Pathophysiology of Disease: An Introduction to Clinical Medicine, Testbank/Studyguide

Chapter 1: Introduction

MULTIPLE CHOICE

1. Which of the following would be the most likely cause of an iatrogenic disease?

a.	An inherited disorder
b.	A combination of specific etiological factors
c.	An unwanted effect of a prescribed drug
d.	Prolonged exposure to toxic chemicals in the environment

ANS: C

2. The manifestations of a disease are best defined as the:

a.	subjective feelings of discomfort during a chronic illness.
b.	signs and symptoms of a disease.
c.	factors that precipitate an acute episode of a chronic illness.
d.	early indicators of the prodromal stage of infection.

ANS: B

3. The best definition of the term prognosis is the:

a.	precipitating factors causing an acute episode.
b.	number of remissions to be expected during the course of a chronic illness.
c.	predicted outcome or likelihood of recovery from a specific disease.
d.	exacerbations occurring during chronic illness.

ANS: C

4. Which of the following is considered a systemic sign of disease?

a.	Swelling of the knee
b.	Fever
c.	Pain in the neck
d.	Red rash on the face

ANS: B

5. Etiology is defined as the study of the:

a.	causes of a disease.
b.	course of a disease.
c.	expected complications of a disease.
d.	manifestations of a disease.

ANS: A

6. A type of cellular adaptation in which there is a decrease in cell size is referred to as:

a.	hypertrophy.
b.	metaplasia.
c.	anaplasia.
d.	atrophy.

ANS: D

7. A change in a tissue marked by cells that vary in size and shape and show increased mitotic figures would be called:

a.	metaplasia.
b.	atrophy.
c.	dysplasia.
d.	hypertrophy.

ANS: C

8. A deficit of oxygen in the cells usually due to respiratory or circulatory problems is called:

a.	apoptosis.
b.	ischemia.
c.	hypertrophy.
d.	necrosis.

ANS: B

9. When a group of cells in the body dies, the change is called:

a.	ischemia.
b.	gangrene.
c.	hypoxia.
d.	necrosis.

ANS: D

10. Rigorous weight lifting/body building regimens may result in the skeletal muscle cells undergoing:

a.	hypertrophy.
b.	dysplasia.

c.	atrophy.
d.	regeneration.

ANS: A

11. The term cancer refers to:

a.	dysplasia.
b.	hyperplasia.
c.	metaplasia.
d.	malignant neoplasm.

ANS: D

12. To which of the following does the term apoptosis refer?

a.	Increased rate of mitosis by certain cells
b.	Ischemic damage to cells
c.	Liquefaction of necrotic tissue
d.	Preprogrammed cell self-destruction

ANS: D

13. Which of the following statements is TRUE?

a.	Alteration of DNA does not change cell function.
b.	Damaged cells may be able to repair themselves.
c.	All types of cells die at the same rate.
d.	Mild ischemia causes immediate cell death.

ANS: B

14. Caseation necrosis refers to an area where:

a.	cell proteins have been denatured.
b.	cell are liquefied by enzymes.
c.	dead cells form a thick cheesy substance.
d.	bacterial invasion has occurred.

ANS: C

15. Routine application of sun block to skin would be an example of:

a.	an iatrogenic cause of cancer.
b.	a preventive measure.
c.	a precipitating factor.
d.	a predisposing condition.

ANS: B

16. A circumstance that causes a sudden acute episode of a chronic disease to occur is termed:

a.	latent stage.
b.	predisposing factor.
c.	incidence.
d.	precipitating factor.

ANS: D

17. The term homeostasis refers to:

a.	the causative factors in a particular disease.
b.	maintenance of a stable internal environment.

c.	a condition that triggers an acute episode.
d.	a collection of signs and symptoms.

ANS: B

18. Which term is used to describe a new and secondary or additional problem that arises after the original disease has been established?

a.	Symptoms
b.	Occurrence
c.	Manifestations
d.	Complication

ANS: D

19. Pathophysiology involves the study of:

a.	the structure of the human body.
b.	the functions of various organs in the body.
c.	functional or structural changes resulting from disease processes.
d.	various cell structures and related functions.

ANS: C

20. Which of the following is the best definition of epidemiology?

a.	The science of tracking the occurrence and distribution of diseases
b.	The relative number of deaths resulting from a particular disease
c.	Identification of a specific disease through evaluation of signs /symptoms
d.	The global search for emerging diseases

ANS: A

21. Which of the following can cause cell injury or death?

1. Hypoxia

2. Exposure to excessive cold

3. Excessive pressure on a tissue

4. Chemical toxins

a.	1, 2
b.	2, 4
c.	1, 3, 4
d.	1, 2, 3, 4

ANS: D

22. All of the following are part of the Seven Steps to Health EXCEPT:

a.	follow cancer screening guidelines.
b.	use sun block agents whenever exposed.
c.	participate in strenuous exercise on a regular daily basis.
d.	choose high fiber, lower fat foods.

ANS: C

23. The term disease refers to:

a.	the period of recovery and return to a normal healthy state.
b.	a deviation from the normal state of health and function.
c.	the treatment measures used to promote recovery.
d.	a basic collection of signs and symptoms.

ANS: B

24. A collection of signs and symptoms, often affecting more than one organ or system, that usually occur together in response to a certain condition is referred to as a (an):

a.	acute disease.
b.	multiorgan disorder.
c.	syndrome.
d.	manifestation.

ANS: C

25. All of the following statements are correct about cell damage EXCEPT:

a.	The initial stage of cell damage often causes an alteration in metabolic reactions.
b.	If the factor causing the damage is removed quickly, the cell may be able to recover and return to its normal state.
c.	If the noxious factor remains for an extended period of time, the damage becomes irreversible and the cell dies.
d.	Initially, cell damage does not change cell metabolism, structure, or function.

ANS: D

26. Which of the following conditions distinguishes double blind studies used in health research?

a.	Neither the members of the control group or the experimental group nor the person administering the treatment knows who is receiving the experimental therapy.
b.	Both groups of research subjects and the person administering the treatment know who is

	receiving the experimental therapy.
c.	The research subjects do not know, but the person administering the treatment knows who is receiving placebo or standard therapy.
d.	Only members of the control group know they are receiving standard therapy.

ANS: A

27. If the data collected from the research process confirm that the new treatment has increased effectiveness and is safe, this is called:

a.	the placebo effect.
b.	evidence-based research.
c.	blind research studies.
d.	approval for immediate distribution.

ANS: B

28. A short-term illness that develops very quickly with perhaps a high fever or severe pain is called:

a.	acute.
b.	latent.
c.	chronic.
d.	manifestation.

ANS: A

29. The term prognosis refers to the:

a.	period of recovery and return to a normal state.

b.	expected outcome of the disease.
c.	mortality and morbidity rates for a given population.
d.	typical collection of signs and symptoms.

ANS: B

30. When prolonged ischemia occurs to an area of the heart, the resulting damage is referred to as:

a.	atrophy.
b.	liquefactive necrosis.
c.	apoptosis.
d.	infarction.

ANS: D

31. During the evaluation process for a new therapys effectiveness and safety, a double blind study may be conducted during:

a.	the first stage.
b.	the second stage.
c.	the third stage.
d.	any of these stages.

ANS: C

32. Why are the predisposing factors for a specific disease important to health professionals?

a.	To predict the prognosis
b.	To determine treatments
c.	To develop preventive measures

d.	To develop morbidity statistics

ANS: C

33. Cell damage may be caused by exogenous sources such as:

a.	abnormal metabolic processes.
b.	certain food additives.
c.	genetic defects.
d.	localized hypoxia.

ANS: B

34. Which of the following is usually included in a medical history?

1. Past illnesses or surgeries

2. Current illnesses, acute and chronic

3. Prescribed medication or other treatments

4. Nonprescription drugs and herbal remedies

5. Current allergies

a.	1, 3
b.	2, 4, 5
c.	1, 3, 4
d.	1, 2, 3, 4, 5

ANS: D

35. A situation when there is a higher than expected number of cases of an infectious disease within a given area is called a/an:

a.	epidemic.
b.	exacerbation.
c.	morbidity.
d.	pandemic.

ANS: A

36. The term pathogenesis refers to:

a.	the development of a disease or sequence of events related to tissue changes involved in the disease process.
b.	the determination of the cause(s) involved in the development of a malignant neoplasm.
c.	the specific signs and symptoms involved in the change from an acute disease to a chronic disease.
d.	the changes in cells of affected tissue that result in necrosis.

ANS: A

- **Chapter 2:** Genetic Disease
- **MULTIPLE CHOICE**
- 1. Which of the following statements applies to the sex chromosomes?

a. They are identified as XY in the female.

b. They are numbered pair 23 in the karyotype.

c. They contain the same genes as in the other pairs of chromosomes.

d. They are found only in the cells in the gonads (the ovaries and the testes).

- ANS: B
- 2. What is the term for an arrangement of the chromosomes from an individuals cell, organized in pairs based on size and shape?

a. Pedigree

b. Punnett squares

c. Karyotype

d. Genotype

- ANS: C
- 3. What is characteristic of a congenital disorder?

a. Genes are not involved.

b. It is strictly a developmental anomaly.

c. A cause is known.

d. It is usually manifested in the neonatal period.

- ANS: D
- 4. What is the probability of two parents, both carriers of a defective recessive gene, producing a homozygous child (with each pregnancy)?

a.	0%
b.	25%
c.	50%
d.	75%

- ANS: B
- 5. In the case of an X-linked recessive disorder, a carrier mother and unaffected father could produce a/an:

a.	normal female.
b.	affected female.
c.	male carrier.

- ANS: A
- 6. Down syndrome is an example of a/an:

a.	autosomal dominant disorder.
b.	multifactorial disorder.
c.	developmental defect.
d.	chromosomal disorder.

- ANS: D
- 7. Agents that cause damage during embryonic or fetal development are called:

a.	teratogenic.
b.	mutagenic.
c.	multifactorial agents.

d. polygenic agents.

- ANS: A
- 8. What is an example of a multifactorial congenital disorder?

a. Type AB blood

b. Down syndrome

c. Color blindness

d. Cleft lip and palate

- ANS: D
- 9. Ultrasonography during pregnancy would be helpful in detecting fetal:

a. enzyme deficits.

b. structural anomalies.

c. chromosomal defects.

d. hormonal abnormalities.

- ANS: B
- 10. Which of the following statements regarding Down syndrome is TRUE?

a. The typical physical characteristics are present at birth.

b. All children with Down syndrome have the same organ defects and medical problems.

c. The extent of cognitive impairment can be assessed at birth.

d. The birth of a child with Down syndrome is only a risk to mothers over age 35.

- ANS: A
- 11. Which of the following statements applies to Huntingtons disease?

a. The effects are obvious at birth.

b. There is a test for the defective gene.

c. There is a 50% probability that the child of an affected parent will be a carrier.

d. The child must inherit the defective gene from both parents in order to be affected.

- ANS: B
- 12. A mother is a carrier of Duchenne muscular dystrophy; the father is unaffected. They have one son with muscular dystrophy. Another male child is expected. The probability of the second son having muscular dystrophy is:

a. 100%

b. 50%

c. 25%

d. 0%

- ANS: B
- 13. Hemophilia A has been diagnosed in a young boy. He has inherited this defective gene from:

a. his father.

b. his mother.

c. both parents.

- ANS: B
- 14. A father affected with hemophilia A, whose wife is unaffected, will pass on the defective gene to:

a. all of his sons, who will be affected.

b.	50% of his sons, who will be affected.
c.	all of his daughters, who will be carriers.
d.	50% of his daughters, who will be carriers.

- ANS: C
- 15. Which of the following are common manifestations of Down syndrome?
- 1. Congenital heart defect
- 2. Cleft lip and palate
- 3. Large protruding tongue
- 4. Limited intellectual development

a.	1, 2
b.	1, 3
c.	2, 4
d.	1, 3, 4

- ANS: D
- 16. A spontaneous alteration in genetic material that may result from exposure to harmful substances is termed:

a.	autosome.
b.	genotype.
c.	meiosis.
d.	mutation.

- ANS: D
- 17. A person with sickle cell trait that is heterozygous has:

a.	an incomplete dominant gene.

b.	a multifactorial condition.
c.	co-dominant genes.
d.	X-linked dominant trait.

- ANS: A
- 18. TORCH is an acronym for routine prenatal screening tests for high-risk maternal infections; TORCH stands for:

a.	toxoplasmosis, other (hepatitis B, mumps, rubeola, varicella, gonorrhea, syphilis), rubella, cytomegalovirus, and herpes.
b.	tuberculosis, other (hepatitis B, mumps, rubeola, varicella, gonorrhea, syphilis), rabies, cytomegalovirus, and HIV.
c.	toxoplasmosis, other (hepatitis B, mumps, rubeola, varicella, gonorrhea, syphilis), rabies, cytomegalovirus, and HIV
d.	tuberculosis, other (hepatitis B, mumps, rubeola, varicella, gonorrhea, syphilis), rabies, cytomegalovirus, and herpes

- ANS: A
- 19. Which statement applies to the effects of exposure to harmful substances during embryonic life?
- 1. During the first two weeks, exposure will usually cause death of the embryo.
- 2. Organs or body structures may be altered by exposure during the first two months.
- 3. The effects of exposure depend on the stage of development at the time of exposure.
- 4. Metabolic abnormalities usually follow exposure to teratogens.

a.	1, 3
b.	2, 4
c.	1, 2, 3
d.	2, 3, 4

- ANS: C
- 20. Exposure to cocaine during pregnancy leads to increased risk of:

a. premature birth.

b. respiratory problems.

c. sudden infant death syndrome.

d. A, B, and C

- ANS: D
- 21. Which term refers to prenatal diagnosis through examination of amniotic fluid?

a. Chorionic villus testing

b. Preparing a family pedigree

c. Amniocentesis

d. Triple-screen test

- ANS: C
- 22. The laboratory practice of changing DNA sequences in microorganisms is called:

a. the genotype.

b. gene mutation.

c. genetic engineering.

d. gene therapy.

- ANS: C
- 23. The purpose of the Human Genome Project was to:

a. map the nucleotide sequence and identify the genes on each human chromosome.

b. study the common patterns of inheritance of single-gene disorders.

c. manipulate the sequence of DNA in microorganisms and animals.

d. identify spontaneous alterations in genetic material caused by teratogens.

- ANS: A
- 24. Developmental disorders can result from all the following EXCEPT:

a. exposure to radiation.

b. mercury in foods and water.

c. drugs and alcohol.

d. folic acid.

- ANS: D
- 25. Genes located at the same site on a pair of homologous chromosomes that are also matched for function are called:

a. alleles.

b. genotypes.

c. autosomes.

d. phenotypes.

- ANS: A
- 26. Which of the following can easily pass through the placental barrier?

a. Many viruses

b. Some heavy metals

c. Certain chemicals

d. All of the above

- ANS: D
- 27. The term *proteomics* refers to the study of:

a. DNA sequences with unknown functions.

b. gene sequences in individual chromosomes.

c. the proteins resulting from activation of specific genes.

d. identifying certain base pairs in DNA.

- ANS: C
- 28. The most invasive prenatal screening test for fetal abnormalities is:

a. ultrasonography.

b. amniocentesis.

c. X-ray.

d. blood tests.

- ANS: B
- 29. Which of the following can be detected using amniotic fluid?

a. Chromosomal abnormalities

b. Metabolic disorders

c. Certain structural abnormalities

d. All the above

- ANS: D
- 30. Blood tests are performed on neonates primarily to:

a. determine need for immediate surgical correction of anomalies.

b. identify disorders requiring immediate treatment.

c. identify the presence of any inherited disorders.

d. rule out the presence of any infection.

- ANS: B
- 31. When genetic influences combine with environmental factors to cause an abnormality, the result is called a:

a. chromosomal disorder.

b. developmental disorder.

c. multifactorial disorder.

d. single-gene disorder.

- ANS: C
- 32. The cellular division process that produces the chromosomes that are in the sperm and ova is called:

a. meiosis.

b. mitosis.

c. organogenesis.

d. polysomy.

- ANS: A

- **Chapter 3:** Disorders of the Immune System
- **MULTIPLE CHOICE**
- 1. Neutrophils:

a.	are phagocytic cells.
b.	produce histamine.
c.	produce antibodies.
d.	are elevated during an allergic response.

- ANS: A
- 2. Which cells are required to process and present antigens from foreign material as the initial step in the immune response?

a.	Thelper cells
b.	Macrophages
c.	Eosinophils
d.	Monocytes

- ANS: B
- 3. Humoral immunity is mediated by:

a.	natural killer cells.
b.	T lymphocytes (T cells).
c.	B lymphocytes (B cells).
d.	neutrophils.

- ANS: C
- 4. A secondary immune response differs from the primary immune response in that:

a. it is more rapid than the primary response and results in higher antibody levels.

b. it is slower than the primary response and doesnt change the antibody levels.

c. it occurs at the same time as the primary response but results in a decrease in antibodies.

d. it only occurs in hyperallergic reactions and results in a decrease of antibodies.

- ANS: A
- 5. Which type of immunity is provided by a vaccination?

a. Active natural

b. Active artificial

c. Passive natural

d. Passive artificial

- ANS: B
- 6. When an allergen binds with IgE antibodies on mast cells, resulting in release of chemical mediators, this reaction is called:

a. cytotoxic hypersensitivity.

b. immune complex hypersensitivity.

c. type I hypersensitivity.

d. type IV hypersensitivity.

- ANS: C
- 7. The role of memory cells is to:

a. change into an antibody-secreting cell following activation.

b. immediately secrete antibodies following the first exposure to antigen.