

REFERENCES

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GLOSSARY OF TERMS

anemia: Low red blood cell (RBC) count or hemoglobin in blood; caused by blood loss or by impaired production or destruction of RBCs

antibody: A protein molecule in serum or body fluids that reacts with, protects against, and helps destroy foreign or natural substances (antigens)

antigen: Any substance, either foreign or natural, that stimulates lymphocytes (white blood cells) to initiate an immune response; includes bacteria, viruses, fungi, toxins, living and dead tissue, etc.

aplastic: Characterized by incomplete or defective development

basophil: A cell that stains specifically with basic dyes

-blast: A suffix indicating an immature cell

calibrator: A known quantity of an analyte used to establish a normal curve

catalyst: A substance whose presence changes the velocity of a reaction but does not form part of the final product of the reaction; the verb form is catalyze

chemistry: In clinical testing, refers to the solutes dissolved in the plasma such as uric acid, etc.

coefficient of variation (CV): A statistical term that indicates the precision or reproducibility of a measurement; expressed as percentages, CVs indicate the degree of small variations between the same tests run on the same sample (the smaller the number, the more precise the instrument or test)

congestive heart failure (CHF): A collection of symptoms indicating that the heart is unable to pump effectively; inadequate blood circulation results in decreased oxygenation of tissues and breathlessness

control: In chemistry, a known quantity of an analyte that is tested as if it were an unknown to find out how well the instrument is performing

correlation coefficient (r): A value indicating accuracy; values closest to 1.00 are best

-cyte or cyto-: Combining forms meaning cell

dialysis (also called hemodialysis): The process of removing toxins and excess water from the blood; used in kidney failure

diapedesis: The process by which cells squeeze through the pores of a membrane

diffusion: The movement of particles from an area of greater concentration to an area of lesser concentration

ecchymosis: Bruising

electrolyte: Any substance that, in solution, becomes an ion and conducts electricity; examples are sodium and potassium

-emia: Suffix that can be interpreted as "in the blood"

end point: Term for a reaction that is measured at the end; for example, a test converts all of a substance present in a specimen into a chromogen – which has a specific color – and then measures the color

enzymes: Proteins that catalyze chemical reactions; many enzymes are present in one organ; enzymes appear in blood because they have a natural function there or because disease in the tissue in which they originate caused them to be dispersed via the blood

epistaxis: Nosebleed

erythro-: Prefix meaning red

erythroblast: Literally, an immature red blood cell

GLOSSARY OF TERMS, CONTINUED

erythropoiesis: Red blood cell formation

ferritin: The primary form of storage iron

fibrin: A plasma protein that acts with other blood factors to create blood clots

glucose: The sugar that is the energy source for all body cells

granulopoiesis: The formation of granulocytes

hema- or hemo-: Prefixes indicating blood

hematology: Literally, the study of blood; refers to the gross features of blood such as cell counts, bleeding time, etc.

hematopoiesis: Formation of blood cells

hemoglobin: The oxygen-carrying component of red blood cells; composed of two pairs of protein chains called globin and four smaller units called heme, which contain iron

hemolysis: Destruction of red blood cells, often by separation of hemoglobin; caused by many substances or by freezing or heating

hemolytic-uremic syndrome (HUS): A sudden disorder that involves thrombocytopenia, hemolysis, and acute renal failure; HUS primarily occurs in infants and children following an infection but occasionally occurs in adults; most patients recover, but some require renal dialysis

hemophilia: A bleeding disorder due to hereditary deficiencies in the blood clotting factors

hemostasis: The process of stopping bleeding

hepat-: Prefix indicating the liver

hepatitis: An inflammation of the liver

histiocytes: Macrophages in the connective tissue; part of the reticuloendothelial system

histogram: A graphic means of comparing magnitudes of frequencies or numbers of items; usually shown in bar graphs or columns

homeostasis: The body's tendency to maintain a uniform or stable state

hormones: Endocrine gland secretions that travel to and act on specific target organs

hyper-: Prefix indicating abnormally increased values or activity

hypo-: Prefix indicating abnormally decreased values or activity

hypochromia: A decrease of hemoglobin in the red blood cells so that they are abnormally pale

hypoxia: Abnormally low oxygen level

idiopathic: Occurring without known cause

GLOSSARY OF TERMS, CONTINUED

idiopathic thrombocytopenic purpura (ITP): A chronic blood disorder with no apparent cause (except in children when it may follow a viral infection); the body develops an antibody directed against platelet antigens, causing bleeding (petechiae, purpura, or mucosal bleeding) that may be minimal or extensive; treatment options include steroids, infusion of platelet concentrates, or splenectomy

interstitial fluid: Fluid surrounding cells; transports nutrients, gases, and wastes between blood and cells

ion: An atom or molecule that carries either a positive (cation) or negative (anion) electrical charge

-itis: Suffix indicating inflammation

lymphoid: Associated with lymph; refers to the lymphatic system and to the fluid collected from tissues that flows through the lymph vessels and is added to venous blood

lyse: To break up to cause cells to disintegrate

lysin: An antibody that acts destructively on cells depending on the antigen that stimulated its production

lysis: The destruction of red blood cells, bacteria, and other antigens by a specific lysin

macro-: Prefix meaning large; for example, a macrocyte is a large cell

megalo-: Prefix meaning large; for example, a megalocyte is a large cell

menorrhagia: Excessive menstrual bleeding

meta-: Prefix indicating after or behind; this prefix has the same meaning as the prefix post-

metabolism: Physical and chemical processes by which a living organism breaks down complex substances into simpler substances for nutritional use or disposal

microcyte: A red blood cell that is five microns or less in diameter

microcytic, hypochromic: Adjectives describing a form of anemia with red blood cells that are small and pale

mye-: Prefix meaning bone marrow

myeloid: Associated with the bone marrow

neoplasm: Any new or abnormal growth

neph-: Prefix indicating the kidney

nephritis: Inflammation of the kidney

normo-: Prefix meaning normal or usual

normochromia: Indicating red blood cells having normal coloring

normocyte: A red blood cell that is normal in size, shape, and color

normocytic, normochromic: Adjectives describing normal cells with normal coloring; used to indicate the status of red blood cells

GLOSSARY OF TERMS, CONTINUED

-oma: Suffix indicating a tumor or neoplasm; for example, lymphoma means tumors affecting the lymph system

-osis: Suffix indicating a condition; for example, thrombocytosis is a condition affecting thrombocytes (platelets)

pancytopenia: A condition in which the numbers of all types of blood cells are reduced

panel tests: Usually, a group of three to five tests involving one organ system (heart, liver, kidneys, etc.) or having reference to one condition; used to confirm a diagnosis, to monitor a condition or disease state, or to modify therapy

-penia: Suffix indicating a decreased amount

petechiae: Pinpoint bleeding into the skin from broken blood vessels – usually on arms or thighs – without trauma

pH: means of indicating the acidity of body fluids; pH is measured on a scale of 0 (highly acidic) to 14 (highly alkaline), with 7.0 as neutral; normal range for blood pH is 7.35 to 7.45

phagocyte: A cell that ingests bacteria, foreign particles, and other cells to protect the body

polycythemia: Literally, many cells in the blood; in this condition, which is the opposite of anemia, the blood becomes highly viscous (thick) and flows sluggishly

polymorphonuclear: Having various forms of nuclei

porphyria: A group of inherited conditions in which the production of heme is deficient

pro-: Prefix indicating before or a precursor

profile: In chemistry, a group of tests that can be used to screen for an abnormality that may not be readily detected in another way; often involves 12 to 28 tests performed on a venipuncture sample

purpura: Hemorrhagic disease characterized by the escape of blood into the tissues, under the skin, and through the mucous membranes; results in spontaneous bruises and small red patches on the skin

rate reaction: Term referring to a measure of the rate of activity caused by the presence of an analyte (the constituent or substance that is analyzed); the more analyte in the specimen, the more activity occurs in a specific period of time

reference method: Method of comparing accuracy between two or more testing systems or kits

reference range: Normal values; ranges of values for each assay for people in a defined population

renal: Pertaining to the kidneys

reticul-: Prefix indicating a network

reticulocyte: A young red blood cell containing a network of basophilic substances

rheumatoid arthritis: An incurable inflammatory disease of the joints and connective tissue; an autoimmune disease

serology: The study of antigen-antibody reactions in blood samples (as opposed to within the body)

GLOSSARY OF TERMS, CONTINUED

serum: The fluid portion of the blood after fibrin and the formed elements have been removed
splenectomy: Surgical removal of the spleen

systemic: Pertaining to or affecting the body as a whole

systemic lupus erythematosus (SLE): An incurable inflammatory disease affecting many body systems; an autoimmune disease

thrombin: An enzyme that converts fibrinogen to fibrin

thrombo-: Prefix indicating blood clot

thrombocytopenia: Reduced platelet count

thrombocytosis: Elevated platelet count

thrombotic thrombocytopenic purpura (TTP): An acute and potentially fatal disorder, TTP involves fragmented RBCs, severe thrombocytopenia, hemolysis, elevated reticulocyte count, fever, and possible damage to many organs caused by lack of adequate blood flow. Cause is unknown; without therapy (repeated administration of large volumes of plasma), TTP is usually fatal

timed reaction: Term for test measurements such as blood coagulation tests in which clotting times are calculated from reaction rates

transferrin: A blood protein synthesized by the liver; transferrin binds to iron, transporting and releasing it to storage tissues (liver, bone marrow, and spleen)

uremia: An excess of nitrogen waste in the blood

venipuncture: Blood taken from a vein

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