Medical Terminology

Flashcard Study Guide

Chapter 43: Hematology

Each card contains: **Term** | Syllables · *Pronunciation* | Definition | *Memory trick*

20 terms

Anemia

a · ne · mi · a uh-NEE-mee-uh

A condition in which the number of red blood cells, amount of hemoglobin, or volume of packed red cells is less than normal; results in reduced oxygen delivery to tissues.

Think: 'A' (no) + 'nemia' (from Greek haima = blood) → 'not enough blood'. In Spanish, 'anemia' is spelled exactly the same! Symptoms: pale, tired, weak — remember P-T-W.

Antecubital space

an · te · cu · bi · tal an-teh-KYOO-bit-ul

The inner bend of the elbow — the triangular area in front of the elbow joint. The most common site for venipuncture (blood draws).

'Ante' = before (Latin) + 'cubital' = elbow. 'Ante' also means 'in front of' — like 'antechamber' (room before the main room). Picture: the crook of your arm where a nurse puts the needle.

Basophils

ba · so · phils

BAY-so-filz

A type of white blood cell (granulocyte) that releases histamine and heparin during allergic and inflammatory reactions. Least common WBC type.

'Baso' = base (as in basic/alkaline dye) + 'phil' = loving (Greek). Basophils 'love' basic (blue) dye — they stain dark blue/purple under a microscope. Remember: Blue + Basic = Basophil.

Capillaries

cap · il · lar · ies

KAP-ih-lair-eez

The smallest blood vessels in the body — microscopic, one-cell-thick walls. They connect arteries to veins and allow exchange of oxygen, nutrients, and waste between blood and tissues.

'Capillary' comes from Latin 'capillus' = hair. They are as thin as a hair! In Italian and Spanish, 'capelli/capillos' means hair. Imagine tiny hair-thin tubes running through your body.

Carboxyhemoglobin

car · box · y · he · mo · glo · bin kar-BOK-see-

HEE-mo-glo-bin Hemoglobin that has combined with carbon monoxide (CO) instead of oxygen. CO binds 200× more tightly than oxygen, blocking oxygen delivery — the basis of carbon monoxide poisoning.

Break it down: 'Carboxy' (carbon monoxide CO) + 'hemo' (blood/Greek haima) + 'globin' (protein). CO poisoning is dangerous because CO hijacks hemoglobin! Remember: CO = 'Carbon Obstacle' blocking oxygen.

Electrolytes

e · lec · tro · lytes eh-LEK-tro-lites

Minerals in the blood and body fluids that carry an electric charge. Key electrolytes: sodium (Na+), potassium (K+), calcium (Ca2+), chloride (Cl-). Essential for nerve and muscle function.

'Electro' = electricity + 'lytes' (from Greek 'lytos' = loosened/dissolved). Electrolytes dissolve in water and conduct electricity. Sports drinks replenish electrolytes. Remember: E-lec-tro-lytes = E(nergy) for your cells.

Erythrocyte sedimentation rate

e · ryth · ro · cyte

sed · i · men · ta · tion rate eh-RITH-ro-site sed-ih-men-TAY-shun ESR — a blood test that measures how fast red blood cells settle to the bottom of a test tube in one hour. An elevated ESR indicates inflammation somewhere in the body (non-specific marker).

'Erythro' = red (Greek) + 'cyte' = cell. 'Sedimentation' = settling, like sediment/sand sinking in water. ESR is like watching red blood cells 'sink' — faster sinking = more inflammation. Think: 'Red cells Racing to the bottom.'

Erythropoietin

e · ryth · ro · poi · e · tin eh-rith-ro-POY-eh-tin

A hormone produced by the kidneys that stimulates the bone marrow to produce more red blood cells. Released when oxygen levels in the blood are low.

'Erythro' = red + 'poietin' from Greek 'poiein' = to make. So erythropoietin literally means 'red-cell-maker'! Abbreviated EPO — the same hormone athletes illegally use to boost red cell count.

Hematology

he · ma · tol · o · gy hee-muh-TOL-oh-jee

The branch of medicine that studies blood, blood-forming tissues (bone marrow), and blood disorders such as anemia, leukemia, and clotting disorders.

'Hemato' = blood (Greek 'haima') + 'logy' = study of. The 'hema/hemo' root appears in many medical terms: hemoglobin, hemophilia, hematoma. If you see 'hemo/hemato' — it's about BLOOD.

Hematopoiesis

he · ma · to · poi · e · sis heh-mat-oh-poy-EE-sis

The process of forming and developing blood cells (red cells, white cells, platelets) in the bone marrow from stem cells. Occurs primarily in the red bone marrow of flat bones.

'Hemato' (blood) + 'poiesis' (making/creation). Compare to 'erythropoietin' — same 'poiesis' root. 'Poiesis' in Greek also means 'poetry' (creation of words). Blood-making is the body's ongoing creative process!

Hemoglobin

he · mo · glo · bin

HEE-mo-glo-bin

The iron-containing protein in red blood cells that carries oxygen from the lungs to the body's tissues. Hemoglobin gives blood its red color when oxygenated.

'Hemo' = blood + 'globin' = globe-shaped protein. Hemoglobin is literally a 'globe of blood protein.' Abbreviated Hgb or Hb. Normal: males 14–17.5 g/dL, females 12.3–15.3 g/dL. Low Hgb = anemia.

Heparin

hep · a · rin

HEP-uh-rin

A naturally occurring anticoagulant (blood thinner) produced by the liver and found in blood. Also used as medication to prevent or treat blood clots (DVT, pulmonary embolism).

'Hepar' = liver (Greek). Heparin is made in the liver — the word tells you where it comes from. Compare: hepatitis (liver inflammation), hepatic (relating to the liver). Memory: 'Hep-arin' → the liver's natural anti-clotting agent.

Lymphocytes

lym · pho · cytes

LIM-fo-sites

White blood cells that are the key players of the immune system. Two main types: T-cells (attack infected cells directly) and B-cells (produce antibodies). Found in lymph nodes, spleen, and blood.

'Lympho' = lymph (Latin lympha = clear water) + 'cyte' = cell. Lymphocytes travel through both blood AND lymph fluid. Memory trick: 'Lympho' sounds like 'limbo' — lymphocytes move between blood and lymph, always in between!

Microhematocrit

mi · cro · he · ma · to · crit

MY-kro-heh-MAT-oh-krit

A test that measures the percentage of red blood cells in a small (micro) blood sample, using a tiny capillary tube spun in a centrifuge. Normal: males 40–54%, females 37–47%.

'Micro' = small + 'hemato' = blood + 'crit' from Greek 'krinein' = to separate. A microhematocrit literally 'separates a tiny blood sample.' The centrifuge spins it — red cells sink to the bottom, plasma on top.

Monocytes

mon · o · cytes

MON-oh-sites

The largest white blood cells; they travel to tissues and become macrophages (big eaters) that engulf and destroy pathogens, dead cells, and foreign particles (phagocytosis).

'Mono' = one (Greek). Monocytes have ONE large, kidney-shaped nucleus — the biggest and most visually distinctive WBC under the microscope. When they leave blood and enter tissue, they become 'macrophages' (big eaters).

Mononucleosis

mon · o · nu · cle · o · sis mon-oh-noo-klee-OH-sis

An infectious disease caused by the Epstein-Barr virus (EBV), characterized by fever, sore throat, swollen lymph nodes, and fatigue. Also called 'mono' or the 'kissing disease.'

'Mono' (one) + 'nucleo' (nucleus) + 'osis' (condition of). It's named because monocytes in the blood have unusual single-lobed nuclei during infection. Nicknamed 'kissing disease' because EBV spreads through saliva.

Oxyhemoglobin

ox · y · he · mo · glo · bin ok-see-HEE-mo-glo-bin

Hemoglobin that is combined with oxygen — the form of hemoglobin when it has picked up oxygen in the lungs. Bright red in color, carried in arterial blood to the body's tissues.

'Oxy' = oxygen (Greek 'oxys' = sharp/acid) + hemoglobin. Compare to CARBOXY- hemoglobin (CO poisoning). Oxyhemoglobin = good (oxygen delivery); Carboxyhemoglobin = dangerous (CO blocking oxygen). The prefix tells you what's attached to the hemoglobin.

Phenylketonuria

phen · yl · ke · ton · ur · i · a fen-ul-kee-toh-NYOO-ree-

uh PKU — a rare inherited metabolic disorder in which the body cannot break down phenylalanine (an amino acid). Without treatment, builds up and causes brain damage. Screened at birth.

'Phenyl' (chemical compound) + 'keto' (ketone byproduct) + 'uria' (in urine). The 'uria' ending always means 'in the urine' — hematuria (blood in urine), proteinuria (protein in urine). PKU = phenyl compounds spilling into urine.

Platelets

plate · lets

PLAYT-letz

Tiny, disc-shaped cell fragments in the blood (also called thrombocytes) that clump together to form blood clots and stop bleeding. Normal count: 150,000–400,000 per microliter.

Think of tiny 'plates' floating in blood that pile up (aggregate) to patch a wound — like stacking plates to fill a hole. 'Let' = small in English (like droplet, booklet). Platelets = small plates. Low platelets = easy bruising/bleeding.

Serum

se · rum

SEER-um

The clear, yellowish liquid that separates from blood after it has clotted and been centrifuged. Serum is plasma MINUS clotting factors (fibrinogen). Used for most chemistry and serology tests.

💡 *'Serum' = Latin for 'whey' (the liquid that separates from milk curds when making cheese). Like separating milk into curds + whey, blood separates into clot + serum. Red-top tube → clot → centrifuge → serum (clear yellow liquid on top).*