and persistent, supporting proactive bowel management. VitalTalk's NURSE, REMAP and PAUSE tools are used only as communication memory aids rather than scripts that replace person-centred conversation.

PART VII | RAPID-RECALL COLLECTIONS

DIFFERENTIAL DIAGNOSIS MNEMONICS

Systematic diagnostic sieves and symptom-based memory aids for rapid clinical recall

Editorial approach

This chapter is designed to prevent diagnostic tunnel vision. General diagnostic sieves are paired with symptom-specific 'must-not-miss' frameworks. Mnemonics are prompts to broaden thinking, not substitutes for probability, examination, epidemiology or targeted investigation.

Contents

Universal Diagnostic Sieves
Safety-First Differential Diagnosis
Chest Pain
Dyspnoea
Syncope & Transient Loss of Consciousness
Headache
Altered Consciousness
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Electrolyte & Acid-Base Problems
Weakness & Neurological Symptoms
Fever & Weight Loss
Rapid Reference

Universal Diagnostic Sieves

VITAMIN CDEF

Used to remember: A broad pathological differential-diagnosis sieve

V	Vascular
I	Infective
T	Traumatic
A	Autoimmune
M	Metabolic
I	Iatrogenic / intoxication
N	Neoplastic
C	Congenital
D	Degenerative
E	Endocrine
F	Functional

Geeky Medics lists VITAMIN CDEF as a surgical/diagnostic sieve.

VINDICATE

Used to remember: A compact universal differential framework

V	Vascular
I	Infection / inflammatory
N	Neoplastic
D	Degenerative / deficiency
I	Iatrogenic / intoxication
C	Congenital
A	Autoimmune / allergic
T	Traumatic
E	Endocrine / metabolic

Wording varies slightly between sources; the purpose is breadth, not rigid categorisation.

MIDNITE

Used to remember: A shorter broad diagnostic sieve

M	Metabolic
I	Inflammatory
D	Degenerative
N	Neoplastic
I	Infective
T	Traumatic
E	Environmental

INVITED MD

Used to remember: Another broad pathological-category mnemonic

I	Infection
N	Neoplasia
V	Vascular
I	Inflammatory / autoimmune
T	Trauma
E	Endocrine
D	Degenerative
M	Metabolic
D	Drugs / iatrogenic

Some versions additionally separate congenital causes. Use the version consistently rather than mixing expansions.

UIM ORIGINAL

Anatomy First, Pathology Second

Used to remember: A practical way to turn a huge differential into a manageable one

Anatomy	Localise the organ, compartment or physiological system
Pathology	Then apply VINDICATE/VITAMIN-type categories

Safety-First Differential Diagnosis

SAFER

Used to remember: A patient-safety filter for any differential diagnosis

S	Serious must-not-miss causes
A	Alternative must-always-consider causes
F	Findings that do not fit the benign diagnosis
E	Early or atypical presentations
R	Red and amber flags

Geeky Medics uses SAFER to add a patient-safety focus to diagnostic reasoning.

UIM ORIGINAL

Worst First, Common Next, Fit Last

Used to remember: A three-layer differential strategy

Worst first	Exclude immediately dangerous causes
Common next	Consider high-prevalence explanations
Fit last	Use the complete pattern to rank less common but better-fitting diagnoses

UIM ORIGINAL

Cancer, Vascular, Serious Infection

Used to remember: Three disease processes disproportionately represented among diagnostic errors

Cancer	Occult malignancy
Vascular	Acute vascular events
Infection	Serious bacterial or other invasive infection

These are broad diagnostic-safety categories, not the only important missed diagnoses.

UIM ORIGINAL

One Diagnosis Found? Ask 'What Else?'

Used to remember: Avoiding premature closure and diagnostic overshadowing

What else	A second process may coexist, especially in older, multimorbid or immunocompromised patients

Chest Pain

UIM ORIGINAL

Chest Pain Killers = Heart, Aorta, Lung, Oesophagus

Used to remember: The major immediately dangerous causes of acute chest pain

Heart	Acute coronary syndrome / life-threatening cardiac causes
Aorta	Acute aortic syndrome
Lung	Pulmonary embolism or tension pneumothorax
Oesophagus	Oesophageal rupture

UIM ORIGINAL

Chest Pain = Cardiac, Pulmonary, GI, Chest Wall, Other

Used to remember: A broad anatomical differential

Cardiac	ACS, pericarditis, myocarditis
Pulmonary	PE, pneumothorax, pneumonia/pleurisy
GI	Reflux, oesophageal spasm/rupture
Chest wall	Musculoskeletal/costochondral
Other	Anxiety, herpes zoster and referred pain

UIM ORIGINAL

Tearing to Back = Aorta; Pleuritic + Breathless = Lung

Used to remember: Two high-risk pain-pattern associations

Tearing/back	Acute aortic syndrome
Pleuritic/breathless	Pulmonary embolism or pneumothorax among key causes

Pain descriptors alone have limited diagnostic accuracy; use the whole clinical context.

Dyspnoea

UIM ORIGINAL

AIR HEART

Used to remember: A broad differential for acute breathlessness

A	Asthma / anaphylaxis
I	Infection
R	Respiratory failure / airway obstruction
H	Heart failure / ischaemia
E	Embolism
A	Air in pleura - pneumothorax
R	Restrictive / neuromuscular disease
T	Tamponade / toxic-metabolic causes

UIM ORIGINAL

Breathlessness = Lung, Heart, Blood, Muscle, Mind

Used to remember: Five broad physiological sources of dyspnoea

Lung	Airway, parenchymal, pleural or vascular disease
Heart	Failure, ischaemia, arrhythmia
Blood	Anaemia or abnormal oxygen carrying capacity
Muscle	Neuromuscular weakness/deconditioning
Mind	Panic/anxiety can produce or amplify dyspnoea

UIM ORIGINAL

One-Sided Quiet Chest = Air, Fluid or Collapse

Used to remember: A rapid unilateral chest differential

Air	Pneumothorax
Fluid	Pleural effusion / haemothorax
Collapse	Major atelectasis/obstruction

UIM ORIGINAL

Sudden Breathlessness = PE, Pneumothorax, Pulmonary Oedema, Airway

Used to remember: Four time-critical causes of abrupt dyspnoea

PE	Pulmonary embolism
Pneumothorax	Especially tension physiology
Pulmonary oedema	Acute cardiogenic or other oedema
Airway	Upper-airway obstruction/anaphylaxis

Syncope & Transient Loss of Consciousness

SNAP

Used to remember: The four major syncope categories

S	Structural cardiac
N	Neurally mediated / reflex
A	Arrhythmic
P	Postural / orthostatic

Geeky Medics uses SNAP to classify syncope causes.

5 Ps

Used to remember: Key history questions around a syncopal event

P1	Precipitant
P2	Prodrome
P3	Position
P4	Palpitations
P5	Post-event phenomena

5 Cs

Used to remember: Additional red-flag history in transient loss of consciousness

C1	Colour
C2	Convulsions
C3	Continence
C4	Cardiac problems
C5	Cardiac-death family history

UIM ORIGINAL

Syncope = Heart, Pressure, Reflex

Used to remember: A simplified mechanism-based differential

Heart	Arrhythmic or structural
Pressure	Orthostatic/volume-related
Reflex	Vasovagal/situational

UIM ORIGINAL

Syncope Red Flags = Exertion, Palpitations, Family Death, Abnormal ECG

Used to remember: Clues that raise concern for cardiac syncope

Exertion	Syncope during exertion
Palpitations	Sudden palpitations before collapse
Family death	Sudden unexplained premature death
Abnormal ECG	Conduction, arrhythmic or structural clues

Headache

SNNOOP10

Used to remember: Red/orange flags suggesting possible secondary headache

S	Systemic symptoms/illness
N	Neoplasm history
N	Neurological deficit/dysfunction
O	Onset sudden or abrupt
O	Older age at new onset
P	Pattern change or new headache
10	Additional flags include positional headache, exertional/Valsalva precipitation, papilloedema, progressive/atypical course, pregnancy/puerperium, painful eye with autonomic features, post-trauma onset, immune pathology, and medication overuse/new drug

SNNOOP10 is a red-flag framework, not a diagnostic score. Recent evidence supports high sensitivity but low specificity in emergency populations.

UIM ORIGINAL

Thunderclap = Think Vascular First

Used to remember: The immediate differential priority in abrupt maximal headache

Vascular	Subarachnoid haemorrhage, reversible cerebral vasoconstriction, dissection, venous thrombosis and other vascular causes must be considered

UIM ORIGINAL

Headache = Primary, Pressure, Vascular, Infection, Eye

Used to remember: Five broad diagnostic categories

Primary	Migraine, tension-type, cluster
Pressure	Raised or low intracranial pressure
Vascular	Haemorrhage, thrombosis, arteritis
Infection	Meningitis/encephalitis
Eye	Acute angle closure and other ocular causes

UIM ORIGINAL

New Headache + Neuro Deficit = Secondary Until Explained

Used to remember: A high-risk diagnostic principle

Neurological deficit	Focal deficit, seizure, confusion or reduced consciousness strongly raises concern for secondary headache

Altered Consciousness

AEIOU TIPS

Used to remember: A broad differential for altered mental status

A	Alcohol / acidosis
E	Epilepsy / electrolytes / encephalopathy
I	Insulin / glucose
O	Opiates / oxygen
U	Uraemia
T	Trauma / temperature
I	Infection
P	Poisoning
S	Stroke / shock / subarachnoid haemorrhage

UIM ORIGINAL

Unconscious = Glucose, Oxygen, Drugs, Brain

Used to remember: Four immediately important categories

Glucose	Hypoglycaemia
Oxygen	Hypoxia/hypercapnia
Drugs	Intoxication/overdose
Brain	Stroke, seizure, haemorrhage, infection or raised ICP

UIM ORIGINAL

Delirium = Drugs, Infection, Metabolic, Pain, Retention

Used to remember: Common reversible precipitants of acute confusion

Drugs	New drug, toxicity or withdrawal
Infection	Common precipitant
Metabolic	Hypoxia, glucose, electrolytes and organ failure
Pain	Uncontrolled pain
Retention	Urine or stool

Abdominal Pain

UIM ORIGINAL

Acute Abdomen = Bleed, Block, Burst, Inflame, Ischaemia

Used to remember: Five dangerous surgical mechanisms

Bleed	Intra-abdominal or retroperitoneal haemorrhage
Block	Bowel or visceral obstruction
Burst	Perforated viscus/ruptured structure
Inflame	Appendicitis, cholecystitis, pancreatitis and related inflammation
Ischaemia	Mesenteric or strangulated bowel ischaemia

UIM ORIGINAL

Abdominal Pain = Gut, Gall, Pancreas, Urine, Gynae, Vascular

Used to remember: Six broad anatomical categories

Gut	Stomach, bowel and appendix
Gall	Biliary/liver disease
Pancreas	Pancreatitis and pancreatic disease
Urine	Kidney/ureter/bladder
Gynae	Ectopic, torsion, PID and uterine/ovarian disease
Vascular	AAA, mesenteric ischaemia and related causes

UIM ORIGINAL

Epigastric Pain = Heart, Stomach, Pancreas, Gall

Used to remember: Four major diagnostic sources

Heart	ACS can present epigastrically
Stomach	Ulcer/gastritis
Pancreas	Pancreatitis
Gall	Biliary disease

UIM ORIGINAL

Right Lower Pain = Appendix, Bowel, Urine, Ovary/Testis

Used to remember: A practical right-iliac-fossa differential

Appendix	Appendicitis
Bowel	Ileitis/colitis/diverticular disease
Urine	Ureteric stone/UTI
Ovary/Testis	Adnexal disease or referred testicular pathology

Jaundice

UIM ORIGINAL

Jaundice = Before, In, After the Liver

Used to remember: The three physiological levels of jaundice

Before liver	Prehepatic - excess bilirubin production, usually haemolysis
In liver	Hepatocellular processing/excretion failure
After liver	Posthepatic biliary obstruction

UIM ORIGINAL

Prehepatic = Unconjugated; Obstruction = Conjugated

Used to remember: A useful bilirubin-pattern memory aid

Prehepatic	Predominantly unconjugated hyperbilirubinaemia
Obstruction	Predominantly conjugated/direct hyperbilirubinaemia

Mixed patterns are common in real hepatobiliary disease.

UIM ORIGINAL

Obstructive Jaundice = Dark Urine, Pale Stool, Itch

Used to remember: The classic cholestatic symptom triad

Dark urine	Conjugated bilirubin is water-soluble
Pale stool	Less bilirubin reaches gut
Itch	Bile-acid/cholestatic pruritus

UIM ORIGINAL

Painless Jaundice = Think Malignant Obstruction

Used to remember: A classic red-flag pattern

Painless	Especially progressive painless obstructive jaundice
Malignant obstruction	Pancreatic or biliary malignancy must be considered

Lymphadenopathy

MIAMI

Used to remember: A broad differential for lymphadenopathy

M	Malignancy
I	Infection
A	Autoimmune disease
M	Miscellaneous / unusual disorders
I	Iatrogenic / medications

A widely taught cause framework; exact examples depend on age, site and epidemiology.

UIM ORIGINAL

Node = Local Infection, Systemic Infection, Autoimmune, Cancer

Used to remember: Four practical categories when assessing lymphadenopathy

Local infection	Drainage-area infection
Systemic infection	Viral, TB and other disseminated infections
Autoimmune	SLE, sarcoid and others
Cancer	Lymphoma/leukaemia or metastatic malignancy

UIM ORIGINAL

Hard, Fixed, Supraclavicular = Worry

Used to remember: Features that increase concern for malignancy

Hard	Firm/hard consistency
Fixed	Reduced mobility
Supraclavicular	Higher malignancy association, particularly in adults

UIM ORIGINAL

Generalised Nodes = Think Systemic

Used to remember: Why multi-region lymphadenopathy changes the differential

Systemic	Generalised infection, autoimmune disease, haematological malignancy or drug reaction become more likely

Anaemia

UIM ORIGINAL

Anaemia = Lose, Lack, Lyse

Used to remember: Three fundamental mechanisms of anaemia

Lose	Blood loss
Lack	Underproduction / nutrient or marrow deficiency
Lyse	Haemolysis

TAILS

Used to remember: Common causes of microcytic anaemia

T	Thalassaemia
A	Anaemia of chronic disease/inflammation
I	Iron deficiency
L	Lead poisoning
S	Sideroblastic anaemia

UIM ORIGINAL

Macrocytosis = B12, Folate, Liver, Thyroid, Drugs, Marrow

Used to remember: Major macrocytic-anaemia categories

B12/Folate	Megaloblastic deficiency
Liver	Liver disease/alcohol
Thyroid	Hypothyroidism
Drugs	Medication-related
Marrow	Myelodysplasia or marrow disease

UIM ORIGINAL

Haemolysis = Retics Up, LDH Up, Bilirubin Up, Haptoglobin Down

Used to remember: The classic laboratory pattern of haemolysis

Retics up	Marrow response
LDH up	Cell breakdown
Bilirubin up	Indirect bilirubin often rises
Haptoglobin down	Consumed by free haemoglobin in intravascular haemolysis

Electrolyte & Acid-Base Problems

UIM ORIGINAL

Hypercalcaemia = PTH or Not PTH

Used to remember: The first major diagnostic branch in hypercalcaemia

PTH-dependent	Primary/tertiary hyperparathyroidism, familial hypocalciuric hypercalcaemia and related causes
PTH-independent	Malignancy, vitamin D excess, granulomatous disease, drugs and others

UIM ORIGINAL

Hyponatraemia = Water Problem First

Used to remember: The physiological starting point for hyponatraemia

Water	Hyponatraemia usually reflects excess water relative to body sodium; classify by tonicity and volume status

GOLD MARK

Used to remember: Causes of high-anion-gap metabolic acidosis

G	Glycols
O	Oxoproline
L	L-lactate
D	D-lactate
M	Methanol
A	Aspirin / salicylates
R	Renal failure
K	Ketoacidosis

HARDUP

Used to remember: Common causes of normal-anion-gap metabolic acidosis

H	Hyperchloraemic states
A	Acetazolamide
R	Renal tubular acidosis
D	Diarrhoea
U	Ureteric diversion
P	Pancreatic fistula

UIM ORIGINAL

Hyperkalaemia = Kidney, Drugs, Shift, Cell Breakdown

Used to remember: Four broad mechanisms of hyperkalaemia

Kidney	Reduced renal excretion
Drugs	RAAS blockers, potassium-sparing drugs and others
Shift	Acidosis/insulin deficiency and transcellular shifts
Cell breakdown	Rhabdomyolysis, tumour lysis, haemolysis

Weakness & Neurological Symptoms

UIM ORIGINAL

Weakness = Brain, Cord, Nerve, Junction, Muscle

Used to remember: An anatomical localisation framework

Brain	Cortical/subcortical lesion
Cord	Spinal cord
Nerve	Peripheral nerve/roots
Junction	Neuromuscular junction
Muscle	Myopathy

UIM ORIGINAL

Ascending Weakness = Think Peripheral Nerve

Used to remember: A classic localisation clue

Ascending	Guillain-Barre syndrome is a key cause; also consider spinal cord and metabolic mimics based on examination

UIM ORIGINAL

Fatigable Weakness = Junction

Used to remember: A classic neuromuscular-junction clue

Fatigable	Weakness worsens with sustained/repeated use and improves with rest, classically in myasthenia gravis

UIM ORIGINAL

Proximal Weakness = Muscle, Endocrine, Drugs

Used to remember: Common categories for symmetric proximal weakness

Muscle	Inflammatory/inherited myopathy
Endocrine	Thyroid, Cushing and other metabolic causes
Drugs	Steroids, statins and other myotoxic medicines

Fever & Weight Loss

UIM ORIGINAL

Fever = Infection, Inflammation, Malignancy, Medication

Used to remember: Four major categories of unexplained fever

Infection	Occult/localised or systemic
Inflammation	Autoimmune/autoinflammatory
Malignancy	Lymphoma, leukaemia and solid tumours
Medication	Drug fever and treatment reactions

UIM ORIGINAL

Weight Loss = Mouth, Mood, Medicines, Malignancy, Malabsorption

Used to remember: Five broad causes of unintentional weight loss

Mouth	Dentition, dysphagia or oral disease
Mood	Depression, dementia and grief
Medicines	Drug adverse effects
Malignancy	Cancer
Malabsorption	GI/pancreatic disease and chronic inflammation

UIM ORIGINAL

Night Sweats + Nodes + Weight Loss = Think Infection or Lymphoma

Used to remember: A classic constitutional-symptom combination

Infection	TB, HIV and other chronic infection
Lymphoma	Haematological malignancy must be considered

UIM ORIGINAL

Older Patient + Vague Symptoms = Lower Threshold for Serious Disease

Used to remember: A diagnostic-safety principle

Vague symptoms	Serious infection, malignancy and vascular disease may present atypically in older or immunocompromised patients

Rapid Reference

Mnemonic	What it recalls
VITAMIN CDEF	Universal diagnostic sieve
VINDICATE	Universal diagnostic sieve
MIDNITE	Universal diagnostic sieve
SAFER	Diagnostic safety filter
Heart, Aorta, Lung, Oesophagus	Lethal chest pain
AIR HEART	Dyspnoea
SNAP	Syncope categories
5 Ps + 5 Cs	Syncope history
SNNOOP10	Secondary headache red flags
AEIOU TIPS	Altered consciousness
Bleed, Block, Burst, Inflame, Ischaemia	Acute abdomen
Before, In, After Liver	Jaundice
MIAMI	Lymphadenopathy
Lose, Lack, Lyse	Anaemia mechanisms
TAILS	Microcytic anaemia
GOLD MARK	High-anion-gap acidosis
HARDUP	Normal-anion-gap acidosis
Brain, Cord, Nerve, Junction, Muscle	Weakness localisation
Infection, Inflammation, Malignancy, Medication	Fever

Discovery & Verification Sources

Mnemonic discovery: Geeky Medics medical-mnemonics and diagnostic-reasoning resources were used extensively for VITAMIN CDEF, VINDICATE, MIDNITE, SAFER, SNAP and syncope-history mnemonics. Additional entries consolidate verified mnemonics from earlier specialty chapters in this book.

Independent verification: PubMed review of the SNNOOP10 secondary-headache red flags and subsequent validation studies; contemporary syncope, emergency and diagnostic-reasoning references. SNNOOP10 is explicitly presented as a red-flag framework rather than a diagnostic score because specificity is limited despite useful sensitivity. The generic diagnostic sieves are deliberately broad and are intended to reduce premature closure, not to imply equal probability for every category.

UIM Original entries are clearly labelled. Always prioritise time-critical diagnoses, local epidemiology and the patient's actual clinical pattern over mnemonic completeness.

PART VII | RAPID-RECALL COLLECTIONS

DRUG & ADVERSE-EFFECT MNEMONICS

High-yield medication toxicities and adverse-effect patterns for rapid clinical recall

Editorial approach

This chapter focuses on memorable toxicity patterns, class effects and dangerous adverse reactions. It does not replace current product information, interaction checking, pregnancy guidance, renal/hepatic dose adjustment, therapeutic drug monitoring or emergency toxicology protocols.

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Rapid Reference

Cardiovascular Drugs

UIM ORIGINAL

ACE = Cough, Angioedema, K Up, Creatinine Up

Used to remember: Four important adverse effects of ACE inhibitors

Cough	Dry bradykinin-related cough
Angioedema	Potentially life-threatening tongue/laryngeal swelling
K up	Hyperkalaemia
Creatinine up	Renal function can worsen, especially with renal artery stenosis, volume depletion or interacting drugs

ACE inhibitors are contraindicated in pregnancy and after prior ACE-inhibitor angioedema.

UIM ORIGINAL

Beta Blocker = Beat Slow, Bronchi Tight, Hypoglycaemia Hidden

Used to remember: Three important beta-blocker effects

Beat slow	Bradycardia/AV block
Bronchi tight	Bronchospasm risk, particularly with non-selective agents
Sugar hidden	Adrenergic warning symptoms of hypoglycaemia may be blunted

UIM ORIGINAL

Calcium-Channel Blockers: DHP Swells; Verapamil Slows

Used to remember: The contrasting adverse-effect profiles of major CCB groups

DHP	Dihydropyridines commonly cause ankle oedema, flushing and headache
Verapamil/diltiazem	Bradycardia/AV block; verapamil commonly causes constipation

UIM ORIGINAL

Amiodarone = Lung, Liver, Thyroid, Eye, Skin, Slow Heart

Used to remember: Major organ toxicities of amiodarone

Lung	Pneumonitis/fibrosis
Liver	Hepatotoxicity
Thyroid	Hypo- or hyperthyroidism
Eye	Corneal deposits/optic toxicity
Skin	Photosensitivity/blue-grey pigmentation
Slow heart	Bradycardia/QT and conduction effects

UIM ORIGINAL

Digoxin = Gut, Vision, Rhythm

Used to remember: The classic digoxin-toxicity pattern

Gut	Anorexia, nausea and vomiting
Vision	Colour disturbance, classically yellow hue
Rhythm	Bradyarrhythmias, AV block or ventricular arrhythmias

Serum concentrations must be interpreted with timing, renal function and the clinical picture; toxicity can occur without a dramatically high level.

Diuretics

UIM ORIGINAL

Loop = Lose K, Mg, Volume - and Hearing

Used to remember: High-yield loop-diuretic adverse effects

K	Hypokalaemia
Mg	Hypomagnesaemia
Volume	Dehydration, hypotension and prerenal kidney injury
Hearing	Tinnitus/ototoxicity, especially with high doses, renal impairment or other ototoxins

UIM ORIGINAL

Loop Makes Calcium Leave

Used to remember: The calcium effect of loop diuretics

Calcium	Loop diuretics increase urinary calcium excretion and can contribute to hypocalcaemia

UIM ORIGINAL

Thiazides Save Calcium but Raise GLU

Used to remember: The metabolic pattern of thiazide diuretics

Calcium	Increase calcium reabsorption - hypercalcaemia may occur
G	Glucose can rise
L	Lipids may rise
U	Uric acid rises, increasing gout risk

Thiazides also commonly cause hyponatraemia and hypokalaemia.

UIM ORIGINAL

Spironolactone = K Up + Breast Effects

Used to remember: Two memorable adverse-effect domains

K up	Hyperkalaemia
Breast/sex hormones	Gynaecomastia, breast tenderness and sexual/endocrine adverse effects

Anticoagulants & Antiplatelets

UIM ORIGINAL

Warfarin = Bleeding, Baby, Skin

Used to remember: Three high-yield warfarin hazards

Bleeding	Main serious adverse effect
Baby	Crosses placenta and can cause fetal harm; pregnancy use requires specialist indication-specific management
Skin	Rare warfarin skin necrosis, especially with protein C/S deficiency

UIM ORIGINAL

Heparin = Bleeding + HIT

Used to remember: The key serious adverse effects of heparin

Bleeding	Dose-related haemorrhage
HIT	Immune heparin-induced thrombocytopenia causes low platelets with paradoxical thrombosis

UIM ORIGINAL

HIT = Platelets Down, Clots Up

Used to remember: The paradox of immune heparin-induced thrombocytopenia

Platelets down	Thrombocytopenia
Clots up	Arterial or venous thrombosis can occur

UIM ORIGINAL

DOAC = Bleeding + Kidney Context

Used to remember: Two central safety domains for direct oral anticoagulants

Bleeding	Principal serious adverse effect
Kidney	Renal function influences exposure/dosing for several agents

UIM ORIGINAL

Antiplatelets = Bleeding; Aspirin Adds Stomach and Bronchi

Used to remember: High-yield adverse effects

Bleeding	Class effect
Stomach	Dyspepsia, ulceration and GI bleeding
Bronchi	Aspirin/NSAIDs can trigger bronchospasm in susceptible patients

Diabetes Drugs

UIM ORIGINAL

Metformin = Gut, B12, Lactate

Used to remember: Three high-yield metformin adverse-effect domains

Gut	Nausea, diarrhoea and abdominal symptoms
B12	Long-term therapy can reduce vitamin B12 levels
Lactate	Lactic acidosis is rare but serious, especially with severe renal/hypoxic illness

UIM ORIGINAL

Sulfonylurea = Sugar Low, Weight Up

Used to remember: The classic sulfonylurea adverse-effect pair

Sugar low	Hypoglycaemia
Weight up	Weight gain

UIM ORIGINAL

SGLT2 = Sugar in Urine: Genitals, Volume, Ketones

Used to remember: The major SGLT2-inhibitor adverse-effect domains

Genitals	Genital mycotic infection
Volume	Osmotic diuresis can cause volume depletion
Ketones	Ketoacidosis can occur, sometimes with only modest glucose elevation

UIM ORIGINAL

GLP-1 = Gut Slows, Gallbladder, Pancreas Warning

Used to remember: Common and serious GLP-1 receptor agonist concerns

Gut slows	Nausea, vomiting, diarrhoea/constipation and delayed gastric emptying
Gallbladder	Gallstone/biliary events can occur
Pancreas	Acute pancreatitis is an important warning symptom pattern

Individual agents have additional contraindications/warnings; consult current product information.

UIM ORIGINAL

Insulin = Hypoglycaemia, Weight Gain, K Into Cells

Used to remember: Three physiological adverse effects

Hypoglycaemia	Most important acute adverse effect
Weight gain	Anabolic effect and defensive eating
K into cells	Insulin lowers serum potassium and can cause hypokalaemia

Antibiotics

UIM ORIGINAL

Aminoglycosides = Ears, Kidneys, Junction

Used to remember: Three classic aminoglycoside toxicities

Ears	Cochlear/vestibular ototoxicity
Kidneys	Nephrotoxicity
Junction	Neuromuscular blockade can occur

UIM ORIGINAL

Vancomycin = Red Infusion + Kidney

Used to remember: Two memorable vancomycin adverse effects

Red infusion	Infusion-related flushing/pruritus with rapid administration
Kidney	Nephrotoxicity risk, especially with other nephrotoxins

UIM ORIGINAL

Macrolides = QT + Gut + Liver

Used to remember: High-yield macrolide adverse effects

QT	QT prolongation/arrhythmia risk
Gut	GI upset from motilin effects, especially erythromycin
Liver	Cholestatic/hepatic injury can occur

UIM ORIGINAL

Fluoroquinolones = Tendon, Nerve, QT, CNS

Used to remember: Major fluoroquinolone toxicity domains

Tendon	Tendinitis/tendon rupture
Nerve	Peripheral neuropathy
QT	QT prolongation with some agents
CNS	Confusion, agitation or seizures in susceptible patients

UIM ORIGINAL

Co-trimoxazole = K Up, Rash, Marrow

Used to remember: Important trimethoprim-sulfamethoxazole adverse effects

K up	Hyperkalaemia
Rash	Including severe cutaneous reactions
Marrow	Cytopenias/folate-related haematological toxicity

UIM ORIGINAL

Linezolid = Marrow, Serotonin, Nerves

Used to remember: Three major linezolid toxicity domains

Marrow	Thrombocytopenia/myelosuppression, especially with longer courses
Serotonin	Risk with serotonergic drugs
Nerves	Peripheral and optic neuropathy with prolonged exposure

Tuberculosis Therapy

UIM ORIGINAL

RIPE: R = Red-Orange

Used to remember: The memorable rifampicin effect

Red-orange	Urine, tears, sweat and other body fluids can turn orange-red
Interactions	Potent enzyme induction causes many clinically important drug interactions

UIM ORIGINAL

INH = Nerves Need B6

Used to remember: The classic isoniazid adverse-effect association

Nerves	Peripheral neuropathy
B6	Pyridoxine supplementation prevents/treats neuropathy in at-risk patients

Isoniazid also causes hepatotoxicity.

UIM ORIGINAL

Pyrazinamide = Painful Gout + Liver

Used to remember: Two high-yield pyrazinamide adverse effects

Gout	Hyperuricaemia/arthralgia
Liver	Hepatotoxicity

UIM ORIGINAL

Ethambutol = Eye

Used to remember: The classic ethambutol toxicity

Eye	Optic neuropathy with reduced acuity and colour vision, classically red-green dyschromatopsia

UIM ORIGINAL

TB Liver Trio = RIF + INH + PZA

Used to remember: First-line TB drugs associated with hepatotoxicity

RIF	Rifampicin
INH	Isoniazid
PZA	Pyrazinamide

Analgesics & Anti-inflammatory Drugs

UIM ORIGINAL

NSAIDs = Stomach, Kidney, Pressure, Bleeding

Used to remember: Four major NSAID adverse-effect domains

Stomach	Dyspepsia, ulceration and GI bleeding
Kidney	AKI, sodium retention and renal effects
Pressure	Fluid retention can worsen hypertension/heart failure
Bleeding	Platelet inhibition, especially aspirin

UIM ORIGINAL

NSAID + ACE/ARB + Diuretic = Triple Kidney Trouble

Used to remember: The classic 'triple whammy' interaction

NSAID	Constrains afferent renal vasodilation
ACE/ARB	Reduces efferent arteriolar tone
Diuretic	Reduces circulating volume
Together	Raises acute kidney injury risk

UIM ORIGINAL

Paracetamol = Liver in Overdose

Used to remember: The principal life-threatening toxicity of paracetamol overdose

Liver	NAPQI accumulation causes centrilobular hepatic necrosis when glutathione is overwhelmed

UIM ORIGINAL

Opioids = Pinpoint, Sleepy, Slow Breathing

Used to remember: The classic opioid-toxicity triad

Pinpoint	Miosis, though exceptions occur
Sleepy	Reduced consciousness
Slow breathing	Respiratory depression is the major life-threatening feature

UIM ORIGINAL

Opioid Adverse Effects = Sick, Sleepy, Slow Gut

Used to remember: Common therapeutic opioid adverse effects

Sick	Nausea/vomiting
Sleepy	Sedation
Slow gut	Constipation

Psychiatric Drugs

UIM ORIGINAL

SSRIs = Stomach, Sex, Serotonin, Sodium

Used to remember: Four high-yield SSRI adverse-effect domains

Stomach	Nausea/diarrhoea
Sex	Sexual dysfunction
Serotonin	Serotonin toxicity with interacting drugs
Sodium	Hyponatraemia/SIADH, particularly in older adults

UIM ORIGINAL

TCA = Dry, Drowsy, Dangerous Heart

Used to remember: The classic tricyclic antidepressant toxicity pattern

Dry	Antimuscarinic effects
Drowsy	Sedation
Dangerous heart	Sodium-channel blockade can cause QRS widening, arrhythmias and hypotension in overdose

UIM ORIGINAL

Lithium = Tremor, Thyroid, Kidney

Used to remember: Three major lithium adverse-effect domains

Tremor	Fine tremor therapeutically; coarse tremor/ataxia can signal toxicity
Thyroid	Hypothyroidism/goitre
Kidney	Nephrogenic diabetes insipidus and renal toxicity

Lithium toxicity is strongly affected by renal clearance, dehydration and interacting drugs such as NSAIDs, thiazides and RAAS blockers.

UIM ORIGINAL

Antipsychotics = Movement, Metabolic, Prolactin, QT

Used to remember: Four major class adverse-effect domains

Movement	Extrapyramidal adverse effects/tardive dyskinesia
Metabolic	Weight gain, dyslipidaemia and diabetes
Prolactin	Hyperprolactinaemia with susceptible agents
QT	QT prolongation with some agents

UIM ORIGINAL

Clozapine = Blood, Heart, Gut, Seizure

Used to remember: Four serious clozapine toxicity domains

Blood	Neutropenia/agranulocytosis
Heart	Myocarditis/cardiomyopathy
Gut	Severe constipation/ileus
Seizure	Dose-related seizure risk

Anticonvulsants

UIM ORIGINAL

Valproate = Liver, Pancreas, Platelets, Pregnancy

Used to remember: Four major valproate hazards

Liver	Potential severe hepatotoxicity
Pancreas	Rare life-threatening pancreatitis
Platelets	Thrombocytopenia/bleeding tendency
Pregnancy	Major teratogenic and neurodevelopmental risk

UIM ORIGINAL

Carbamazepine = Sodium Low, Marrow Low, Rash

Used to remember: Three high-yield carbamazepine adverse effects

Sodium low	Hyponatraemia/SIADH
Marrow low	Leukopenia/aplastic anaemia/agranulocytosis are important concerns
Rash	Can cause severe cutaneous reactions including SJS/TEN

UIM ORIGINAL

Phenytoin = Gums, Hair, Balance, Bone

Used to remember: Four memorable chronic phenytoin adverse effects

Gums	Gingival hyperplasia
Hair	Hirsutism/coarsened features
Balance	Nystagmus and ataxia, especially with toxicity
Bone	Osteopenia/osteomalacia with long-term enzyme induction

UIM ORIGINAL

Lamotrigine = Rash Means Respect

Used to remember: The major early lamotrigine safety concern

Rash	Serious cutaneous reactions such as SJS/TEN are uncommon but important, particularly with rapid titration

Corticosteroids

UIM ORIGINAL

Steroids = Sugar, Pressure, Bones, Bugs, Mood

Used to remember: Five major systemic corticosteroid adverse-effect domains

Sugar	Hyperglycaemia
Pressure	Hypertension/fluid retention
Bones	Osteoporosis and muscle weakness
Bugs	Infection risk/immunosuppression
Mood	Insomnia, mood change, psychosis in susceptible patients

UIM ORIGINAL

Steroids = Thin Skin, Thick Waist

Used to remember: A memorable Cushingoid contrast

Thin skin	Bruising, skin thinning and poor wound healing
Thick waist	Central adiposity/weight gain

UIM ORIGINAL

Long Steroids Suppress the Adrenals

Used to remember: The HPA-axis effect

Suppression	Chronic systemic corticosteroids can suppress endogenous cortisol production
Stopping suddenly	Abrupt withdrawal after prolonged/high-dose therapy can precipitate adrenal insufficiency

Immunosuppressants & Biologics

UIM ORIGINAL

Calcineurin Inhibitors = Kidney + Tremor

Used to remember: Shared cyclosporine/tacrolimus toxicity

Kidney	Nephrotoxicity
Tremor	Neurotoxicity including tremor

UIM ORIGINAL

Cyclosporine = Hair + Gums; Tacrolimus = Sugar

Used to remember: A memorable distinction between calcineurin inhibitors

Cyclosporine	Hirsutism and gingival hyperplasia are characteristic
Tacrolimus	More strongly associated with post-transplant diabetes/hyperglycaemia

UIM ORIGINAL

Methotrexate = Marrow, Liver, Lung

Used to remember: Three important methotrexate toxicity domains

Marrow	Myelosuppression
Liver	Hepatotoxicity
Lung	Pneumonitis/interstitial lung injury

UIM ORIGINAL

Anti-TNF = Think TB and Serious Infection

Used to remember: The key infection concern with TNF inhibitors

TB	Latent tuberculosis reactivation risk
Infection	Serious bacterial/opportunistic infections can occur

Chemotherapy & Anticancer Drugs

UIM ORIGINAL

Doxorubicin = Heart

Used to remember: The classic anthracycline toxicity

Heart	Dose-related cardiomyopathy/heart failure

UIM ORIGINAL

Bleomycin = Lungs

Used to remember: The classic bleomycin toxicity

Lungs	Pneumonitis/pulmonary fibrosis

UIM ORIGINAL

Cisplatin = Kidneys + Ears

Used to remember: Two classic cisplatin toxicities

Kidneys	Nephrotoxicity
Ears	Ototoxicity

UIM ORIGINAL

Cyclophosphamide = Bladder

Used to remember: The classic cyclophosphamide toxicity

Bladder	Haemorrhagic cystitis from acrolein; mesna can reduce risk in appropriate regimens

UIM ORIGINAL

Vincristine = Nerves, Not Marrow

Used to remember: The characteristic vincristine toxicity

Nerves	Peripheral/autonomic neuropathy and ileus
Not marrow	Relatively less myelosuppression than many cytotoxic agents

UIM ORIGINAL

Checkpoint Inhibitors = Immune System Attacks Organs

Used to remember: The concept of immune-related adverse events

Organs	Can cause inflammatory toxicity affecting skin, bowel, liver, lungs, endocrine glands, heart, nervous system and others

New symptoms during checkpoint therapy require consideration of immune-related toxicity and early specialist guidance.

Gastrointestinal & Respiratory Drugs

UIM ORIGINAL

PPIs Long-Term = Magnesium, B12, Infection, Bone Signal

Used to remember: Potential long-term PPI associations

Magnesium	Hypomagnesaemia can occur
B12	Reduced B12 absorption with prolonged use
Infection	Enteric infection risk may increase
Bone signal	Observational association with fracture in some populations

Association does not always prove causation; use the lowest effective therapy when clinically appropriate.

UIM ORIGINAL

Anticholinergic = Dry, Blurry, Full Bladder, Slow Bowel

Used to remember: The classic antimuscarinic adverse-effect pattern

Dry	Dry mouth/skin
Blurry	Mydriasis and blurred vision
Full bladder	Urinary retention
Slow bowel	Constipation/ileus

UIM ORIGINAL

Beta-2 Agonist = Tremor, Tachycardia, K Down

Used to remember: High-yield beta-agonist adverse effects

Tremor	Skeletal muscle tremor
Tachycardia	Palpitations/tachycardia
K down	Intracellular potassium shift can cause hypokalaemia

UIM ORIGINAL

Theophylline = Heart + Brain + Gut

Used to remember: The toxicity pattern of theophylline

Heart	Tachyarrhythmias
Brain	Tremor, agitation and seizures
Gut	Nausea/vomiting

Theophylline has a narrow therapeutic index and many interactions.

Classic Toxidromes & Drug Syndromes

Anticholinergic = Hot, Dry, Blind, Red, Mad

Used to remember: The classic anticholinergic toxidrome

Hot	Hyperthermia
Dry	Dry skin/mucosa
Blind	Mydriasis/blurred vision
Red	Flushing
Mad	Agitated delirium

DUMBELS

Used to remember: The cholinergic toxidrome

D	Diarrhoea / diaphoresis
U	Urination
M	Miosis
B	Bronchorrhoea / bronchospasm
E	Emesis
L	Lacrimation
S	Salivation

UIM ORIGINAL

Serotonin = Fast, Hot, Twitchy

Used to remember: A rapid recognition pattern for serotonin toxicity

Fast	Rapid onset, autonomic activation
Hot	Hyperthermia
Twitchy	Clonus, hyperreflexia and tremor

UIM ORIGINAL

NMS = Slow, Hot, Rigid

Used to remember: A rapid contrast with serotonin toxicity

Slow	Usually evolves more gradually
Hot	Hyperthermia
Rigid	Severe 'lead-pipe' rigidity

UIM ORIGINAL

Malignant Hyperthermia = CO2 Up, Heart Fast, Rigid, Heat Later

Used to remember: The early-to-late malignant hyperthermia pattern

CO2 up	Rapidly rising end-tidal CO2 is an important early clue
Heart fast	Tachycardia
Rigid	Muscle rigidity
Heat later	Hyperthermia may be a later sign

Dangerous Interactions

UIM ORIGINAL

Lithium Levels Rise with NSAIDs, Thiazides, ACE/ARB

Used to remember: Common interactions that reduce lithium clearance

NSAIDs	Reduce renal lithium clearance
Thiazides	Promote lithium reabsorption
ACE/ARB	Can reduce lithium clearance, especially with volume/renal changes

UIM ORIGINAL

Serotonergic + Serotonergic = Serotonin Risk

Used to remember: Why combining serotonergic agents needs caution

Combination	SSRIs/SNRIs/MAOIs, linezolid, tramadol and other serotonergic agents can add toxicity risk

UIM ORIGINAL

QT + QT = More QT

Used to remember: The principle of additive QT-prolonging drugs

Additive	Multiple QT-prolonging medicines plus hypokalaemia/hypomagnesaemia increase torsades risk

UIM ORIGINAL

Anticoagulant + Antiplatelet + NSAID = Bleeding Stack

Used to remember: The additive haemorrhage principle

Stack	Combining antithrombotic drugs and NSAIDs can substantially increase bleeding risk

UIM ORIGINAL

Sedative + Opioid = Breathing Risk

Used to remember: The danger of combining CNS depressants

Sedation	Additive CNS depression
Breathing	Respiratory depression risk rises, particularly with opioids plus benzodiazepines/alcohol

Rapid Reference

Mnemonic	What it recalls
ACE = Cough, Angioedema, K Up, Creatinine Up	ACE inhibitors
Amiodarone = Lung, Liver, Thyroid, Eye, Skin	Amiodarone
Digoxin = Gut, Vision, Rhythm	Digoxin toxicity
Loop = K/Mg/Volume/Hearing	Loop diuretics
Thiazides Save Calcium but Raise GLU	Thiazides
Warfarin = Bleeding, Baby, Skin	Warfarin
HIT = Platelets Down, Clots Up	Heparin
Metformin = Gut, B12, Lactate	Metformin
SGLT2 = Genitals, Volume, Ketones	SGLT2 inhibitors
Aminoglycosides = Ears, Kidneys, Junction	Aminoglycosides
RIPE: R Red-Orange	Rifampicin
INH = Nerves Need B6	Isoniazid
Ethambutol = Eye	Ethambutol
NSAIDs = Stomach, Kidney, Pressure, Bleeding	NSAIDs
Opioids = Pinpoint, Sleepy, Slow Breathing	Opioid toxicity
SSRIs = Stomach, Sex, Serotonin, Sodium	SSRIs
Lithium = Tremor, Thyroid, Kidney	Lithium
Valproate = Liver, Pancreas, Platelets, Pregnancy	Valproate
Phenytoin = Gums, Hair, Balance, Bone	Phenytoin
Steroids = Sugar, Pressure, Bones, Bugs, Mood	Corticosteroids
Doxorubicin Heart / Bleomycin Lung / Cisplatin Kidney+Ear	Chemotherapy
Hot, Dry, Blind, Red, Mad	Anticholinergic toxicity
Fast, Hot, Twitchy / Slow, Hot, Rigid	Serotonin vs NMS

Discovery & Verification Sources

Mnemonic discovery: Geeky Medics medical mnemonic collections and standard pharmacology teaching resources specified for the Updates in Medicine project. Entries from earlier Pharmacology, Psychiatry, Toxicology, Anaesthesia, Infectious Diseases and Oncology chapters were consolidated where they function as genuine drug-toxicity memory aids.

Independent verification: NCBI Bookshelf/StatPearls reviews of ACE inhibitors, thiazide and loop diuretics, aminoglycosides, opioid analgesics, lithium and lithium toxicity, valproic acid, warfarin and digoxin toxicity; current product-information principles were used for serious warnings and interactions. ACE-inhibitor cough, angioedema, hyperkalaemia and renal deterioration; thiazide hyponatraemia/hypokalaemia/hyperuricaemia/hypercalcaemia; loop electrolyte depletion and ototoxicity; aminoglycoside oto- and nephrotoxicity; lithium renal/thyroid/neurological toxicity; valproate hepatotoxicity, pancreatitis, thrombocytopenia and teratogenicity; and digoxin gastrointestinal,

visual and rhythm toxicity were independently cross-checked.

UIM Original entries are clearly labelled. These memory aids are not sufficient for prescribing decisions: always check current contraindications, pregnancy guidance, renal/hepatic adjustment, interactions, monitoring and local formulary information.

PART VII | RAPID-RECALL COLLECTIONS

EMERGENCY MNEMONICS

Time-critical clinical memory aids for rapid recognition, stabilisation and escalation

Editorial approach
Only genuine memory aids and memorable emergency pattern cues are included. NEWS2, formal severity scores, drug-dose tables and complete resuscitation algorithms are deliberately not presented as mnemonics. These aids support recall; current emergency protocols take priority.

Contents

Cardiac Arrest & Resuscitation
Trauma & Major Haemorrhage
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Acute Respiratory Emergencies
Metabolic Emergencies
Toxicology
Obstetric Emergencies
Paediatric Emergencies
Emergency History & Handover
Rapid Reference

Cardiac Arrest & Resuscitation

4 Hs + 4 Ts

Used to remember: Reversible causes of cardiac arrest

H1	Hypoxia
H2	Hypovolaemia
H3	Hypo-/hyperkalaemia and metabolic disturbance
H4	Hypothermia
T1	Tension pneumothorax
T2	Tamponade - cardiac
T3	Toxins
T4	Thrombosis - coronary or pulmonary

The 2025 Resuscitation Council UK ALS guidance retains prompt treatment of reversible causes as a core priority.

UIM ORIGINAL

Shockable = VF/VT; Non-Shockable = PEA/Asystole

Used to remember: The two broad cardiac-arrest rhythm groups

Shockable	Ventricular fibrillation and pulseless ventricular tachycardia
Non-shockable	Pulseless electrical activity and asystole

UIM ORIGINAL

ROSC = Airway, Oxygen, Pressure, Cause, Brain

Used to remember: Immediate priorities after return of spontaneous circulation

Airway	Secure/maintain airway as required
Oxygen	Avoid hypoxaemia and unnecessary hyperoxaemia
Pressure	Support circulation and perfusion
Cause	Identify/treat the precipitating pathology
Brain	Post-arrest neurological and temperature-focused care

Trauma & Major Haemorrhage

MARCH

Used to remember: A trauma-priority memory aid

M	Massive haemorrhage
A	Airway
R	Respiration
C	Circulation
H	Head injury / hypothermia

MARCH is especially useful in major trauma and tactical/prehospital settings where catastrophic external haemorrhage may precede airway intervention.

Blood on the Floor + Four More

Used to remember: Five classic places to consider major occult haemorrhage

Floor	External haemorrhage
Chest	Haemothorax
Abdomen	Intra-abdominal bleeding
Pelvis/retroperitoneum	Major concealed bleeding
Long bones	Especially femoral fractures

UIM ORIGINAL

Cold Trauma Patient = Clotting Gets Worse

Used to remember: The importance of preventing hypothermia in haemorrhage

Cold	Hypothermia worsens coagulopathy and is associated with poorer trauma outcomes

Airway & Choking

UIM ORIGINAL

Choking = Cough, Back, Thrust, CPR

Used to remember: A simple recall sequence for adult foreign-body airway obstruction

Cough	Encourage effective coughing
Back	If cough is ineffective, give up to 5 back blows
Thrust	If ineffective, give up to 5 abdominal thrusts
CPR	If unresponsive, start CPR

Aligned with Resuscitation Council UK 2025 first-aid guidance. Do not perform blind finger sweeps.

UIM ORIGINAL

Can't Speak + Can't Cough = Severe Choking

Used to remember: Recognition of severe airway obstruction

Can't speak/cough	An ineffective or absent cough and inability to speak suggest severe obstruction

DOPES

Used to remember: Causes of sudden deterioration in an intubated/ventilated patient

D	Displacement of tube
O	Obstruction
P	Pneumothorax
E	Equipment failure
S	Stacking / auto-PEEP or other patient-related cause

The final S varies by teaching source; the useful concept is a rapid check for tube, obstruction, pneumothorax and equipment problems.

UIM ORIGINAL

Stridor = Upper Airway

Used to remember: A localisation clue in acute airway obstruction

Stridor	Harsh predominantly inspiratory sound suggests upper/central airway narrowing

Anaphylaxis

UIM ORIGINAL

Anaphylaxis = Airway, Breathing, Circulation After Allergen

Used to remember: The life-threatening clinical pattern

Airway	Tongue/throat swelling, stridor
Breathing	Wheeze, hypoxaemia or respiratory distress
Circulation	Hypotension, collapse or shock
After allergen	Often follows food, drug, insect or other exposure

UIM ORIGINAL

Adrenaline First, Antihistamine Later

Used to remember: The key treatment priority in anaphylaxis

Adrenaline	Intramuscular adrenaline is first-line treatment for life-threatening anaphylaxis
Later	Antihistamines and corticosteroids are not first-line treatments for airway/breathing/circulation compromise

Use current age/weight-specific dosing and repeat-dose guidance.

UIM ORIGINAL

Skin Can Be Missing

Used to remember: Why absence of rash does not exclude anaphylaxis

No skin signs	Anaphylaxis can occur without urticaria or flushing when airway, breathing or circulation compromise is present

Stroke

FAST

Used to remember: Recognition of common acute stroke signs

F	Face weakness
A	Arm weakness
S	Speech difficulty
T	Time to act urgently

BE FAST

Used to remember: An expanded stroke-recognition mnemonic

B	Balance - sudden loss
E	Eyes - sudden visual loss/diplopia
F	Face weakness
A	Arm weakness
S	Speech difficulty
T	Time to emergency assessment

UIM ORIGINAL

Stroke Mimics = Sugar, Seizure, Migraine, Drugs

Used to remember: Four common stroke mimics

Sugar	Hypoglycaemia
Seizure	Postictal/Todd paresis
Migraine	Migraine aura
Drugs	Intoxication or medication effects

Always check glucose promptly, but do not let mimic evaluation delay stroke pathways when stroke remains plausible.

Seizures & Altered Consciousness

AEIOU TIPS

Used to remember: A broad differential for altered consciousness

A	Alcohol / acidosis
E	Epilepsy / electrolytes / encephalopathy
I	Insulin / glucose
O	Opiates / oxygen
U	Uraemia
T	Trauma / temperature
I	Infection
P	Poisoning
S	Stroke / shock / subarachnoid haemorrhage

UIM ORIGINAL

Seizure >5 Minutes = Treat as Prolonged

Used to remember: The practical emergency threshold for convulsive status

>5 minutes	A convulsive seizure continuing beyond about 5 minutes warrants emergency treatment rather than waiting for spontaneous termination

UIM ORIGINAL

Seizure First Checks = Airway, Glucose, Cause

Used to remember: Three immediate priorities

Airway	Protect oxygenation and ventilation
Glucose	Exclude/treat hypoglycaemia
Cause	Consider infection, stroke, toxins, electrolytes, pregnancy and non-adherence

UIM ORIGINAL

Post-Seizure Weakness = Todd, but Stroke Still Matters

Used to remember: A safety reminder

Todd	Transient postictal focal weakness may occur
Stroke	Persistent or atypical deficit still requires stroke evaluation

Shock

UIM ORIGINAL

Pump, Pipes, Volume, Blockage

Used to remember: The four major shock mechanisms

Pump	Cardiogenic shock
Pipes	Distributive shock - e.g. sepsis/anaphylaxis
Volume	Hypovolaemic/haemorrhagic shock
Blockage	Obstructive shock - PE, tamponade, tension pneumothorax

UIM ORIGINAL

Cold Shock = Clamp; Warm Shock = Wide

Used to remember: A bedside vascular-tone contrast

Clamp	Cool peripheries often reflect vasoconstriction in hypovolaemic/cardiogenic shock
Wide	Warm vasodilated peripheries may occur early in distributive shock

Real shock phenotypes overlap and change over time.

UIM ORIGINAL

Shock = Brain, Skin, Kidney

Used to remember: Three bedside perfusion organs

Brain	Confusion/reduced consciousness
Skin	Cool/mottled or abnormal capillary refill
Kidney	Reduced urine output

UIM ORIGINAL

Sepsis = Infection + Organ Trouble

Used to remember: The modern clinical concept of sepsis

Infection	Suspected or confirmed infection
Organ trouble	Acute organ dysfunction / hypoperfusion

Current NICE adult sepsis guidance uses history, examination and NEWS2 to stratify risk; NEWS2 itself is not treated as a mnemonic in this book.

Acute Chest Emergencies

UIM ORIGINAL

Chest Pain Killers = Heart, Aorta, Lung, Oesophagus

Used to remember: Major immediately dangerous causes of acute chest pain

Heart	Acute coronary syndrome / other life-threatening cardiac disease
Aorta	Acute aortic syndrome
Lung	Pulmonary embolism or tension pneumothorax
Oesophagus	Oesophageal rupture

UIM ORIGINAL

Tension Pneumothorax = Air Under Pressure

Used to remember: The pathophysiological emergency

Air	Pleural air
Pressure	Progressive intrathoracic pressure impairs ventilation and venous return

UIM ORIGINAL

Tamponade = Pressure Around the Pump

Used to remember: The mechanism of cardiac tamponade

Pressure	Pericardial pressure rises
Pump	Cardiac filling and output fall

UIM ORIGINAL

Aortic Dissection = Pain + Pulse/Pressure Difference + Neuro

Used to remember: Three high-risk clue domains

Pain	Abrupt severe chest/back pain
Pulse/pressure	Pulse deficit or inter-arm pressure difference can occur
Neuro	Focal neurological deficit/syncope may occur

Acute Respiratory Emergencies

UIM ORIGINAL

Silent Chest = Severe Threat

Used to remember: A dangerous feature in acute asthma

Silent	Very poor airflow can abolish wheeze
Threat	May indicate impending respiratory failure

UIM ORIGINAL

Asthma Danger = Silent, Tired, Confused, CO2 Rising

Used to remember: Four features of life-threatening deterioration

Silent	Minimal air entry
Tired	Respiratory exhaustion
Confused	Altered mental state
CO2 rising	Normalising/rising CO2 in severe asthma can signal ventilatory failure

UIM ORIGINAL

PE = Breathless + Pleuritic + Pulse Fast

Used to remember: A common pulmonary embolism pattern

Breathless	Sudden/unexplained dyspnoea
Pleuritic	Pleuritic chest pain may occur
Pulse fast	Tachycardia may occur

Metabolic Emergencies

UIM ORIGINAL

DKA = Dehydrated, Kussmaul, Ketones

Used to remember: The classic diabetic ketoacidosis pattern

Dehydrated	Osmotic diuresis and volume depletion
Kussmaul	Deep acidotic breathing
Ketones	Ketonaemia with metabolic acidosis

UIM ORIGINAL

DKA Treatment = Fluid, Insulin, Potassium, Cause

Used to remember: Four core treatment domains

Fluid	Restore circulation
Insulin	Stop ketogenesis
Potassium	Monitor/replace according to protocol
Cause	Treat trigger such as infection or missed insulin

Exact fluid, insulin and potassium regimens require current local DKA protocols.

UIM ORIGINAL

Hyperkalaemia = Stabilise, Shift, Remove

Used to remember: Three treatment goals

Stabilise	Protect myocardium when ECG changes/severe hyperkalaemia
Shift	Temporarily move potassium intracellularly
Remove	Eliminate potassium from the body

UIM ORIGINAL

Hypoglycaemia = Sweaty, Shaky, Strange

Used to remember: A simple recognition pattern

Sweaty	Autonomic symptoms
Shaky	Tremor/palpitations
Strange	Behavioural change, confusion, seizure or coma

Toxicology

DUMBELS

Used to remember: The cholinergic toxidrome

D	Diarrhoea / diaphoresis
U	Urination
M	Miosis
B	Bronchorrhoea / bronchospasm
E	Emesis
L	Lacrimation
S	Salivation

Anticholinergic = Hot, Dry, Blind, Red, Mad

Used to remember: The classic anticholinergic toxidrome

Hot	Hyperthermia
Dry	Dry skin/mucosa
Blind	Mydriasis/blurred vision
Red	Flushing
Mad	Agitated delirium

Sympathomimetic = Hot, Wet, Wide, Wired

Used to remember: The classic stimulant toxidrome

Hot	Hyperthermia
Wet	Diaphoresis
Wide	Mydriasis
Wired	Agitation, tachycardia and hypertension

UIM ORIGINAL

Opioid = Pinpoint, Sleepy, Slow Breathing

Used to remember: The classic opioid toxidrome

Pinpoint	Miosis, though exceptions occur
Sleepy	Reduced consciousness
Slow breathing	Respiratory depression

UIM ORIGINAL

TCA = 3 Cs: Coma, Convulsions, Cardiotoxicity

Used to remember: Three major life-threatening TCA overdose features

Coma	CNS depression
Convulsions	Seizures
Cardiotoxicity	QRS widening, hypotension and arrhythmias

Obstetric Emergencies

4 Ts = Tone, Trauma, Tissue, Thrombin

Used to remember: Major causes of postpartum haemorrhage

Tone	Uterine atony
Trauma	Genital tract/uterine injury
Tissue	Retained placenta/abnormal placentation
Thrombin	Coagulopathy

UIM ORIGINAL

Previa Painless; Abruption Painful

Used to remember: The classic antepartum haemorrhage contrast

Previa	Classically painless vaginal bleeding
Abruption	Classically painful bleeding with uterine tenderness

Presentations overlap; neither pattern is absolute.

UIM ORIGINAL

Shoulder Dystocia = McRoberts + Suprapubic, Never Fundal

Used to remember: Two early manoeuvre principles

McRoberts	Maternal hip hyperflexion
Suprapubic	Suprapubic pressure
Never fundal	Fundal pressure can worsen impaction

UIM ORIGINAL

Cord Prolapse = Lift, Position, Deliver

Used to remember: Immediate goals in umbilical cord prolapse

Lift	Relieve pressure by elevating presenting part
Position	Use a position that reduces cord compression
Deliver	Expedite birth

Paediatric Emergencies

UIM ORIGINAL

Sick Child = Behaviour, Breathing, Perfusion

Used to remember: Three rapid assessment domains

Behaviour	Interaction, alertness, tone
Breathing	Work, sounds and oxygenation
Perfusion	Colour, pulse and capillary refill

UIM ORIGINAL

Croup = Bark + Stridor

Used to remember: The characteristic croup pattern

Bark	Seal-like barking cough
Stridor	Inspiratory upper-airway noise

UIM ORIGINAL

Bilious Vomit = Green Means Surgical Until Proven Otherwise

Used to remember: The significance of bilious vomiting in infants

Green	True bile-stained vomit
Surgical	Malrotation/volvulus and other obstruction must be excluded urgently

UIM ORIGINAL

Shock in Children = Fast Pulse Before Low Pressure

Used to remember: Why hypotension is a late sign in children

Fast pulse	Tachycardia often appears earlier
Low pressure	Hypotension usually indicates decompensated shock

Emergency History & Handover

SAMPLE

Used to remember: A rapid emergency history

S	Signs and symptoms
A	Allergies
M	Medications
P	Past medical history
L	Last oral intake
E	Events leading to illness/injury

OPQRST

Used to remember: A structured symptom/pain history

O	Onset
P	Provoking/palliating factors
Q	Quality
R	Region/radiation
S	Severity
T	Timing

ATMIST

Used to remember: A structured trauma handover

A	Age
T	Time of incident
M	Mechanism
I	Injuries
S	Signs/vital signs
T	Treatment given

SBAR

Used to remember: A structured urgent clinical communication tool

S	Situation
B	Background
A	Assessment
R	Recommendation

UIM ORIGINAL

Emergency Handover = Sickest Fact First

Used to remember: The principle of prioritised handover

First	Lead with the immediate threat, current physiology and action required before lower-priority background

Rapid Reference

Mnemonic	What it recalls
4 Hs + 4 Ts	Reversible cardiac-arrest causes
MARCH	Major trauma priorities
Blood on Floor + Four More	Major haemorrhage sites
Cough, Back, Thrust, CPR	Adult choking
DOPES	Ventilated-patient deterioration
Adrenaline First, Antihistamine Later	Anaphylaxis
FAST / BE FAST	Stroke
AEIOU TIPS	Altered consciousness
Pump, Pipes, Volume, Blockage	Shock
Heart, Aorta, Lung, Oesophagus	Lethal chest pain
Silent, Tired, Confused, CO2 Rising	Severe asthma
DKA = Dehydrated, Kussmaul, Ketones	DKA
Stabilise, Shift, Remove	Hyperkalaemia
Hot, Dry, Blind, Red, Mad	Anticholinergic toxidrome
DUMBELS	Cholinergic toxidrome
Hot, Wet, Wide, Wired	Sympathomimetic toxidrome
3 Cs	TCA toxicity
4 Ts	Postpartum haemorrhage
Behaviour, Breathing, Perfusion	Sick child
SAMPLE	Emergency history
OPQRST	Symptom history
ATMIST	Trauma handover
SBAR	Clinical handover

Discovery & Verification Sources

Mnemonic discovery: LITFL emergency/toxicology teaching; Geeky Medics mnemonic collections; RCEM-style emergency teaching; and cross-checked entries from the Emergency Medicine, Critical Care, Toxicology, Obstetrics and Paediatrics chapters.

Independent verification: Resuscitation Council UK 2025 Resuscitation Guidelines and NICE adult sepsis guidance. RCUK 2025 retains high-quality CPR, early defibrillation and prompt treatment of reversible causes. Adult choking care uses effective cough, then up to five back blows, then up to five abdominal thrusts; start CPR if unresponsive and avoid blind finger sweeps. IM adrenaline remains first-line for life-threatening anaphylaxis. NICE uses NEWS2 together with history, examination and clinical judgement; NEWS2 is therefore not presented here as a mnemonic.

UIM Original entries are clearly labelled. Drug doses, defibrillation energy, fluid volumes and complete emergency algorithms must follow current local protocols.

APPENDIX F

CONSOLIDATED REFERENCES

Chapter-by-chapter discovery and verification sources used throughout the book

About this appendix

This appendix consolidates the source notes printed within the individual chapters. Discovery resources were used to locate candidate mnemonics; factual verification relied on textbooks, guidelines, professional societies, NCBI/PubMed and other authoritative clinical references.

Reference Map

Discovery sources	Used to identify established mnemonics and teaching variants.
Verification sources	Used to verify the underlying anatomy, physiology, diagnosis, treatment or safety statement.
Current guidance	Used where management, emergency care, contraindications or treatment thresholds may change over time.

Anatomy

Mnemonic discovery: Kenhub Anatomy Mnemonics, TeachMeAnatomy, Epomedicine, and selected anatomy teaching resources. Verification: Gray's Anatomy / Gray's Anatomy for Students, Clinically Oriented Anatomy (Moore), Netter's Atlas of Human Anatomy, and source-linked expert-reviewed anatomy articles.

Physiology

Hall JE, Hall ME. Guyton and Hall Textbook of Medical Physiology. Elsevier. Boron WF, Boulpaep EL. Medical Physiology. Elsevier.

Biochemistry

Rodwell VW et al. Harper's Illustrated Biochemistry. McGraw Hill. Ferrier DR. Lippincott Illustrated Reviews: Biochemistry. Wolters Kluwer. Nelson DL, Cox MM. Lehninger Principles of Biochemistry. Macmillan Learning. Kumar V, Abbas AK, Aster JC. Robbins & Cotran Pathologic Basis of Disease. Elsevier.

Genetics

Nussbaum RL, McInnes RR, Willard HF. Thompson & Thompson Genetics and Genomics in Medicine. Elsevier. Turnpenny PD, Ellard S. Emery's Elements of Medical Genetics and Genomics. Elsevier. GeneReviews. NCBI Bookshelf. Kumar V, Abbas AK, Aster JC. Robbins & Cotran Pathologic Basis of Disease. Elsevier.

Pathology

Kumar V, Abbas AK, Aster JC. Robbins & Cotran Pathologic Basis of Disease. Elsevier. Kumar V, Abbas AK, Aster JC. Robbins Basic Pathology. Elsevier. Strayer DS, Rubin E. Rubin's Pathology: Clinicopathologic Foundations of Medicine. Wolters Kluwer.

Pharmacology

Brunton LL et al. Goodman & Gilman's The Pharmacological Basis of Therapeutics. McGraw Hill. Katzung BG, Vanderah TW. Basic & Clinical Pharmacology. McGraw Hill. British National Formulary (BNF). BMJ Group and Pharmaceutical Press. DailyMed. U.S. National Library of Medicine.

Microbiology

Mnemonic discovery: Geeky Medics; Epomedicine; Picmonic public microbiology index; Clinical Microbiology Made Ridiculously Simple (public bibliographic/preview material); targeted searches of the other requested educational resources where relevant. Independent verification: NCBI Bookshelf / Medical Microbiology; StatPearls; PubMed reviews; DermNet for TORCH terminology; standard microbiology texts including Murray Medical Microbiology and Jawetz, Melnick & Adelberg's Medical Microbiology. Commercial visual stories and proprietary mnemonic systems were not reproduced.

Immunology

Mnemonic discovery: Epomedicine; Geeky Medics; Picmonic public topic pages; First Aid-derived mnemonics visible in public educational references; targeted mnemonic literature and teaching resources. Independent verification: NCBI Bookshelf / Immunobiology; NCBI Medical Microbiology; StatPearls; Merck Manual Professional; EBMT Handbook for HLA biology; standard texts including Abbas, Lichtman & Pillai's Cellular and Molecular Immunology. Proprietary visual mnemonic stories were not reproduced.

General Clinical Medicine

Mnemonic discovery: Geeky Medics, Epomedicine, Zero to Finals, LITFL and other clinician education resources specified for this book project. Independent verification: NCBI Bookshelf Clinical Methods; StatPearls; Merck Manual Professional; standard internal medicine texts including Harrison's Principles of Internal Medicine and Oxford Handbook of Clinical Medicine. Acid-base mnemonics were checked against current physiological definitions and modern differential frameworks.

Cardiology

Mnemonic discovery: resources in the Updates in Medicine mnemonic-book source list, including Geeky Medics, Epomedicine, LITFL, Zero to Finals, Kenhub and other established medical-education mnemonic collections. Independent verification: NCBI Bookshelf/StatPearls cardiovascular chapters; Merck Manual Professional; WHO guidance for rheumatic fever; current standard cardiology references. Classic examination mnemonics were retained only when their underlying clinical statements remained accurate. Diagnostic criteria and treatment algorithms were not converted into mnemonics.

Respiratory Medicine

Mnemonic discovery: Geeky Medics, Epomedicine, LITFL, Zero to Finals and other clinician-education resources listed for the Updates in Medicine mnemonic-book project. Independent verification: NCBI Bookshelf/Clinical Methods and StatPearls respiratory chapters; current GINA asthma strategy; GOLD COPD strategy; BTS pleural-disease resources; ESC/ERS pulmonary-hypertension classification; standard respiratory texts including Murray & Nadel and West's Respiratory Physiology. Where traditional teaching phrases were clinically oversimplified, a qualification has been added.

Gastroenterology & Hepatology

Mnemonic discovery: Geeky Medics, Epomedicine, Zero to Finals, TeachMeSurgery, LITFL, Picmonic public pages and the other educational resources specified for the Updates in Medicine mnemonic-book project. Independent verification: Merck Manual Professional; NCBI Bookshelf/StatPearls; standard gastroenterology and hepatology references. Pancreatitis causes were cross-checked against TeachMeSurgery and Merck. Cirrhosis and ascites content was checked against current hepatology references. Charcot/Reynolds features were checked against NCBI/StatPearls and contemporary cholangitis literature. The traditional gallstone '5 Fs' was deliberately not used as a major clinical mnemonic because it is an unreliable diagnostic shortcut.

Neurology

Mnemonic discovery: Geeky Medics, Epomedicine, Zero to Finals, LITFL, Kenhub, TeachMeAnatomy and targeted medical-mnemonic sources from the Updates in Medicine project list. Independent verification: NCBI Bookshelf/StatPearls neurological examination, cerebellar dysfunction, multiple sclerosis, Guillain-Barre syndrome and spinal-cord syndrome resources; Merck Manual Professional; contemporary headache literature including SNOOP/SNNOOP10; and standard neurology texts. The traditional TRAP mnemonic is retained with a caveat because postural instability is usually a later Parkinson disease feature and is not part of the modern MDS core definition of parkinsonism.

Nephrology

Mnemonic discovery: Geeky Medics renal mnemonics, Zero to Finals renal medicine, LITFL renal/critical-care resources, Epomedicine and other educational sources specified for the Updates in Medicine mnemonic-book project. Independent verification: NCBI Bookshelf/StatPearls on acute kidney injury, nephritic syndrome, chronic kidney disease and renal tubular acidosis; Merck Manual Professional; standard nephrology texts and contemporary renal teaching references. Hyperkalaemia ECG progression was checked against LITFL ECG Library and renal physiology sources. The AEIOU mnemonic is presented as a clinical prompt rather than a rigid threshold-based rule.

Endocrinology & Diabetes

Mnemonic discovery: Geeky Medics, Epomedicine, Zero to Finals, Picmonic public topic pages, LITFL and other educational sources specified for the Updates in Medicine mnemonic-book project. Independent verification: Endotext/NCBI Bookshelf (endocrine emergencies, diabetes insipidus, adrenal insufficiency, diabetes); StatPearls pituitary and vasopressin physiology; Merck Manual Professional; standard endocrinology references. Emergency mnemonics deliberately avoid fixed biochemical cut-offs that may change with updated consensus definitions.

Rheumatology

Mnemonic discovery: Epomedicine rheumatology mnemonic pages; Zero to Finals rheumatology pages; Geeky Medics and Picmonic public teaching/mnemonic resources where relevant; and other resources in the Updates in Medicine mnemonic-book source list. Independent verification: NCBI Bookshelf/StatPearls on rheumatoid arthritis,

gout, arthritis and vasculitis; current standard rheumatology references and contemporary classification/nomenclature sources. Older classification mnemonics were not used as diagnostic shortcuts where newer criteria have superseded them.

Haematology

Mnemonic discovery: Geeky Medics medical mnemonics; Epomedicine haematology and coagulation mnemonic pages; Zero to Finals haematology resources; LITFL where acute haematological complications overlap critical care; and other sources in the Updates in Medicine mnemonic-book resource list. Independent verification: NCBI Bookshelf/StatPearls on anaemia, haemolysis, TTP/HUS and coagulation disorders; Merck Manual Professional; standard haematology texts. The classic TTP pentad is explicitly qualified because most patients do not present with all five features. Coagulation-factor material omits obsolete Factor VI and notes that the traditional cascade is a simplified teaching model.

Infectious Diseases

Mnemonic discovery: Geeky Medics, Epomedicine, Zero to Finals, LITFL, Picmonic public topic pages and other clinician-education resources specified for the Updates in Medicine mnemonic-book project. Independent verification: WHO tuberculosis and advanced-HIV guidance; NCBI Bookshelf/StatPearls on HIV-associated opportunistic infections, tuberculosis and CNS infection; Merck Manual Professional and standard infectious-disease references. Treatment-timing content is deliberately phrased conceptually because exact recommendations depend on current guidelines, disease site and patient context.

Oncology

Mnemonic discovery: Geeky Medics medical mnemonics; Picmonic public oncology and antineoplastic-drug topic pages; Epomedicine and Zero to Finals searches where relevant; and other sources in the Updates in Medicine mnemonic-book resource list. Independent verification: NCBI Bookshelf/StatPearls and peer-reviewed reviews on tumour lysis syndrome, malignant spinal cord compression, superior vena cava obstruction, febrile neutropenia and hypercalcaemia; standard oncology references. Tumour markers are presented as associations, not as stand-alone screening or diagnostic tests. Proprietary visual stories from commercial mnemonic systems were not reproduced.

Dermatology

Mnemonic discovery: resources in the Updates in Medicine mnemonic-book source list, including clinician-education mnemonic collections and dermatology teaching resources. Independent verification: DermNet New Zealand was used extensively for morphology, melanoma recognition and common dermatological disease patterns; additional facts were cross-checked against standard dermatology references. The ABCDE and EFG melanoma tools are included with the explicit limitation that melanomas may lack these features. The 'ugly duckling' concept is also retained as a complementary recognition aid.

Emergency Medicine

Discovery & Verification Sources Mnemonic discovery: Geeky Medics emergency/ABCDE resources, LITFL critical-care and resuscitation Mnemonic Resuscitation resources, Council discovery: Geeky UK materials, Medics and other sources emergency/ABCDE in the teaching Updates LITFL resources; in Medicine resource critical-care list. and resuscitation resources; Resuscitation Council UK materials; and other emergency-medicine sources in the Updates in Medicine Independent verification: Resuscitation Council UK ABCDE and 2025 resuscitation guidance and contemporary mnemonic-book resource list. emergency-medicine references. The 4 Hs and 4 Ts remain a core reversible-cause framework. Detailed drug doses, shock energies and algorithms are intentionally left to current protocols.

Critical Care

Mnemonic discovery: LITFL critical-care and ventilation teaching; Geeky Medics acute-care resources; SCCM/ESICM teaching resources; and other sources listed in the Updates in Medicine mnemonic-book project. Independent verification: 2026 Surviving Sepsis Campaign adult guidance; NCBI/StatPearls critical-care physiology and renal replacement references; standard ICU and respiratory physiology texts. Sepsis content reflects the 2026 emphasis that sepsis is a clinical diagnosis and should not be ruled in or out by a single score or biomarker. Ventilator and ARDS entries are kept conceptual rather than reproducing full protocols.

Anaesthesia

Mnemonic discovery: OpenAnesthesia airway and anaesthesia teaching resources; Geeky Medics perioperative teaching; LITFL acute airway and toxicology resources; and other sources specified in the Updates in Medicine mnemonic-book project. Independent verification: OpenAnesthesia difficult-airway and LAST resources; 2026 StatPearls malignant hyperthermia review; recent malignant-hyperthermia guidance; contemporary PONV guidance; Resuscitation Council UK principles for perioperative anaphylaxis and acute deterioration. The chapter specifically avoids presenting hyperthermia as the earliest MH sign and notes that LAST can present atypically.

Toxicology

Mnemonic discovery: LITFL Toxicology Library and Antidotes Library; Geeky Medics and Epomedicine toxicology mnemonics where relevant; and other sources specified for the Updates in Medicine mnemonic-book project. Independent verification: 2026 StatPearls paracetamol toxicity review; current StatPearls salicylate references; LITFL drug, toxin and antidote monographs; standard emergency toxicology references. The paracetamol section reflects current use of a timed concentration after a single acute ingestion and emphasises early N-acetylcysteine. Salicylate content highlights the characteristic respiratory alkalosis plus metabolic acidosis and the importance of serial concentrations and pH. Exact decontamination, antidote, alkalinisation and dialysis protocols are deliberately not reduced to memory shortcuts.

General Surgery

Mnemonic discovery: TeachMeSurgery general-surgery and perioperative resources; Geeky Medics and Zero to Finals surgical teaching; Epomedicine where relevant; and the wider resource list specified for the Updates in Medicine mnemonic-book project. Independent verification: TeachMeSurgery 2026 appendicitis and bowel-obstruction resources; NCBI Bookshelf/StatPearls on appendicitis, acute abdomen and small-bowel obstruction; standard general-surgery references. The bowel-obstruction section reflects current teaching that adhesions and hernias are major small-bowel causes, while malignancy and volvulus are important large-bowel causes. Closed-loop obstruction, ischaemia and perforation are treated as surgical emergencies. The traditional postoperative '5 Ws' timing rule was deliberately not used; instead, a source checklist is provided because postoperative-fever timing substantially overlaps.

Orthopaedics

Mnemonic discovery: Epomedicine orthopaedic mnemonic resources; Geeky Medics anatomy/clinical mnemonics; Orthobullets teaching resources; and other sources specified for the Updates in Medicine mnemonic-book project. Independent verification: NCBI Bookshelf/StatPearls on Salter-Harris fractures and slipped capital femoral epiphysis; orthopaedic reviews on acute compartment syndrome; standard orthopaedic references. The chapter explicitly qualifies the traditional 5 Ps because pain out of proportion and pain with passive stretch are earlier warning signs, while paralysis and pulselessness are late. Salter-Harris content uses the classic I-V SALTeR aid, although extended physeal-injury classifications exist beyond type V.

Urology

Mnemonic discovery: TeachMeSurgery urology and surgical teaching resources; Geeky Medics and Epomedicine mnemonic/clinical teaching pages where relevant; and other sources specified in the Updates in Medicine mnemonic-book project. Independent verification: 2026 NCBI/StatPearls resources on acute renal colic, haematuria, BPH, testicular torsion, priapism and Fournier gangrene. The renal-colic section reflects the need for urgent drainage in obstructive pyelonephritis/pyonephrosis. The acute-scrotum section deliberately stresses that no single examination sign safely excludes torsion. Ischaemic priapism is treated as a true emergency. Visible haematuria is presented as a malignancy red flag rather than a diagnosis.

Obstetrics

Mnemonic discovery: AAFP/ALSO shoulder-dystocia teaching; Geeky Medics and obstetric teaching resources; TeachMeObGyn, Zero to Finals and other sources specified for the Updates in Medicine mnemonic-book project. Independent verification: WHO 2025 Consolidated Guidelines for the Prevention, Diagnosis and Treatment of Postpartum Haemorrhage and 2026 implementation resources; NCBI Bookshelf/StatPearls on ectopic pregnancy, shoulder dystocia, postpartum haemorrhage and umbilical cord prolapse; standard contemporary obstetric references. The 4 Ts are retained as the core PPH-cause mnemonic. Shoulder-dystocia entries stress

McRoberts/suprapubic manoeuvres and avoidance of fundal pressure. Cord prolapse is treated as a fetal emergency requiring immediate decompression and expedited delivery. VEAL CHOP is presented only as a pattern association, not a substitute for full CTG interpretation.

Gynaecology

Mnemonic discovery: TeachMeObGyn, Geeky Medics, Zero to Finals, Epomedicine and other clinician-education resources specified for the Updates in Medicine mnemonic-book project. Independent verification: FIGO PALM-COEIN classification; NCBI Bookshelf/StatPearls on abnormal uterine bleeding, ovarian torsion, menstrual physiology and menopause; standard contemporary gynaecology references. PALM-COEIN is included because it functions as a genuine cause-recall device. Ovarian torsion is explicitly treated as a surgical emergency, and normal Doppler flow is not presented as sufficient to exclude it. Postmenopausal bleeding is treated as a malignancy red flag requiring evaluation.

Paediatrics

Mnemonic discovery: Don't Forget the Bubbles paediatric emergency and teaching resources; Geeky Medics paediatric teaching; Epomedicine and other mnemonic resources specified for the Updates in Medicine project. Independent verification: NCBI Bookshelf/StatPearls paediatric bronchiolitis, croup and febrile-seizure references; Don't Forget the Bubbles croup and febrile-seizure reviews; standard paediatric references. The bronchiolitis section emphasises supportive care and avoids routine antibiotic/corticosteroid treatment. Croup is distinguished as an

Psychiatry

Mnemonic discovery: Geeky Medics psychiatry mnemonic and mental-state-examination resources; standard psychiatry teaching resources in the Updates in Medicine source list. Independent verification: Geeky Medics Mental State Examination guide (updated August 2026); NCBI/StatPearls on neuroleptic malignant syndrome and related psychiatric emergencies; standard contemporary psychiatry references. SIGECAPS, DIGFAST and HARD are retained as symptom-domain memory aids. The traditional SAD PERSONS checklist was deliberately not used as a suicide-prediction tool because clinical risk assessment should not rely on a score. Personality-cluster and psychosis mnemonics are explicitly presented as broad teaching aids rather than diagnostic criteria.

Ophthalmology

Mnemonic discovery: Geeky Medics ophthalmology and medical-mnemonic resources; AAO EyeWiki teaching pages; and other clinician-education sources specified for the Updates in Medicine mnemonic-book project. Independent verification: 2026 StatPearls acute angle-closure glaucoma review; NCBI/StatPearls central retinal artery occlusion; AAO EyeWiki on-call ophthalmology guidance; contemporary sudden-vision-loss reviews and standard ophthalmology references. Acute angle closure is treated as an ophthalmic emergency. CRAO is presented as sudden painless severe visual loss requiring immediate ophthalmic and vascular/stroke assessment. Open-globe entries explicitly avoid tonometry or pressure on the eye. Red-eye mnemonics emphasise pain, photophobia and reduced vision as danger features rather than attempting to diagnose all red eyes from a checklist.

ENT

Mnemonic discovery: Geeky Medics ENT/hearing examination resources and general medical mnemonic collections; other clinician-education resources specified for the Updates in Medicine mnemonic-book project. Independent verification: 2026 StatPearls resources on acute otitis media, Meniere disease and peritonsillar abscess; NCBI/StatPearls on BPPV, hearing loss, mastoiditis, cholesteatoma, Bell palsy and epiglottitis; NICE hearing-loss guidance for sudden sensorineural hearing loss; NHS epistaxis first-aid guidance. Sudden sensorineural hearing loss is treated as an ENT emergency. BPPV is characterised as brief and position-triggered. Meniere disease is distinguished by episodic vertigo with fluctuating sensorineural hearing loss, tinnitus and aural fullness. Epistaxis first aid uses forward posture and continuous soft-nose compression for about 10-15 minutes. Peritonsillar abscess and epiglottitis entries emphasise upper-airway risk.

Radiology

Mnemonic discovery: Radiopaedia was the principal radiology-specific discovery resource, including its dedicated mnemonic and systematic-approach pages; Geeky Medics and other clinician-education resources from the

Updates in Medicine source list were used secondarily. Independent verification: Radiopaedia systematic chest radiograph review, PACEMAN technical-evaluation mnemonic, HSBC air-trapping mnemonic, Charcot 6 Ds, ABC/2 intracerebral-haemorrhage volume method and pulmonary-oedema ABCDE; NCBI/StatPearls on pneumothorax and intracranial haemorrhage; contemporary radiology references. The pneumothorax section preserves the key visceral pleural line with absent peripheral lung markings and notes that suspected tension pneumothorax in an unstable patient is a clinical emergency that should not wait for imaging. The epidural-versus-subdural memory aid is presented as a shape/location clue rather than a complete diagnostic rule.

Geriatric Medicine

and outcomes important to the person Medication Use only medicines that support goals and do not worsen function Mentation Delirium, dementia and depression Mobility Safe movement and preservation of function The 4Ms framework is widely used in age-friendly care; it complements, rather than replaces, full comprehensive geriatric assessment. SPICES Used to remember: Common geriatric syndromes that should trigger further assessment S Sleep disorders P Problems with eating or feeding I Incontinence C Confusion E Evidence of falls S Skin breakdown Fulmer SPICES is an established geriatric assessment framework, not a severity score. UIM ORIGINAL CGA = Medical, Mind, Mobility, Medicines, Meaning, Milieu Used to remember: A memorable multidomain approach to comprehensive geriatric assessment Medical Active diseases and symptom burden Mind Cognition, delirium and mood Mobility Function, gait, ADLs and falls Medicines Polypharmacy, adherence and harm Meaning Goals, preferences and social priorities Milieu Home, carers, finances and environment

Mnemonic discovery: Fulmer SPICES original/geriatric assessment resources; geriatric teaching resources and the British Geriatrics Society source list specified for the Updates in Medicine mnemonic-book project. Independent verification: NICE 2025 falls guideline and evidence reviews; NCBI Bookshelf/StatPearls falls and Clinical Frailty Scale reviews; NIHR comprehensive geriatric assessment evidence; contemporary delirium reviews. The falls section reflects current guidance that recurrent falls, frailty, injury, loss of consciousness or impaired gait/balance should trigger a comprehensive multifactorial assessment covering cardiovascular factors, cognition, medications, vision, continence, footwear, mobility and environment. Fulmer SPICES is retained as an established geriatric assessment framework. Delirium is explicitly distinguished from dementia by acute onset, fluctuation and inattention.

Palliative Medicine

Used to remember: Three major components Voice Document the person's own wishes Surrogate Identify who should speak if capacity is lost Preferences Record treatment goals and unacceptable outcomes where appropriate Capacity = Understand, Retain, Weigh, Communicate Used to remember: A common functional framework for decision-making capacity Understand Relevant information Retain Long enough to decide Weigh Use and balance the information Communicate Express a decision Legal tests vary by jurisdiction; capacity is decision-specific and time-specific. UIM ORIGINAL DNACPR = CPR Decision, Not 'Do Not Treat' Used to remember: A crucial scope distinction CPR decision Relates specifically to cardiopulmonary resuscitation Not no-treatment Other clinically appropriate treatments, comfort care and escalation decisions remain separate

Mnemonic discovery: VitalTalk serious-illness communication resources (NURSE, REMAP and PAUSE); Palliative Care Network of Wisconsin Fast Facts; and the palliative-care resources specified in the Updates in Medicine mnemonic-book project. Independent verification: WHO palliative-care guidance; NICE Care of Dying Adults in the Last Days of Life; Palliative Care Network of Wisconsin 2026 opioid-induced constipation guidance; VitalTalk communication frameworks. WHO emphasises relief of physical, psychological, social and spiritual suffering and supports palliative care alongside other treatment. NICE recommends individualised hydration decisions, frequent mouth care, review of non-beneficial medicines, flexible routes when swallowing fails, and anticipatory prescribing for likely symptoms. Current PCNOW guidance confirms opioid-induced constipation is common and persistent, supporting proactive bowel management. VitalTalk's NURSE, REMAP and PAUSE tools are used only as communication memory aids rather than scripts that replace person-centred conversation.

Differential Diagnosis

Mnemonic discovery: Geeky Medics medical-mnemonics and diagnostic-reasoning resources were used extensively for VITAMIN CDEF, VINDICATE, MIDNITE, SAFER, SNAP and syncope-history mnemonics. Additional entries consolidate verified mnemonics from earlier specialty chapters in this book. Independent verification: PubMed review of the SNNOOP10 secondary-headache red flags and subsequent validation studies; contemporary syncope, emergency and diagnostic-reasoning references. SNNOOP10 is explicitly presented as a red-flag framework rather than a diagnostic score because specificity is limited despite useful sensitivity. The generic diagnostic sieves are deliberately broad and are intended to reduce premature closure, not to imply equal probability for every category.

Drug & Adverse Effects

Mnemonic discovery: Geeky Medics medical mnemonic collections and standard pharmacology teaching resources specified for the Updates in Medicine project. Entries from earlier Pharmacology, Psychiatry, Toxicology, Anaesthesia, Infectious Diseases and Oncology chapters were consolidated where they function as genuine drug-toxicity memory aids. Independent verification: NCBI Bookshelf/StatPearls reviews of ACE inhibitors, thiazide and loop diuretics, aminoglycosides, opioid analgesics, lithium and lithium toxicity, valproic acid, warfarin and digoxin toxicity; current product-information principles were used for serious warnings and interactions. ACE-inhibitor cough, angioedema, hyperkalaemia and renal deterioration; thiazide hyponatraemia/hypokalaemia/hyperuricaemia/hypercalcaemia; loop electrolyte depletion and ototoxicity; aminoglycoside oto- and nephrotoxicity; lithium renal/thyroid/neurological toxicity; valproate hepatotoxicity, pancreatitis, thrombocytopenia and teratogenicity; and digoxin gastrointestinal,

Emergency Rapid Recall

Mnemonic discovery: LITFL emergency/toxicology teaching; Geeky Medics mnemonic collections; RCEM-style emergency teaching; and cross-checked entries from the Emergency Medicine, Critical Care, Toxicology, Obstetrics and Paediatrics chapters. Independent verification: Resuscitation Council UK 2025 Resuscitation Guidelines and NICE adult sepsis guidance. RCUK 2025 retains high-quality CPR, early defibrillation and prompt treatment of reversible causes. Adult choking care uses effective cough, then up to five back blows, then up to five abdominal thrusts; start CPR if unresponsive and avoid blind finger sweeps. IM adrenaline remains first-line for life-threatening anaphylaxis. NICE uses NEWS2 together with history, examination and clinical judgement; NEWS2 is therefore not presented here as a mnemonic.

Examination

Mnemonic discovery: Geeky Medics Medical Mnemonics and Clinical Examination resources were the principal discovery sources, including WIPE, general-inspection ABC, neurological examination phrase, tendon-reflex rhyme, DANISH, valve-auscultation mnemonic and SCRIPT. Anatomy mnemonics were cross-checked for cranial nerves, dermatomes, SITS and related examination anatomy. Independent verification: Contemporary Geeky Medics examination guides (including the 2025 cardiovascular examination guide, updated June 2026) and standard clinical examination texts were used to confirm the underlying examination facts. Established mnemonics were retained where they genuinely aid bedside recall; ordinary checklists were not relabelled as mnemonics. UIM Original devices were created only for clinically stable examination sequences and are clearly labelled. These aids are not a substitute for supervised clinical-skills training, infection-control practice, chaperone policies, patient consent or full system-specific examination techniques.

UIM Original Mnemonics

Every entry in this chapter is labelled UIM Original. The underlying medical content was previously checked during development of the relevant specialty chapters against contemporary textbooks, guidelines, NCBI/PubMed resources and professional-society material. This chapter intentionally does not claim originality for established mnemonics such as FAST, DIGFAST, SIGECAPS, 4 Hs + 4 Ts, MARCH, NURSE, VITAMIN CDEF or SITS. Those remain in their appropriate specialty chapters and are not reproduced here as UIM originals. The editorial standard for an original mnemonic is simple: it should be short, clinically faithful, easy to reconstruct without rote memorisation, and unlikely to encourage unsafe oversimplification. Where a phrase summarises an emergency, it is explicitly a recall cue rather than a treatment algorithm. Current guidelines, local protocols and clinical judgement always take priority.

Publication note

These references reflect the source notes used in the chapter PDFs. Before final publication, treatment-related recommendations and safety statements should undergo a final date-sensitive guideline check, and bibliographic formatting can be standardised into the publisher's preferred style.

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