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## Introduction

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### Pathophysiology

The subject pathophysiology is the study of structural and functional changes occurring in the cell, tissue and organ that underline disease. These changes in the system leads to changes in the biochemical estimation values of the functional tests conducted in order to estimate the functioning levels of various organs in the body say for example liver, kidney, blood parameters, stool, sputum etc., to name a few. The Science of pathophysiology there detects an abnormal functioning organ system in the body and also studies the mechanism of disease, how and why structural and functional changes lead to signs and symptoms of disease.

### Importance of Pathophysiology in Clinical Practice

It gives strong base for rational clinical care and therapy. Understanding pathophysiology guides the healthcare professional in planning, selection and evaluation of therapy and treatment. Knowledge of human anatomy and physiology, interrelationship among various organ systems of body, is an essential foundation for study of pathophysiology. Changes in the normal biochemical parameters are the first indication of a disease. The body produces its first form of signaling that “Something is wrong in the body system” by showing changes in the biochemical estimation values. These will be highlighted in the coming chapters and will serve as backbone of Pathophysiology.

Close monitoring of these biochemical parameters will help in early detection of diseases or abnormal body functioning i.e. pathological conditions [Pathos-suffering; logos-study of] needing clinical attention. This will help physicians/clinical pharmacists/clinicians to administer early cure or preventive measures to various diseased conditions which can or otherwise induct serious health hazards.

### Dictionary of Terminology with Definitions (Glossary)

1. **ABC:** In its original form it stands for *Airway, Breathing, and Circulation*
2. **Acini (acinus):** Small sac like dilation, particularly in a gland.
3. **Actinomyces:** A genus of bacteria (family *Actinomycetaceae*).

4. **Actinomycosis:** An infectious disease caused by Actinomyces; marked by swelling and abscesses in the head and neck region and sometimes in the peritoneum, or in the lung due to aspiration.
5. **Allergen:** An antigenic substance capable of producing immediate hypersensitivity (allergy).
6. **Acute:** Of abrupt onset, in reference to a disease. Acute often also denotes an illness that is of short duration, rapidly progressive and in need of urgent care.
7. **Acute myocardial infarction:** A heart attack. The term focuses on the heart muscle, which is called the myocardium. The death (necrosis) of myocardial tissue occurs due to the sudden deprivation of circulating blood.
8. **Adaptation:** The process by which organisms are modified so as to improve their chances of survival in an environment is called adaptation. These changes could be anatomical, physiological, developmental or behavioral.
9. **Addiction:** A persistent, compulsive dependence on a behavior or substance.
10. **Afebrile:** Without fever, having a normal body temperature.
11. **AIDS:** Acquired immunodeficiency syndrome, a syndrome caused by infection with the human immunodeficiency virus (HIV), there is a visible compromise of the body's immune system.
12. **Alcoholism:** It is a primary, chronic disease arising from drinking of alcohol. It has genetic, psychological and environmental factors influencing its development and manifestations that result in problems.
13. **Allergy:** The hypersensitive response of the immune system of an **allergic** individual to a substance when an **allergen** enters the body. It is a result of hypersensitivity caused by exposure to a particular antigen called allergen.
14. **Allogeneic:** Individuals or tissues that are of the same species but antigenically distinct.
15. **Alloimmunity:** Specifically immune to an allogenic antigen.
16. **Ambulant:** Walking about or able to walk about; denoting a patient who is not confined to bed or hospital as a result of disease or surgery.
17. **Ambulatory care:** It is medical care provided on an outpatient basis, including diagnosis, observation, consultation, treatment, intervention, and rehabilitation services. This care can be provided outside of hospitals. (Also called **outpatient care**).
18. **Angiotensin:** It is a decapeptide hormone (a. I) formed from the plasma glycoprotein angiotensinogen by renin secreted by the juxtaglomerular apparatus. It is in turn hydrolyzed by a peptidase in the lungs to form an octapeptide (a. II) which is a powerful vasopressor and stimulator of aldosterone secretion by the adrenal cortex. This is in turn hydrolysed to

form a heptapeptide (a. III) which has less vasopressor activity but more adrenal cortex stimulating activity.

19. **Anemia** refers to a decreased number of circulating red blood cells and is the most common blood disorder.
20. **Angina pectoris** is the sensation of chest pain, pressure, or squeezing, often due to not enough blood flow to the heart muscle as a result of obstruction or spasm of the coronary arteries.
21. **Anorexia:** A serious psychological disorder precipitated as lack or loss of appetite; it is characterized by markedly reduced appetite or total aversion to food.
22. **Anoxia:** The absence, or near absence, of oxygen. It leads to a condition in which there is an abnormally low amount of oxygen in the body tissues.
23. **Anti-anxiety:** Tending to prevent or relieve anxiety.
24. **Antibiotic:** A substance derived from a mould or bacterium, or produced synthetically, that destroys (bactericidal) or inhibits the growth (bacteriostatic) of other microorganisms.
25. **Antibody:** Specialized cells of the immune system which can recognize organisms that invade the body (such as bacteria, viruses, and fungi). They set off a chain of events designed to kill the invaders.
26. **Antidepressant:** Anything used to prevent or treat depression or symptoms of mood disorders.
27. **Antipsychotics:** A class of medicine used to treat psychosis and other mental/emotional conditions. They are used to manage psychosis (including delusions, hallucinations, paranoia or disordered thought), principally in schizophrenia and bipolar disorders.
28. **Anxiety:** Is a collective term for several disorders that cause nervousness, fear, apprehension, and worrying. These disorders affect how we feel and behave.
29. **Appendicitis** is inflammation of the appendix (which is the worm-shaped pouch attached to the cecum) at the beginning of the large intestine. Symptoms commonly include right lower abdominal pain, nausea, vomiting, and decreased appetite.
30. **Arachidonic acid:** A poly unsaturated 20 carbon essential fatty acid occurring in animal fats and formed by biosynthesis from linoleic acid; it is a precursor of leukotrienes, prostaglandins, and thromboxane.
31. **Arrest:** Indicates a sudden stop in effective manner, due to failure of a normal function.
32. **Arthritis:** Inflammation of one or more of your joints. The main symptoms are joint pain and stiffness.

33. **Ataxia:** Lack of muscle coordination which may affect speech, eye movements, ability to swallow, walking, picking up objects, and other voluntary movements.
34. **Aura:** Related to the ear or to the sense of hearing.
35. **Autoimmunity:** A condition characterised by a specific humoral or cell mediated immune response against the constituents of the body's own tissues (auto antigens); it may result in hypersensitivity reaction or if severe, in autoimmune disease.
36. **Autologous:** Related to self; belonging to the same organism.
37. **Autolysis:** Spontaneous disintegration of cells or tissues by autologous enzymes, as occurs after death and in some pathologic conditions.
38. **Azotemia:** (uremia) An excess of nitrogenous compounds (blood urea nitrogen, creatinine) in blood.
39. **Azure:** One of three metachromatic basic dyes (A, B and C).
40. **Azuresin:** A complex combination of azure dye and carbacrylic cationic exchange resin used as adiagnostic aid in detection of gastric secretion.
41. **Azurophil:** A tissue constituent staining with azure or a similar metachromatic thiazine.
42. **Bacteria:** Pathogenic microorganisms that proliferate, resulting in tissue injury that can progress to disease **bacterial infection**.
43. **Bradykinin:** A non a peptide kinin formed from HMW kininogen by the action of kallikrein; it is a very powerful vasodilator and increases capillary permeability; in addition, it constricts smooth muscle and stimulates pain receptors.
44. **Baseline blood test:** Any test that measures current or pre-treatment parameters (e.g., chemistries, cell counts, enzyme levels, etc.), against which responses to therapy are evaluated.
45. **BCG:** An effective immunization against tuberculosis. **BCG** stands for **Bacille Calmette Guerin**. It consists of a weakened (attenuated) version of *Mycobacterium bovis* which is closely related to *Mycobacterium tuberculosis*, responsible to cause tuberculosis.
46. **Bereavement:** A deprivation causing grief and desolation, especially the death or loss of a loved one.
47. **Bronchitis:** An inflammation of the air passages between the nose and the lungs, including trachea and air tubes of the lung that bring air in from the trachea (bronchi).
48. **Burden of disease:** Is a comprehensive regional and global assessment of mortality and disability from diseases and injuries.

49. **Cardiomyopathy:** A general diagnostic term designating primary non-inflammatory disease of the heart. More restrictively, only those disorders in which the myocardium alone is involved, and in which the cause is unknown and not part of a disease affecting other organs.
50. **Care:** (primary, secondary, tertiary) **Primary care** is the day-to-day healthcare given by a health care provider. **Secondary care:** Medical care that is provided by a specialist or facility upon referral by a primary care physician **Tertiary care** is specialized consultative health care, usually for inpatients and on referral from a primary or secondary health professional.
51. **Chemotaxis/Chemotaxis:** Movement of a cell or organism in response to differences in concentration of a dissolved substance, either in the direction of increasing concentration (positive) or in the direction of decreasing concentration (negative).
52. **Cholecystitis:** Inflammation of gall bladder
53. **Collagenase:** An enzyme that catalyses the hydrolysis of peptide bonds in triple helical regions of collagen.
54. **Creatinine:** An anhydride of creatine, the end product of phosphocreatine metabolism; measurements of its rate of urinary excretion are used as diagnostic indicators of kidney function and muscle mass.
55. **Cytokine:** A generic term for non-antibody proteins released by one cell population on contact with specific antigen, which act as intercellular mediators, as in the generation of an immune response.
56. **Chronic care** management encompasses the oversight and education activities conducted by healthcare professionals to help patients with chronic diseases and health conditions such as diabetes, high blood pressure, lupus, multiple sclerosis and sleep apnea.
57. **Cirrhosis** is disease in which healthy liver tissue is replaced with scar tissue, eventually preventing the liver from functioning properly. The scar tissue blocks the flow of blood through the liver and slows the processing of nutrients, hormones, drugs, and naturally produced toxins.
58. **Clinical care:** Classification (CCC) System is a standardized, coded nursing terminology. It is a nursing care component which is defined as a cluster of elements that represents a unique pattern of clinical care nursing practice. The CCC provides a unique framework and coding structure for documenting
59. **Clinical pathways:** One of the main tools used to manage the quality in healthcare concerning the standardization of care processes. Clinical pathways promote organized and efficient patient care based on evidence based practice.

60. **Clinical practice guidelines** are statements that include recommendations intended to optimize patient care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options.
61. **Clinical significance:** A change in a patient's/subject's clinical status that is regarded as important, whether or not it is due to an intervention in the context of a clinical trial.
62. **Clinical trials** are trials conducted to evaluate the effectiveness and safety of medications or medical devices by monitoring their effects on large groups of people.
63. **Cognitive tests** are assessments of the cognitive capabilities of humans and other animals. The tests administered to humans include various forms of IQ tests.
64. **Coma:** A **coma** is a state of prolonged unconsciousness that can be caused by a variety of problems - traumatic head injury, stroke, brain tumor, drug or alcohol intoxication, or even an underlying illness, such as diabetes or an infection. It is a state of deep sleep, it is a state of extreme unresponsiveness, in which an individual exhibits no voluntary movement or behavior.
65. **Concurrent review:** Review of the medical necessity of hospital or other health facility admissions, upon or within a short time following an admission, and periodic review. Reviewers monitor appropriateness of the care, the setting, and the progress of discharge plans.
66. **Concussion** is a clinical syndrome characterized by immediate and transient alteration in brain function, including alteration of mental status and level of consciousness, resulting from mechanical force or trauma. This traumatic injury to soft tissue, usually the brain, as a result of a violent blow, shaking, or spinning.
67. **Contraindication:** It is a specific situation in which a drug, procedure, or surgery should not be used because it may be harmful to the person. A condition which makes a particular treatment or procedure potentially inadvisable.
68. **Conventional medicine:** A system in which **medical** doctors and other **healthcare** professionals (such as nurses, pharmacists, and therapists) treat symptoms and diseases.
69. **Cost of illness:** The personal cost of acute or chronic disease. The cost to the patient may be an economic, social, or psychological cost or personal loss to self, family, or immediate community. Core direct costs are those connected with the use of medical care in the prevention, diagnosis, and treatment of disease Cost of illness (COI), known as burden of disease (BOD).

70. **CPR:** Cardiopulmonary resuscitation (CPR) is a procedure to support and maintain breathing and circulation for a person who has stopped breathing (respiratory arrest) and/or whose heart has stopped (cardiac arrest).
71. **CVD:** Any disease of the heart or blood vessels, including atherosclerosis, cardiomyopathy, coronary artery disease, peripheral vascular disease. Cardiovascular diseases also include arteriosclerosis, coronary artery disease, heart valve disease, arrhythmia, heart failure, hypertension, orthostatic hypotension, shock, endocarditis, diseases of the aorta and its branches, disorders of the peripheral vascular system, and congenital heart disease.
72. **Critical pathways:** They describe pivotal steps in the clinical processes of care which include combining information about process and outcomes to improve medical care.
73. **Devascularisation:** Interruption of circulation of blood to a part due to obstruction of vessels supplying it.
74. **Delirium:** is a syndrome, or group of symptoms, caused by a disturbance in the normal functioning of the brain. Delirium is often marked by hallucinations, delusions, and a dream-like state. A sudden state of severe confusion and rapid changes in brain function
75. **Delusion:** A delusion is an unshakable belief in something untrue. These irrational beliefs defy normal reasoning, and remain firm even when overwhelming proof is presented to dispute them.
76. **Dementia** is a general term for a decline in mental ability severe enough to interfere with daily life. Memory loss is an example. Alzheimer's is the most common type of dementia.
77. **Dependency** is a psychologic craving for, habituation to, or addiction to a chemical substance; or drug dependence.
78. **Depersonalization:** Loss of the sense of personal identity; especially: a psychopathological syndrome characterized by loss of identity and feelings of unreality or strangeness about one's own behavior. Also called self-alienation.
79. **Depression:** It is a mood disorder that causes a persistent feeling of sadness and loss of interest. It affects how you feel, think and behave and can lead to a variety of emotional and physical problems.
80. **Dermatitis:** Inflammation of the skin, either due to an inherent skin defect, direct contact with an irritating substance, or to an allergic reaction. Symptoms include redness, itching, and in some cases blistering.
81. **Detoxification:** To remove a toxic substance or the effects of such a substance. It is the physiological or medicinal removal of toxins.
82. **Diabetes** is a chronic disease associated with abnormally high levels of the sugar glucose in the blood.

- 83. Diagnosis:** The process of determining, through examination and analysis, the nature of illness. It is therefore a process of identifying a disease by signs and symptoms.
- 84. Diapedesis:** The outward passage of cellular elements of the blood through intact vessel walls.
- 85. Direct patient care:** Care of a patient provided personally by a staff member. Direct patient care may involve any aspects of the health care of a patient, including treatments, counseling, self-care, patient education, and administration of medication.
- 86. Disability:** It is the inability of an individual to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to last for a continuous period of not less than 12 months. It may reduce the individual's quality of life and cause clear disadvantages to the individual.
- 87. Disability Adjusted Life Years (DALY)** is a measure of overall disease burden, expressed as the number of years lost due to ill-health, disability or early death.
- 88. Disability adjusted life expectancy** is the number of years lost due to ill-health disability or early death and a subsequent gain in the number of years due to adjustments made during DALY.
- 89. Disease:** A condition of abnormal vital function involving any structure, part, or system of an organism. It is a specific illness or disorder characterized by a recognizable set of signs and symptoms.
- 90. Disease control:** Measures taken to reduce the spread of a disease.
- 91. Disease management:** It is defined as a system of coordinated healthcare interventions and communications for populations with conditions in which patient self-care efforts are significant.
- 92. Disease prevention:** Medical practices that are designed to avert and avoid disease.
- 93. Disorder:** A physical or mental condition that is not normal or healthy. A lack of order or regular arrangement; confusion. It hence is a condition characterized by lack of normal functioning of physical or mental processes: (kidney disorders; a psychiatric disorder).
- 94. Disorientation:** A usually transient state of confusion especially as to time, place, or identity often as a result of disease or drugs.
- 95. Dissemination:** Widely dispersed in a tissue, organ, or the entire body
- 96. Drug utilization** Review an authorized, structured, ongoing program that collects, analyzes, and interprets drug use patterns to improve the quality of pharmacotherapy and patient outcomes.

97. **Drug withdrawal:** Abrupt discontinuation of a drug leading to withdrawal symptoms like abnormal physical or psychological features that follow the abrupt discontinuation of a drug. Example, common opiates withdrawal symptoms include sweating, goose bumps, vomiting, anxiety, insomnia, and muscle pain.
98. **Dyspnea:** Breathlessness or shortness of breath; laboured or difficult breathing.
99. **Elastase:** An endopeptidase catalysing the cleavage of specific peptide bonds in protein.
100. **Endocarditis:** Exudative and proliferative inflammatory alterations in the endocardium, usually characterised by the presence vegetations on the surface of endocardium or in the endocardium itself, and most commonly involving a heart valve, but also affecting the inner lining of the cardiac chambers or the endocardium elsewhere.
101. **Endocardium:** The endothelial lining membrane of the cavities of the heart and the connective tissue bedon which it lies.
102. **Eosinophil:** A granular leukocyte having a nucleus with two lobes connected by a thread of chromatin, and cytoplasm containing coarse, round granules of uniform size.
103. **ECG:** Electro Cardio Gram (ECG) A record of the electrical activity of the heart showing certain waves called P, Q, R, S, and T waves. The Q, R, S, T waves are associated with contraction of the ventricles, the lower two chambers of the heart.
104. **ECT:** Electroconvulsive therapy (ECT) is a medical treatment for severe mental illness in which a small, carefully controlled amount of electricity is introduced into the brain. This electrical stimulation, used in conjunction with anesthesia and muscle relaxant medications, produces a mild generalized seizure or convulsion.
105. **Efficacy** is a social cognitive theory, a person's belief in their ability to execute the behaviours necessary to achieve desired outcomes. In contrast to self-confidence, self-efficacy refers to beliefs about specific behaviours in specific situations.
106. **Emphysema:** A pathological condition of the lungs marked by an abnormal increase in the size of the air spaces, resulting in labored breathing and an increased susceptibility to infection. It can be caused by irreversible expansion of the alveoli or by the destruction of alveolar walls.
107. **End of life care:** Refers to health care, not only of patients in the final hours or days of their lives, but more broadly care of all those with a terminal illness or terminal disease condition that has become advanced, progressive and incurable.

108. **End point:** A point marking the completion of a process or stage of a process: eg: a point in a titration. In a clinical research trial, a clinical endpoint generally refers to occurrence of a disease, symptom, sign or laboratory abnormality that constitutes one of the target outcomes of the trial, but may also refer to any such disease or sign that strongly motivates the withdrawal of that individual or entity.
109. **Epilepsy:** A pattern of repeated seizures is referred to as epilepsy. A seizure is defined as an abnormal, disorderly discharging of the brain's nerve cells, resulting in a temporary disturbance of motor, sensory, or mental function.
110. **Epistaxis:** It is medical term for nose bleed. The nose is very rich in blood vessels (vascular) and is situated in a vulnerable position on the face. As a result, any trauma to the face can cause bleeding, which may be profuse.
111. **Ethics** is a system of moral principles that apply values and judgments to the practice of medicine.
112. **Euthanasia:** The act or practice of causing or permitting the death of hopelessly sick or injured individuals (including persons or domestic animals) in a relatively painless way for reasons of mercy. This term is also called mercy killing.
113. **Evidence based care:** It is the integration of putting into use the clinical expertise, patient values and the best research evidence for the decision making process of patient care. Clinical expertise refers to the clinician's cumulated experience, education and clinical skills.
114. **Evidence based decision-making:** It is an approach to medical practice intended to optimize decision-making by emphasizing the use of evidence from well-designed and well -conducted research. It promotes the use of formal, explicit methods to analyze evidence and makes it available to decision makers.
115. **Expectation of life:** It is an epidemiological expression of the probability of dying between one age and the next. It is calculated based on the human cohort life table which describes the actual mortality experience of a group of animals which were all born at the same time.
116. **Febrile** means "related to fever." It can be used in a medical sense when someone is sick and running a temperature.
117. **Fever:** Although a fever technically is any body temperature above the normal of 98.6 °F (37 °C), in practice a person is considered to have a significant fever when the temperature is above 100.4 °F (38°C).
118. **Facultative** Not obligatory; pertaining to the ability to adjust to particular circumstances or to assume a particular role.
119. **Fibrinopeptide:** Either of two peptides (A and B) split off from fibrinogen during coagulation by the action of thrombin.

120. **Fibronectin:** An adhesive glycoprotein; one form circulates in plasma and acts as an opsonin another is a cell surface protein that mediates cellular adhesive interactions.
121. **Fistula:** A fistula is an abnormal anastomosis or an abnormal connection between two hollow epithelialized surfaces such as blood vessels, intestines, or other hollow organs.
122. **Fits:** Also known as seizures. A person having a seizure may experience convulsions and/or lose consciousness. It is caused by disturbances in the electrical activity of the brain, which can be due to conditions such as epilepsy.
123. **Fracture:** A break in bone or cartilage due to accident or due to acquired disease of bone.
124. **Gall bladder:** A pear-shaped organ that stores bile salts until they are needed to help digest fatty foods.
125. **Gall stones:** It is a solid crystal deposit that forms in the gallbladder. Gallstones can migrate to other parts of the digestive tract and cause severe pain with life-threatening complications.
126. **Gastritis:** It describes a group of conditions with inflammation of the lining of the stomach. [Inflammation of the colon and rectum], and may progress to ulcerations, rectal strictures, rectovaginal fistulas, and genital elephantiasis.
127. **Gastroenteritis:** Inflammation of the stomach and the intestines caused mainly by infections (viruses, bacteria, and parasites), food poisoning, and stress.
128. **Glomerulo nephritis:** Nephritis with inflammation of the capillary loops in the renal glomeruli.
129. **Hematemesis:** Is vomiting of blood. The source of this blood is generally from the upper gastrointestinal tract, typically above the suspensory muscle of duodenum.
130. **Haematuria:** It is the medical term for the presence of red blood cells in the urine which can come from the kidney (where urine is made) or anywhere in the urinary tract.
131. **Haemoglobin:** Is the oxygen-carrying pigment. It is a predominant protein in the red blood cells.
132. **Haemoptysis:** Spitting up blood or blood-tinged sputum from the respiratory tract because of breaking of tiny blood vessels that line the lung airways.
133. **Haemorrhage:** Escape of blood from a ruptured vessel either external or internal.
134. **Hallucination:** It is a perception of something as a visual image or a sound with no external cause usually arising from a disorder of the nervous system or in response to drugs.

135. **Harm:** Anything that impairs or adversely affects the safety of patients in clinical care, drug therapy, research investigations or public health is termed as harm. Harms include adverse drug reactions, side effects of treatments, and other undesirable consequences of health care products and services.
136. **Hazard:** Is a condition or phenomenon that increases the probability of a loss. A hazard increases the chances of a loss that does not necessarily result from illness or injury.
137. **Haematoma:** Extravasation of blood into the tissues with resultant swelling is known as haematoma.
138. **Healing:** A process of cure or restoration of integrity of injured tissue.
139. **Healing by first intention** that in which union or restoration of continuity occurs directly without intervention of granulations.
140. **Healing by second intention:** Union by closure of wound with granulations.
141. **Hyperaemia:** Engorgement; an excess of blood in a part.
142. **Hypercalcemia:** An excess of calcium in blood.
143. **Hypersensitivity:** A state of altered reactivity in which the body reacts with an exaggerated immune response to what is perceived as a foreign substance.
144. **Health care:** The prevention, treatment, and management of illness and the preservation of mental and physical well-being through the services offered by the medical and allied health professions is called Health Care.
145. **Health expectancy** is the number of years a person could expect to live in good health.
146. **Health Related Quality of Life: (HRQoL)** is an assessment of how the individual's well-being may be affected over time by a disease, disability, or disorder.
147. **Heart attack:** The loss of blood supply caused by complete blockage of a coronary artery, supplying blood to the heart muscle because of which the heart is starved of oxygen and heart cells die. The medical term for this is myocardial infarction.
148. **Heart disease:** Any disorder that affects the heart. Heart disease is synonymous with cardiac disease but not with cardiovascular disease which is any disease of the heart or blood vessels.
149. **Heart failure:** Is a condition in which the heart has lost the ability to pump enough blood to the body's tissues thereby being unable to maintain adequate circulation of blood in the tissues of the body because of which the tissues do not receive enough oxygen and nutrients to function properly.
150. **Hematoma:** A localized swelling filled with blood caused by a break in the wall of a blood vessel. The blood is usually clotted or partially clotted, and it exists within an organ or in a soft tissue space, such as muscle.

151. **Hepatitis:** It refers to an inflammatory condition of the liver. It is commonly caused by a viral infection, but there are other possible causes of hepatitis. These include autoimmune hepatitis and hepatitis that occurs as a secondary result of medications, drugs, toxins, and alcohol.
152. **Hernia:** It is a protrusion of an organ or part through connective tissue or through a wall of the cavity in which it is normally enclosed.
153. **HIV:** Human Immunodeficiency Virus (HIV) is the cause of AIDS (Acquired immunodeficiency syndrome) which is a chronic, potentially life-threatening condition caused by damaging the immune system.
154. **Homeostasis:** The processes through which such bodily equilibrium is maintained is referred to as homeostasis. It is the state of equilibrium or balance between opposing pressures in the body with respect to various functions and to the chemical compositions of the fluids and tissues.
155. **Hospice care:** The word "hospice" comes from the Latin "hospitium" meaning guest house. Hospice care is hence a care designed to give supportive care to people in the final phase of a terminal illness and focus on comfort and quality of life, rather than cure. Volunteer care is part of hospice philosophy.
156. **Hyperglycaemia:** An abnormally high concentration of glucose in the circulating blood, seen especially in patients with diabetes mellitus.
157. **Hypertension:** High blood pressure, defined as a repeatedly elevated blood pressure exceeding 140 over 90 mmHg i.e. a systolic pressure above 140 or a diastolic pressure above 90 mmHg.
158. **Hyperventilation:** Excessive ventilation; specifically: excessive rate and depth of respiration leading to abnormal loss of carbon dioxide from the blood—called also over ventilation.
159. **Hypoglycaemia:** The condition with low blood sugar. Hypoglycemia occurs when blood sugar or blood glucose concentrations fall below a level necessary to properly support the body's need for energy and stability throughout its cells.
160. **Hypotension:** It is characterized by diminished blood pressure i.e. Abnormally low blood pressure.
161. **Hypothermia** a potentially fatal condition, occurs when body temperature falls below 95°F (35°C).
162. **Illness:** Is an abnormal condition of a part, organ, or system of an organism resulting from various causes, such as infection, inflammation, environmental factors, or genetic defects etc. It is characterized by an identifiable group of signs, symptoms, or both.
163. **Ileitis:** Inflammation of the ileum, regional ileitis: Crohn's disease affecting the ileum.

- 164. Immunoglobulin:** A protein of animal origin with known antibody activity synthesised by lymphocytes and plasma cells and found in serum and in other body fluids and tissues; abbreviated 'Ig'. There are five distinct classes based on structural and antigenic properties: Ig-A, Ig-D, Ig-E, Ig-G, and Ig-M.
- 165. Important growth factors:** Epithelial growth factor (EGF), FGF -Fibroblast growth factor (FGF), Platelet derived growth factor (PDGF), Colony stimulating factor (CSF), Transforming growth factor- $\beta$  (TGF-  $\beta$ ), Interleukin (IL), Basic fibroblast growth factor (6 FBG).
- 166. Ischaemia:** Deficiency of blood in a part due to functional constriction or actual obstruction of blood vessel.
- 167. Impact:** The forcible striking of one body against another or to press two bodies, parts, or fragments closely together.
- 168. Impairment:** Is any loss or abnormality of psychological, physiologic, or anatomic structure or function. A physical or mental defect at the level of a body system or organ.
- 169. Incontinence:** Unable to restrain natural discharges or evacuations of urine or feces.
- 170. Independence:** Is a process or activity that can be implemented without the assistance of another. It is freestanding and capable of functioning in an autonomous fashion.
- 171. Indication:** A symptom or particular circumstance that indicates the advisability or necessity of a specific medical treatment or procedure a condition which makes a particular treatment or procedure advisable.
- 172. Infection:** The invasion and multiplication of microorganisms such as bacteria, viruses, and parasites that are not normally present within the body.
- 173. Inflammation:** It is a local response to cellular injury that is marked by capillary dilatation, leukocytic infiltration, redness, heat, pain, swelling, and often loss of function and that serves as a mechanism initiating the elimination of noxious agents and of damaged tissue.
- 174. Insomnia:** Is the inability to obtain an adequate amount or quality of sleep. The difficulty can be in falling asleep, remaining asleep, or both.
- 175. Insulin:** A natural hormone produced by the pancreas that controls the level of the sugar or glucose in the blood.
- 176. Integrated care:** Collaborative care is a related healthcare philosophy and movement that has many names, models, and definitions that often includes the provision of mental-health, behavioral-health and substance-use services in primary care.

177. **Intensive care:** The specialized care of patients whose conditions are life-threatening and who require comprehensive care and constant monitoring, usually in intensive care units.
178. **Intravenous:** Into a vein. Intravenous (IV) medications are a solutions administered directly into the venous circulation via a syringe or intravenous catheter.
179. **Ischemia:** Deficient supply of blood to body parts like the heart or brain that is due to obstruction of the inflow of arterial blood because of the narrowing of arteries by spasm or disease.
180. **Jaundice:** Yellow staining of the skin and sclerae (the whites of the eyes) by abnormally high blood levels of the bile pigment bilirubin.
181. **Jacksonian epilepsy:** Epilepsy marked by focal motor seizure with unilateral clonic movements that start in one muscle group and spread systematically to adjacent groups, reflecting the march epileptic activity through the motor cortex.
182. **Kinin:** Any of group of vasoactive straight chain polypeptides formed by kallikrein-catalysed cleavage of kininogen; causing vasodilation and also altering vascular permeability.
183. **Leukotriene:** Any of a group of biologically active compounds derived from arachidonic acid that functions as regulators of allergic and inflammatory reactions. They are identified by the letters A, B, C, D, and E, with subscript numerals indicating the number of double bonds in each molecule.
184. **Lipo-oxygenase:** An enzyme that catalyses the oxidation of polyunsaturated fatty acids to form a peroxide of the acid.
185. **Lumen:** The cavity or channel within a tube or tubular organ.
186. **Lymphogranuloma venereum: (Hodgkin's disease):** A venereal infection due to strains of *Chlamydia trachomatis*, marked by a primary transient ulcerative lesion of the genitals, followed by acute lymphadenopathy. In men, primary infection on the penis usually leads to inguinal lymphadenitis; in women, primary infection often labia, vagina, or cervix often leads to haemorrhagic proctocolitis.
187. **Lymphokine:** A general term for soluble protein mediators postulated to be released by sensitized lymphocytes on contact with antigen, and believed to play a role in macrophage activation, lymphocyte transformation, and cell mediated immunity.
188. **Margination:** Accumulation and adhesion of leukocytes to the endothelial cells of blood vessel walls at the site of injury in the early stages of inflammation.
189. **Monocytes:** A mono nuclear, phagocytic leukocyte, 13 $\mu$  to 25  $\mu$  in diameter, with an ovoid or kidney shaped nucleus, and azurophilic cytoplasmic

granules. Formed in the bone marrow from promonocytes. Monocytes are transported to tissues, such as the lung and liver, where they develop into macrophages.

190. **Monokine:** A general term for soluble mediators of immune responses that are not antibodies or complement components and that are produced by mononuclear phagocytes (monocytes or macrophages).
191. **Mucoid:** Resembling mucus.
192. **Mucopurulent:** Containing both mucus and pus.
193. **Multiple myeloma:** A tumor composed of cells of the type normally found in the bone marrow. A disseminated type of plasma cell dyscrasia characterised by multiple bone marrow tumor foci and secretion of an M component, manifested by skeletal destruction, pathologic fractures, bone pain. The presence of anomalous circulating immunoglobulins. Bence Jones proteinuria and anemia.
194. **Myofibroblast:** An atypical fibroblast combining the ultra-structural features of a fibroblast and a smooth muscle cell.
195. **Managed care:** Any system that manages health care delivery to control costs. By typically relying on a primary care physician.
196. **Mania:** Excitement of psychotic proportions manifested by mental and physical hyperactivity, disorganization of behavior, and elevation of mood.
197. **Manipulation:** It is an act, process, or an instance of manipulating / adjustment of faulty structural relationships by manual means as in the reduction of fractures or dislocations.
198. **Montoux test:** An intradermal test for hypersensitivity to tuberculin that indicates past or present infection with tubercle bacilli. A small quantity of a sterile liquid derived from a culture of tubercle bacilli (tuberculin) is injected into the skin and the local reaction noted.
199. **Medical error** is a preventable adverse effect of care, whether or not it is evident or harmful to the patient. This might include an inaccurate or incomplete diagnosis or treatment of a disease, injury, syndrome, behavior, infection, or other ailment.
200. **Meningitis:** It is an inflammation of the meninges. Meninges is the collective name for the three membranes (called the dura mater, the arachnoid mater, and the pia mater) that envelope the brain and spinal cord.
201. **Mental health:** refers to a wide range of mental health conditions/disorders that affect the mood, thinking and behavior. It is a state of psychological well-being with an appropriate balance of love, work.
202. **Migraine:** A throbbing headache that usually affects only one side of the head. Nausea, vomiting, increased sensitivity to light, and other symptoms often accompany migraine.

203. **Morbidity:** Is a term used to describe a focus on death. It is a diseased condition or state.
204. **Multiple risk/causation** Fundamentally, the issue of *causation* in clinical negligence cases, *Multiple*(cumulative) causes sometimes *several* symptoms always appear to explain *multiple* epidemiological associations or *risk* factors.
205. **Neovascularisation:** New blood vessel formation in abnormal tissue or in abnormal positions.
206. **Neutrophil:** a granular leukocyte having a nucleus with three to five lobes connected by threads of chromatin and cytoplasm containing very fine granules. Any cell, structure, or histological element readily stainable with neutral dyes.
207. **Nausea:** Is the sensation of being about to vomit. Vomiting, or emesis, is the expelling of undigested food through the mouth.
208. **Nebulization:** A method of administering a drug by spraying it into the respiratory passages of the patient. The medication may be given with or without oxygen to help carry it into the lungs.
209. **Neuritis:** Neuritis and neuralgia attack the peripheral nerves, the nerves that link the brain and spinal cord with the muscles, skin, organs, and all other parts of the body. It causes inflammation of a nerve; but also denote certain non-inflammatory lesions of the peripheral nervous system.
210. **Nutrition:** Is the process of taking in food and using it for growth, metabolism and repair.
211. **Oedema/edema:** An abnormal accumulation of fluid in intercellular spaces of the body.
212. **Oliguric/oliguria:** Diminished urine production and excretion in relation to fluid intake.
213. **Opsonisation:** The rendering of bacteria and other cells subject to phagocytosis.
214. **Perineum:** The region and associated structures occupying the pelvic outlet and beneath the pelvic diaphragm.
215. **Phagosome:** A membrane bound vesicle in a phagocyte containing the phagocytised material.
216. **Plasma cell dyscrasia:** A diverse group of neoplastic diseases involving proliferation of a single clone of cells producing a serum M component (a monoclonal immunoglobulin or immunoglobulin fragment) and usually having a plasma cell morphology; it includes multiple myeloma and heavy chain diseases.
217. **Polymorphonuclear:** Having a nucleus so deeply lobed or so divided as to appear to be multiple.

- 218. Prostaglandin:** Any of a group of naturally occurring, chemically related fatty acids that stimulate contractility of the uterine and other smooth muscle and have the ability to lower blood pressure, regulate acid secretion of the stomach, regulate body temperature and platelet aggregation, and control inflammation and vascular permeability; they also affect the action of certain hormones. Nine primary types are labelled A through I, the degree of saturation of the side chain of each being designated by subscripts 1, 2, and 3. The types of prostaglandins are abbreviated PGE<sub>2</sub>, PGF<sub>2α</sub>, and so on.
- 219. Pyelonephritis:** Inflammation of the kidney and its pelvis due to bacterial infection.
- 220. Pyogenesis:** Suppuration, the formation of pus.
- 221. Occupational health services:** The Basic Occupational Health Services are an application of the primary health care principles in the sector of occupational health. These services include a statutory preventive occupational health care services, namely occupational health physician, occupational health nurse, an occupational physiotherapist and psychologist services, as well as the general level medical treatment, including laboratory and X-ray examinations.
- 222. Occupational therapy:** It is the therapy based on engagement in meaningful activities of daily life as self-care skills, education, work, or social interaction especially to enable or encourage participation of the clients in such activities despite impairments or limitations in their physical or mental functioning.
- 223. Oedema:** It is a buildup of fluid in the body which causes swelling in the affected tissue. The swelling can occur in one particular part of the body or may be general depending on the cause.
- 224. Oesophagus:** Is the tube that connects the pharynx (throat) with the stomach. Oesophagus lies between the trachea (windpipe) and the spine. It passes down the neck, pierces the diaphragm just to the left of the midline, and joins the cardiac (upper) end of the stomach. It is also known as the gullet or swallowing tube.
- 225. Orientation:** Is awareness of one's environment, with reference to place, time, and people. It is the act or process of orienting or of being oriented, the state of being oriented.
- 226. Outcome:** A result, new condition or event occurring in individual study subjects which is used to assess efficacy.
- 227. Overdose:** Is the accidental or intentional use of a drug or medicine in an amount that is higher than is normally used.
- 228. Palliative care:** Is medical and related care provided to a patient with a serious, life-threatening, or terminal illness to manage symptoms, relieving

pain and discomfort, improve quality of life, and meet the emotional, social, and spiritual needs of the patient.

229. **Palpitations:** A sensation in which a person is aware of an irregular, hard or rapid, fluttering or pounding heart. Heart palpitations can be triggered by stress, exercise, medication or, a medical condition.
230. **Pancreatitis:** It is an inflammation of the pancreas, an organ that is important in digestion.
231. **Paralysis** is defined as complete loss of voluntary movements i.e. motor functions/ strength of an affected limb or muscle group. Paralysis that affects only one muscle or limb is partial paralysis, also known as palsy; paralysis of all muscles is total paralysis.
232. **Paranoia:** It is an unfounded or exaggerated distrust for others, sometimes reaching delusional proportions. Paranoid individuals constantly suspect the motives of those around them, and believe that certain individuals, or people in general, are dangerous for them.
233. **Pediculosis:** Infestation with lice. *Pediculosis corporis* is infestation of the skin of the body with lice. *Pediculosis palpebrarum* is infestation of the eyelids and eyelashes with lice. *Pediculosis pubis* is infestation of the pubic hair region with lice.
234. **Peptic ulcer:** Ulcer in the wall of the stomach or duodenum resulting from the digestive action of the gastric juice on the mucous membrane when the latter is rendered susceptible to its action or from infection with the bacterium *Helicobacter pylori* or the chronic use of NSAIDs.
235. **Personality disorder:** A personality disorder is a type of mental disorder in which you have a rigid and unhealthy pattern of thinking, functioning and behaving. A person with a personality disorder has trouble perceiving and relating to situations and people.
236. **Phlebitis:** It is a condition in which a vein becomes inflamed. The inflammation may cause pain and swelling. When the inflammation is caused by a blood clot or thrombus, it is called **thrombophlebitis**.
237. **Phobia:** Is an extreme separation anxiety disorder of children, usually in the elementary grades, characterized by a persistent irrational fear.
238. **Pneumonia:** Inflammation of one or both lungs. Pneumonia is frequently due to infection. The infection may be bacterial, viral, fungal, or parasitic. Symptoms may include fever, chills, cough with sputum production, chest pain, and shortness of breath.
239. **Pneumothorax:** Results from a wound in the chest wall which acts as a valve that permits air to enter the pleural cavity but prevents its escape. Air enters the pleural cavity and is trapped there during expiration so the air pressure within the thorax mounts higher than atmospheric pressure,

compresses the lung and may displace the mediastinum and its structures, including the lung, toward the opposite side.

- 240. Prognosis** is often used as a general term for predicting the unfolding of events: The forecast of the probable outcome or course of a disease and improving the chances of patient recovery.
- 241. Psychosis** Means a loss of contact with reality; it is a symptom of mental illness. Generally, there are two types of psychiatric disorder that produce psychotic symptoms: schizophrenia and mood disorders like bipolar disorder.
- 242. Psychiatry:** It is a branch of medicine that deals with the science and practice of treating mental, emotional, or behavioral disorders especially as originating in endogenous causes or resulting from faulty interpersonal relationships.
- 243. Psychosomatic:** A descriptive term for the relationship between the mind and body. Psychosomatic disorders are thought to be caused by emotional or psychological factors.
- 244. Psychotherapy:** It is a general term for the treatment of mental (i.e., emotional, behavioral, personality and psychiatric) disorders through verbal and nonverbal communication with the patient.
- 245. Public health:** It is the art and science dealing with the protection and improvement of community health by organized community effort. It also includes preventive medicine, sanitary and social science. It also assures that all population have access to appropriate cost-effective care, health promotion and disease prevention services.
- 246. Pulmonary embolism:** It is an obstruction of a blood vessel in the lungs, usually due to a blood clot, which blocks a coronary artery.
- 247. Pulse:** The rhythmic dilation of an artery that results from beating of the heart. Pulse is often measured by feeling the arteries of the wrist or neck.
- 248. Quality of life:** Subjective well-being is the central component in the evaluation of Quality of Life. It is therefore the patient's ability to enjoy normal life activities. It is an overall assessment of a person's well-being, which may include physical, emotional, and social dimensions, as well as stress level, sexual function, and self-perceived health status.
- 249. Rapport:** A conscious feeling of harmonious accord, trust, empathy, and mutual responsiveness between two or more people including physician and patient that fosters the therapeutic process.
- 250. Rehabilitation:** They are set of treatments designed to facilitate the process of recovery from injury, illness or disease to as normal a condition as possible.
- 251. Resuscitation:** A procedure designed to restore normal breathing that includes the clearance of air passages to the lungs, the mouth-to-mouth

method of artificial respiration, and cardiac massage by the exertion of pressure on the chest. It is abbreviated as CPR. (Cardiopulmonary resuscitation).

252. **Scabies:** It is an itchy skin condition caused by a tiny burrowing mite called *Sarcoptes scabiei*. The presence of the mite leads to intense itching in the area of its burrows. The urge to scratch may be especially strong at night.
253. **Schizophrenia:** It is a psychotic disorder marked by severely impaired thinking, emotions, and behaviors. Schizophrenic patients are typically unable to filter sensory stimuli and may have enhanced perceptions of sounds, colors, and other features of their environment.
254. **Schistosomiasis:** The blood flukes, a genus of parasitic trematodes. Species that cause schistosomiasis in humans include- *S. haematobium* and *S. intercalatum* in Africa, *S. japonicum* in East Asia and nearby islands, and *S. mansoni* in Africa, South America, and the West Indies. The invertebrate hosts are snails. Infection follows penetrating the skin of those coming in contact with infected waters.
255. **Serotonin:** A hormone and neurotransmitter, 5-hydroxytryptamine (5-HT), found in many tissues, including blood platelets, intestinal mucosa, the pineal body, and the central nervous system; it has many physiologic properties including inhibition of gastric secretion, stimulation of smooth muscle, and production of vasoconstriction.
256. **Suppurative:** Agent that cause pyogenesis [formation of pus].
257. **Sepsis:** The presence of bacteria (bacteremia), other infectious organisms, or toxins created by infectious organisms in the bloodstream with spread throughout the body. Sepsis may be associated with clinical symptoms of systemic illness, such as fever, chills, malaise, low blood pressure, and mental-status changes.
258. **Shock:** Is a critical condition that is brought on by a sudden drop in blood flow through the body. The circulatory system fails to maintain adequate blood flow, sharply curtailing the delivery of oxygen and nutrients to vital organs.
259. **Sinus:** Is a channel permitting the passage of blood or lymph fluid that is not a blood or lymphatic vessel.
260. **Spleen:** Is largest lymphatic organ in the body that is located in the upper-left part of the abdomen, not far from the stomach, that produces lymphocytes, which are important elements in the immune system.
261. **Sputum:** Mucous material from the lungs that is produced and brought up by coughing.
262. **Sternum:** It is a plate of bone forming the middle of the anterior wall of the thorax and articulating with the clavicles and the cartilages of the first seven

ribs. It consists of three parts, the manubrium, the body, and the xiphoid process.

- 263. Steroid:** One of a large group of chemical substances classified by a specific carbon structure. Steroids include drugs used to relieve swelling and inflammation, such as prednisone and cortisone; vitamin D; and some sex hormones, such as testosterone and estradiol.
- 264. Stomach ulcer:** An ulcer in the wall of the stomach or duodenum resulting from the digestive action of the gastric juice on the mucous membrane when the latter is rendered susceptible to its action (*as from infection with the bacterium *Helicobacter pylori* or the chronic use of NSAIDs*).
- 265. Syndrome:** A syndrome is a set of medical signs and symptoms that are correlated with each other. It basically means "running together".
- 266. Terminal care:** Care designed to give supportive care to people in the final phase of a terminal illness and focus on comfort and quality of life, rather than cure. Palliative care is a multidisciplinary approach to specialized medical care for people with life-limiting illnesses. It focuses on providing people with relief from the symptoms, pain, physical stress, and mental stress of the terminal diagnosis.
- 267. Terminal illness:** Terminal illness is a disease that cannot be cured or adequately treated and that is reasonably expected to result in the death of the patient within a short period of time.
- 268. Tetanus:** Is an acute infectious disease characterized by tonic spasm of voluntary muscles and especially of the muscles of the jaw and caused by an exotoxin produced by a bacterium of the genus *Clostridium*.
- 269. Thiamine:** Thiamine (vitamin B1) acts as a coenzyme in the metabolism of the body. Its deficiency causes beriberi, a syndrome characterized by inflammation of multiple nerves (polyneuritis), heart disease (cardiopathy), and edema (swelling).
- 270. Tolerance:** Is the capacity of the body to endure or become less responsive to a substance (as a drug) or a physiological environment especially by repeated use / exposure.
- 271. Transference:** In psychiatry, the unconscious tendency of a patient to assign to others, the environment feelings and attitudes associated with significant persons in one's life.
- 272. Tuberculosis:** A specific disease caused by infection with *Mycobacterium tuberculosis*, the most common site of the disease being the lungs although it can affect any organ of the body.
- 273. Tuberculous:** Pertaining to or affected with tuberculosis.
- 274. Traditional medicine:** Any system of healthcare that has ancient cultural bonds, trained healer it include Ayurvedic medicine, ethno medicine and traditional Chinese medicine.

- 275. Transitional care:** Transitional care refers to the coordination and continuity of health care during a movement from one healthcare setting to either another or to home, called care transition, between health care practitioners.
- 276. Ulcer:** A lesion of the skin or a mucous membrane like the lining of the stomach or duodenum that is accompanied by formation of pus and necrosis of surrounding tissue, usually resulting from inflammation or ischemia.
- 277. Urgency:** It is the quality or state requiring immediate action or attention.
- 278. Urological manifestations:** Clinical disturbances of the urinary system.
- 279. Vacuole:** Any membrane bound space or cavity within a cell.
- 280. Vasodilation:** Increase in caliber of blood vessels.
- 281. Viral infection:** Infection caused by the presence of a virus in the body.
- 282. Vital signs:** Signs of life; specifically: the pulse rate, respiratory rate, body temperature, and often blood pressure of a person.
- 283. Wheeze:** A wheeze is a continuous, coarse, whistling sound produced in the respiratory airways during breathing.
- 284. Withdrawal:** Act of removal or retreat. It is highlighted as psychological and/or physical syndrome caused by abrupt cessation of use of a drug in a habituated person.