

## Appendix A: Glossary of Medical Terms

Adapted from Stedman's Electronic Medical Dictionary, Williams & Wilkins, Baltimore, MD, 1996 and Principles and Practice of Infectious Diseases, Mandell et al, Third Edition.

**Acetylcholine (ACH, Ach)** - The neurotransmitter substance at cholinergic synapses, that causes cardiac inhibition, vasodilation, gastrointestinal peristalsis, and other parasympathetic effects. It is liberated from preganglionic and postganglionic endings of parasympathetic fibers and from preganglionic fibers of the sympathetic as a result of nerve injuries, whereupon it acts as a transmitter on the effector organ; it is hydrolyzed into choline and acetic acid by acetylcholinesterase before a second impulse may be transmitted.

**Active immunization** - The act of artificially stimulating the body to develop antibodies against infectious disease by the administration of vaccines or toxoids.

**Adenopathy** - Swelling or morbid enlargement of the lymph nodes.

**AHF** – Argentine hemorrhagic fever, a viral hemorrhagic fever

**Aleukia** - Absence or extremely decreased number of leukocytes in the circulating blood.

**Analgesic** - 1. A compound capable of producing analgesia, i.e., one that relieves pain by altering perception of nociceptive stimuli without producing anesthesia or loss of consciousness. 2. Characterized by reduced response to painful stimuli.

**Anaphylaxis** - The term is commonly used to denote the immediate, transient kind of immunologic (allergic) reaction characterized by contraction of smooth muscle and dilation of capillaries due to release of pharmacologically active substances (histamine, bradykinin, serotonin, and slow-reacting substance), classically initiated by the combination of antigen (allergen) with mast cell-fixed, cytophilic antibody (chiefly IgE).

**Anticonvulsant** - An agent which prevents or arrests seizures.

**Antitoxin** - An antibody formed in response to and capable of neutralizing a biological poison; an animal serum containing antitoxins.

**Arthralgia** - Severe pain in a joint, especially one not inflammatory in character.

**AST** - Abbreviation for aspartate aminotransferase, a liver enzyme.

**Asthenia** - Weakness or debility.

**Ataxia** - An inability to coordinate muscle activity during voluntary movement, so that smooth movements occur. Most often due to disorders of the cerebellum or the posterior columns of the spinal cord; may involve the limbs, head, or trunk.

**Atelectasis** - Absence of gas from a part or the whole of the lungs, due to failure of expansion or resorption of gas from the alveoli.

**Atropine** - An anticholinergic, with diverse effects (tachycardia, mydriasis, cycloplegia, constipation, urinary retention) attributable to reversible competitive blockade of acetylcholine at muscarinic type cholinergic receptors; used in the treatment of poisoning with organophosphate insecticides or nerve gases.

**Bilirubin** - A red bile pigment formed from hemoglobin during normal and abnormal destruction of erythrocytes. Excess bilirubin is associated with jaundice.

**Blood agar** - A mixture of blood and nutrient agar used for the cultivation of many medically important microorganisms.

**Bronchiolitis** - Inflammation of the bronchioles, often associated with bronchopneumonia.

**Bronchitis** - Inflammation of the mucous membrane of the bronchial tubes.

**Brucella** - A genus of encapsulated, nonmotile bacteria (family Brucellaceae) containing short, rod-shaped to coccoid, Gram-negative cells. These organisms are parasitic, invading all animal tissues and causing infection of the genital organs, the mammary gland, and the respiratory and intestinal tracts, and are pathogenic for man and various species of domestic animals. They do not produce gas from carbohydrates.

**Bubo** - Inflammatory swelling of one or more lymph nodes, usually in the groin; the confluent mass of nodes usually suppurates and drains pus.

**Bulla, gen. and pl. bullae** - A large blister appearing as a circumscribed area of separation of the epidermis from the subepidermal structure (subepidermal *bulla*) or as a circumscribed area of separation of epidermal cells (intraepidermal *bulla*) caused by the presence of serum, or occasionally by an injected substance.

**Carbuncle** - Deep-seated pyogenic infection of the skin and subcutaneous tissues, usually arising in several contiguous hair follicles, with formation of connecting sinuses; often preceded or accompanied by fever, malaise, and prostration.

**CCHF** – Congo-Crimean hemorrhagic fever, a viral hemorrhagic fever

**Cerebrospinal** - Relating to the brain and the spinal cord.

**Chemoprophylaxis** - Prevention of disease by the use of chemicals or drugs.

**Cholinergic** - Relating to nerve cells or fibers that employ acetylcholine as their neurotransmitter.

**CNS** - Abbreviation for central nervous system.

**Coagulopathy** - A disease affecting the coagulability of the blood.

**Coccobacillus** - A short, thick bacterial rod of the shape of an oval or slightly elongated coccus.

**Conjunctiva, pl. conjunctivae** - The mucous membrane investing the anterior surface of the eyeball and the posterior surface of the lids.

**CSF** - Abbreviation for cerebrospinal fluid.

**Cutaneous** - Relating to the skin.

**Cyanosis** - A dark bluish or purplish coloration of the skin and mucous membrane due to deficient oxygenation of the blood, evident when reduced hemoglobin in the blood exceeds 5 g per 100 ml.

**Diathesis** -The constitutional or inborn state disposing to a disease, group of diseases, or metabolic or structural anomaly.

**Diplopia** -The condition in which a single object is perceived as two objects.

**Distal** - Situated away from the center of the body, or from the point of origin; specifically applied to the extremity or distant part of a limb or organ.

**Dysarthria** - A disturbance of speech and language due to emotional stress, to brain injury, or to paralysis, incoordination, or spasticity of the muscles used for speaking.

**Dysphagia, dysphagy** - Difficulty in swallowing.

**Dysphonia** - Altered voice production.

**Dyspnea** - Shortness of breath, a subjective difficulty or distress in breathing, usually associated with disease of the heart or lungs; occurs normally during intense physical exertion or at high altitude.

**Ecchymosis** - A purplish patch caused by extravasation of blood into the skin, differing from petechiae only in size (larger than 3 mm diameter).

**ECL** - See below for Electrochemiluminescence.

**Electrochemiluminescence** - A method used to identify microorganisms. It is a relatively new technique for this purpose and is similar in operation to ELISA, FA and sandwich antibody assays. A capture antibody bound to a magnetic bead captures the target microorganism. Another antibody labeled with a ruthenium tris-bipyridyl compound ( $\text{Ru}(\text{bpy})_3^{2+}$ ) is introduced. A magnet is used to pull the beads to an electrode which is used to excite the ruthenium compound which then emits light. The light is detected revealing the presence of the target organism. The method is easily automated and is generally faster than either ELISA or FA.

**Eczeema** - Generic term for inflammatory conditions of the skin, particularly with vesiculation in the acute stage, typically erythematous, edematous, papular, and crusting; followed often by lichenification and scaling and occasionally by duskiness of the erythema and, infrequently, hyperpigmentation; often accompanied by sensations of itching and burning.

**ED<sub>50</sub>** - The dose that produces the desired effect; when followed by a subscript (generally "ED<sub>50</sub>"), it denotes the dose having such an effect on a certain percentage (e.g., 50%) of the test animals;

**Edema** - An accumulation of an excessive amount of watery fluid in cells, tissues, or serous cavities.

**ELISA** - See below for Enzyme Linked Immunosorbent Assay.

**Enantherm, enantherma** - A mucous membrane eruption, especially one occurring in connection with one of the exanthermas.

**Encephalitis, pl. encephalitides** - Inflammation of the brain.

**Endotoxemia** - Presence in the blood of endotoxins.

**Endotracheal intubation** - Passage of a tube through the nose or mouth into the trachea for maintenance of the airway during anesthesia or for maintenance of an imperiled airway.

**Enterotoxin** - A cytotoxin specific for the cells of the intestinal mucosa.

**Enzyme Linked Immunosorbent Assay** - A method used in microbiology to detect microorganisms such as bacteria or viruses. It works by chemically linking an enzyme to an antibody that recognizes and adheres to the desired microorganism. Any unbound antibody-enzyme complex is removed and chemical which is converted by the enzyme into a fluorescent compound is applied and allowed to react. The fluorescence is then detected to reveal the presence or absence of the microorganism.

**Epistaxis** - Profuse bleeding from the nose.

**Epizootic** - 1. Denoting a temporal pattern of disease occurrence in an animal population in which the disease occurs with a frequency clearly in excess of the expected frequency in that population during a given time interval. 2. An outbreak (epidemic) of disease in an animal population; often with the implication that it may also affect human populations.

**Erythema** - Redness of the skin due to capillary dilatation.

**Erythema multiforme** - An acute eruption of macules, papules, or subdermal vesicles presenting a multiform appearance, the characteristic lesion being the target or iris lesion over the dorsal aspect of the hands and forearms; its origin may be allergic, seasonal, or from drug sensitivity, and the eruption, although usually self-limited (e.g., multiforme minor), may be recurrent or may run a severe course, sometimes with fatal termination (e.g., multiforme major or Stevens-Johnson syndrome).

**Erythrocyte** - A mature red blood cell.

**Erythropoiesis** - The formation of red blood cells.

**Exanthema** - A skin eruption occurring as a symptom of an acute viral or coccal disease, as in scarlet fever or measles.

**Extracellular** - Outside the cells.

**Extraocular** - Adjacent to but outside the eyeball.

**FA** - See below for Fluorescent antibody.

**Fasciculation** - Involuntary contractions, or twitchings, of groups (fasciculi) of muscle fibers, a coarser form of muscular contraction than fibrillation.

**Febrile** - Denoting or relating to fever.

**Fomite** - Objects, such as clothing, towels, and utensils that possibly harbor a disease agent and are capable of transmitting it.

**Formalin** - A 37% aqueous solution of formaldehyde.

**Fluorescent antibody** - A method used in microbiology to detect microorganisms usually bacteria. An antibody with an attached fluorescent molecule is applied to a slide containing the bacteria and washed to remove unbound antibody. Under UV light the bacteria to which antibodies are bound will fluoresce revealing their presence.

**Fulminant hepatitis** - Severe, rapidly progressive loss of hepatic function due to viral infection or other cause of inflammatory destruction of liver tissue.

**Generalized vaccinia** - Secondary lesions of the skin following vaccination which may occur in subjects with previously healthy skin but are more common in the case of traumatized skin, especially in the case of eczema (eczema vaccinatum). In the latter instance, generalized vaccinia may result from mere contact with a vaccinated person. Secondary vaccinal lesions may also occur following transfer of virus from the vaccination to another site by means of the fingers (autoinnoculation).

**Glanders** - A chronic debilitating disease of horses and other equids, as well as some members of the cat family, caused by *Pseudomonas mallei*; it is transmissible to humans. It attacks the mucous membranes of the nostrils of the horse, producing an increased and vitiated secretion and discharge of mucus, and enlargement and induration of the glands of the lower jaw.

**Granulocytopenia** - Less than the normal number of granular leukocytes in the blood.

**Guarnieri bodies** - Intracytoplasmic acidophilic inclusion bodies observed in epithelial cells in variola (smallpox) and vaccinia infections, and which include aggregations of Paschen body's or virus particles.

**Hemagglutination** - The agglutination of red blood cells; may be immune as a result of specific antibody either for red blood cell antigens per se or other antigens which coat the red blood cells, or may be nonimmune as in hemagglutination caused by viruses or other microbes.

**Hemagglutinin** - A substance, antibody or other, that causes hemagglutination.

**Hematemesis** - Vomiting of blood.

**Hemopoietic** - Pertaining to or related to the formation of blood cells.

**Hematuria** - Any condition in which the urine contains blood or red blood cells.

**Hemodynamic** - Relating to the physical aspects of the blood circulation.

**Hemolysis** - Alteration, dissolution, or destruction of red blood cells in such a manner that hemoglobin is liberated into the medium in which the cells are suspended, e.g., by specific complement-fixing antibodies, toxins, various chemical agents, tonicity, alteration of temperature.

**Hemolytic Uremic Syndrome** - Hemolytic anemia and thrombocytopenia occurring with acute renal failure.

**Hemoptysis** - The spitting of blood derived from the lungs or bronchial tubes as a result of pulmonary or bronchial hemorrhage.

**Hepatic** - Relating to the liver.

**Heterologous** - 1. Pertaining to cytologic or histologic elements occurring where they are not normally found. 2. Derived from an animal of a different species, as the serum of a horse is heterologous for a rabbit.

**HFRS** – Hemorrhagic Fever with Renal Syndrome. A viral hemorrhagic fever syndrome caused by viruses of the genus *Hantavirus*, Bunyaviridae family, with renal impairment as the primary organ manifestation.

**Hyperemia** - The presence of an increased amount of blood in a part or organ.

**Hyperesthesia** - Abnormal acuteness of sensitivity to touch, pain, or other sensory stimuli.

**Hypotension** - Subnormal arterial blood pressure.

**Hypovolemia** - A decreased amount of blood in the body.

**Hypoxemia** - Subnormal oxygenation of arterial blood, short of anoxia.

**Idiopathic** - Denoting a disease of unknown cause.

**Immunoassay** - Detection and assay of substances by serological (immunological) methods; in most applications the substance in question serves as antigen, both in antibody production and in measurement of antibody by the test substance.

**In vitro** - In an artificial environment, referring to a process or reaction occurring therein, as in a test tube or culture media.

**In vivo** - In the living body, referring to a process or reaction occurring therein.

**Induration** - 1. The process of becoming extremely firm or hard, or having such physical features. 2. A focus or region of indurated tissue.

**Inguinal** - Relating to the groin.

**Inoculation** - Introduction into the body of the causative organism of a disease.

**LD<sub>50</sub>** –In toxicology, the LD<sub>50</sub> of a particular substance is a measure of how much constitutes a lethal dose. In toxicological studies of substances, one test is to administer varying doses of the substance to populations of test animals; that dose administered which kills half the test population is referred to as the LD<sub>50</sub>

**Leukopenia** - The antithesis of leukocytosis; any situation in which the total number of leukocytes in the circulating blood is less than normal, the lower limit of which is generally regarded as 4000-5000 per cu mm.

**Lumbosacral** - Relating to the lumbar vertebrae and the sacrum.

**Lumen, pl. lumina** - The space in the interior of a tubular structure, such as an artery or the intestine.

**Lymphadenopathy** - Any disease process affecting a lymph node or lymph nodes.

**Lymphopenia** - A reduction, relative or absolute, in the number of lymphocytes in the circulating blood.

**Macula, pl. maculae** - 1. A small spot, perceptibly different in color from the surrounding tissue. 2. A small, discolored patch or spot on the skin, neither elevated above nor depressed below the skin's surface.

**Mediastinitis** - Inflammation of the cellular tissue of the mediastinum.

**Mediastinum** - The median partition of the thoracic cavity, covered by the mediastinal pleura and containing all the thoracic viscera and structures except the lungs.

**Megakaryocyte** - A large cell with a polyploid nucleus that is usually multilobed; megakaryocytes are normally present in bone marrow, not in the circulating blood, and give rise to blood platelets.

**Melena** - Passage of dark-colored, tarry stools, due to the presence of blood altered by the intestinal juices.

**Meningism** - A condition in which the symptoms simulate a meningitis, but in which no actual inflammation of these membranes is present.

**Meningococcemia** - Presence of meningococci (*N. meningitidis*) in the circulating blood.

**Meninges** - Any membrane; specifically, one of the membranous coverings of the brain and spinal cord.

**Microcyst** - A tiny cyst, frequently of such dimensions that a magnifying lens or microscope is required for observation.

**Microscopy** - Investigation of minute objects by means of a microscope.

**Moribund** - Dying; at the point of death.

**Mucocutaneous** - Relating to mucous membrane and skin; denoting the line of junction of the two at the nasal, oral, vaginal, and anal orifices.

**Myalgia** - Muscular pain.

**Mydriasis** - Dilation of the pupil.

**Narcosis** - General and nonspecific reversible depression of neuronal excitability, produced by a number of physical and chemical agents, usually resulting in stupor rather than in anesthesia.

**Necrosis** - Pathologic death of one or more cells, or of a portion of tissue or organ, resulting from irreversible damage.

**Nephropathia epidemica** - A generally benign form of epidemic hemorrhagic fever reported in Scandinavia.

**Neutrophilia** - An increase of neutrophilic leukocytes in blood or tissues; also frequently used synonymously with leukocytosis, inasmuch as the latter is generally the result of an increased number of neutrophilic granulocytes in the circulating blood (or in the tissues, or both).

**Nosocomial** - Denoting a new disorder (not the patient's original condition) associated with being treated in a hospital, such as a hospital-acquired infection.

**Oliguria** - Scanty urine production.

**Oropharynx** - The portion of the pharynx that lies posterior to the mouth; it is continuous above with the nasopharynx via the pharyngeal isthmus and below with the laryngopharynx.

**Osteomyelitis** - Inflammation of the bone marrow and adjacent bone.

**Pancytopenia** - Pronounced reduction in the number of erythrocytes, all types of white blood cells, and the blood platelets in the circulating blood.

**Pandemic** - Denoting a disease affecting or attacking the population of an extensive region, country, continent; extensively epidemic.

**Papule** - A small, circumscribed, solid elevation on the skin.

**Parasitemia** - The presence of parasites in the circulating blood; used especially with reference to malarial and other protozoan forms, and microfilariae.

**Passive immunity** - Providing temporary protection from disease through the administration of exogenously produced antibody (i.e., transplacental transmission of antibodies to the fetus or the injection of immune globulin for specific preventive purposes).

**PCR** - see below for polymerase chain reaction.

**Percutaneous** - Denoting the passage of substances through unbroken skin, for example, by needle puncture, including introduction of wires and catheters.

**Perivascular** - Surrounding a blood or lymph vessel.

**Petechia, pl. petechiae** - Minute hemorrhagic spots, of pinpoint to pinhead size, in the skin, which are not blanched by pressure.

**Pharyngeal** - Relating to the pharynx.

**Pharyngitis** - Inflammation of the mucous membrane and underlying parts of the pharynx.

**Phosgene** - Carbonyl chloride; a colorless liquid below 8.2°C, but an extremely poisonous gas at ordinary temperatures; it is an insidious gas, since it is not immediately irritating, even when fatal concentrations are inhaled.

**Photophobia** - Morbid dread and avoidance of light. Photosensitivity, or pain in the eyes with exposure to light, can be a cause.

**Pleurisy** - Inflammation of the pleura.

**Polymerase chain reaction** - An in vitro method for enzymatically synthesizing and amplifying defined sequences of DNA in molecular biology. Can be used for improving DNA-based diagnostic procedures for identifying unknown BW agents.

**Polymorphonuclear** - Having nuclei of varied forms; denoting a variety of leukocyte.

**Polyuria** - Excessive excretion of urine.

**Presynaptic** - Pertaining to the area on the proximal side of a synaptic cleft.

**Prophylaxis, pl. prophylaxes** - Prevention of disease or of a process that can lead to disease.

**Prostration** - A marked loss of strength, as in exhaustion.

**Proteinuria** - Presence of urinary protein in concentrations greater than 0.3 g in a 24-hour urine collection or in concentrations greater than 1 g/l in a random urine collection on two or more occasions at least 6 hours apart; specimens must be clean, voided midstream, or obtained by catheterization.

**Pruritus** - Syn: itching.

**Ptosia, pl. ptoses** - In reference to the eyes, drooping of the eyelids.

**Pulmonary edema** -Edema of the lungs.

**Pyrogenic** - Causing fever.

**Retinitis** - Inflammation of the retina.

**Retrosternal** - Posterior to the sternum.

**Rhinorrhea** - A discharge from the nasal mucous membrane.

**RVF** –Rift Valley Fever, a viral hemorrhagic fever

**Sarin** - A nerve poison which is a very potent irreversible cholinesterase inhibitor and a more toxic nerve gas than tabun or soman.

**Scarification** -The making of a number of superficial incisions in the skin. It is the technique used to administer tularemia and smallpox vaccines.

**Septic shock** - 1. Shock associated with sepsis, usually associated with abdominal and pelvic infection complicating trauma or operations; 2. Shock associated with septicemia caused by Gram-negative bacteria.

**Sequela, pl. sequelae** - A condition following as a consequence of a disease.

**Shigellosis** - Bacillary dysentery caused by bacteria of the genus *Shigella*, often occurring in epidemic patterns.

**Soman** - An extremely potent cholinesterase inhibitor, similar to sarin and tabun.

**Sterile abscess** - An abscess whose contents are not caused by pyogenic bacteria.

**Stridor** - A high-pitched, noisy respiration, like the blowing of the wind; a sign of respiratory obstruction, especially in the trachea or larynx.

**Superantigen** - An antigen that interacts with the T cell receptor in a domain outside of the antigen recognition site. This type of interaction induces the activation of larger numbers of T cells compared to antigens that are presented in the antigen recognition site.

**Superinfection** - A new infection in addition to one already present.

**Tachycardia** - Rapid beating of the heart, conventionally applied to rates over 100 per minute.

**Teratogenicity** -The property or capability of producing fetal malformation.

**Thrombocytopenia** - A condition in which there is an abnormally small number of platelets in the circulating blood.

**Toxoid** - A modified bacterial toxin that has been rendered nontoxic (commonly with formaldehyde) but retains the ability to stimulate the formation of antitoxins (antibodies) and thus producing an active immunity. Examples include Botulinum, tetanus, and diphtheria toxoids.

**Tracheitis** - Inflammation of the lining membrane of the trachea.

**Urticaria** - An eruption of itching wheals, usually of systemic origin; it may be due to a state of hypersensitivity to foods or drugs, foci of infection, physical agents (heat, cold, light, friction), or psychic stimuli.

**Vaccine** - A suspension of attenuated live or killed microorganisms (bacteria, viruses, or rickettsiae), or fractions thereof, administered to induce immunity and thereby prevent infectious disease.

**Vaccinia** - An infection, primarily local and limited to the site of inoculation, induced in man by inoculation with the vaccinia (coxpox) virus in order to confer resistance to smallpox (variola). On about the third day after vaccination, papules form at the site of inoculation which become transformed into umbilicated vesicles and later pustules; they then dry up, and the scab falls off on about the 21st day, leaving a pitted scar; in some cases there are more or less marked constitutional disturbances.

**Varicella** - An acute contagious disease, usually occurring in children, caused by the varicella-zoster virus, a member of the family *Herpesviridae*, and marked by a sparse eruption of papules, which become vesicles and then pustules, like that of smallpox although less severe and varying in stages, usually with mild constitutional symptoms; incubation period is about 14 to 17 days. Syn: chickenpox

**Variola** - Syn: smallpox.

**Variolation** - The historical practice of inducing immunity against smallpox by "scratching" the skin with the purulency from smallpox skin pustules. The first inoculation for smallpox is said to have been done in China about 1022 B.C.

**Viremia** - The presence of virus in the bloodstream.

**Virion** - The complete virus particle that is structurally intact and infectious.

**Zoonosis** - An infection or infestation shared in nature by humans and other animals that are the normal or usual host; a disease of humans acquired from an animal source.