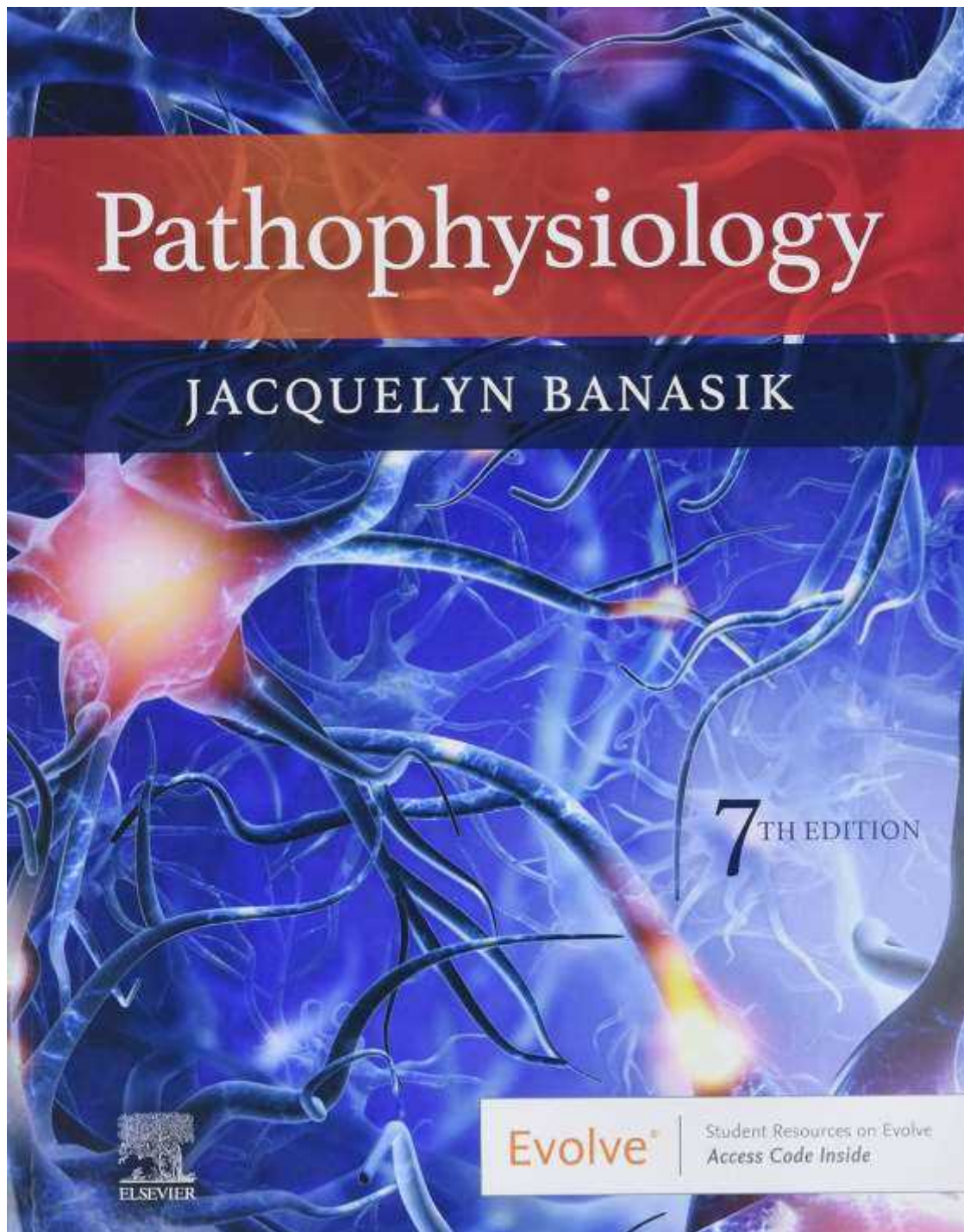


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# Pathophysiology

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7th Edition



## Table of Contents

### Unit I: Pathophysiologic Processes

1. Introduction to Pathophysiology
2. Homeostasis and Adaptive Responses to Stressors

### Unit II: Cellular Function

3. Cell Structure and Function
4. Cell Injury, Aging, and Death
5. Genome Structure, Regulation, and Tissue Differentiation
6. Genetic and Developmental Disorders
7. Neoplasia

### Unit III: Defense

8. Infectious Processes
9. Inflammation and Immunity
10. Alterations in Immune Function
11. Malignant Disorders of White Blood Cells
12. HIV Disease and AIDS

### Unit IV: Oxygen Transport, Blood Coagulation, Blood Flow, and Blood Pressure

13. Alterations in Oxygen Transport
14. Alterations in Homeostasis and Blood Coagulation
15. Alterations in Blood Flow
16. Alterations in Blood Pressure

### Unit V: Cardiac Function

17. Cardiac Function
18. Alterations in Cardiac Function
19. Heart Failure and Dysrhythmias: Common Sequelae of Cardiac Diseases
20. Shock

### Unit VI: Respiratory Function

21. Respiratory Function and Alterations in Gas Exchange
22. Obstructive Pulmonary Disorders
23. Restrictive Pulmonary Disorders

### Unit VII: Fluid, Electrolyte, and Acid-Base Homeostasis

24. Fluid and Electrolyte Homeostasis and Imbalances
25. Acid-Base Homeostasis and Imbalances

### Unit VIII: Renal and Bladder Function

26. Renal Function
27. Intrarenal Disorders
28. Acute Kidney Injury and Chronic Kidney Disease
29. Disorders of the Lower Urinary Tract

### Unit IX: Genital and Reproductive Function

30. Male Genital and Reproductive Function
31. Alterations in Male Genital and Reproductive Function
32. Female Genital and Reproductive Function
33. Alterations in Female Genital and Reproductive Function
34. Sexually Transmitted Infections

## **Unit X: Gastrointestinal Function**

- 35. Gastrointestinal Function
- 36. Gastrointestinal Disorders
- 37. Alterations in Function of the Gallbladder and Exocrine Pancreas
- 38. Liver Diseases

## **Unit XI: Endocrine Function, Metabolism, and Nutrition**

- 39. Endocrine Physiology and Mechanisms of Hypothalamic-Pituitary Regulation
- 40. Disorders of Endocrine Function
- 41. Diabetes Mellitus
- 42. Alterations in Metabolism and Nutrition

## **Unit XII: Neural Function**

- 43. Structure and Function of the Nervous System
- 44. Acute Disorders of Brain Function
- 45. Chronic Disorders of Neurologic Function
- 46. Alterations in Special Sensory Function
- 47. Pain

## **Unit XIII: Neuropsychological Function**

- 48. Neurobiology of Psychotic Illnesses
- 49. Neurobiology of Nonpsychotic Illnesses

## **Unit XIV: Musculoskeletal Support and Movement**

- 50. Structure and Function of the Musculoskeletal System
- 51. Alterations in Musculoskeletal Function: Trauma, Infection, and Disease
- 52. Alterations in Musculoskeletal Function: Rheumatic Disorders

## **Unit XV: Integumentary System**

- 53. Alterations in the Integumentary System
- 54. Burn Injuries

## Chapter 01: Introduction to Pathophysiology

### Banasik: Pathophysiology, 7th Edition

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#### MULTIPLE CHOICE

1. C.Q. was recently exposed to group A hemolytic *Streptococcus* and subsequently developed a pharyngeal infection. His clinic examination reveals an oral temperature of 102.3°F, skin rash, dysphagia, and reddened throat mucosa with multiple pustules. He complains of sore throat, malaise, and joint stiffness. A throat culture is positive for *Streptococcus*, and antibiotics have been prescribed. The etiology of C.Q.'s disease is
  - a. a sore throat.
  - b. streptococcal infection.
  - c. genetic susceptibility.
  - d. pharyngitis.

ANS: B

Etiology refers to the proposed cause or causes of a particular disease process. A sore throat is the manifestation of the disease process. Genetic susceptibility refers to inherited tendency to develop a disease. Pharyngitis refers to inflammation of the throat and is also a clinical manifestation of the disease process.

2. A 17-year-old college-bound student receives a vaccine against an organism that causes meningitis. This is an example of
  - a. primary prevention.
  - b. secondary prevention.
  - c. tertiary prevention.
  - d. disease treatment.

ANS: A

Primary prevention is prevention of disease by altering susceptibility or reducing exposure for susceptible individuals, in this case by providing vaccination. Secondary prevention is the early detection, screening, and management of the disease. Tertiary prevention includes rehabilitative and supportive care and attempts to alleviate disability and restore effective functioning. Disease treatment involves management of the disease once it has developed.

3. An obese but otherwise healthy teen is given a prescription for a low-calorie diet and exercise program. This is an example of
  - a. primary prevention.
  - b. secondary prevention.
  - c. tertiary prevention.
  - d. disease treatment.

ANS: B

Secondary prevention is the early detection, screening, and management of the disease such as prescribing diet and exercise for an individual who has already developed obesity. Primary prevention is prevention of disease by altering susceptibility or reducing exposure for susceptible individuals. Tertiary prevention includes rehabilitative and supportive care and attempts to alleviate disability and restore effective functioning. Disease treatment involves management of the disease once it has developed.

4. A patient with high blood pressure who is otherwise healthy is counseled to restrict sodium intake. This is an example of
- primary prevention.
  - secondary prevention.
  - tertiary prevention.
  - disease treatment.

ANS: B

Secondary prevention is the early detection, screening, and management of the disease, such as by prescribing sodium restriction for high blood pressure. Primary prevention is prevention of disease by altering susceptibility or reducing exposure for susceptible individuals. Tertiary prevention includes rehabilitative and supportive care and attempts to alleviate disability and restore effective functioning. Disease treatment involves management of the disease once it has developed.

5. After suffering a heart attack, a middle-aged man is counseled to take a cholesterol-lowering medication. This is an example of
- primary prevention.
  - secondary prevention.
  - tertiary prevention.
  - disease treatment.

ANS: C

Tertiary prevention includes rehabilitative and supportive care and attempts to alleviate disability and restore effective functioning such as prescribing a cholesterol-lowering medication following a heart attack. Primary prevention is prevention of disease by altering susceptibility or reducing exposure for susceptible individuals. Secondary prevention is the early detection, screening, and management of the disease. Disease treatment involves management of the disease once it has developed.

6. A patient has been exposed to meningococcal meningitis, but is not yet demonstrating signs of this disease. This stage of illness is called the \_\_\_\_\_ stage.
- prodromal
  - latent
  - sequela
  - convalescence

ANS: B

Incubation refers to the interval between exposure of a tissue to an injurious agent and the first appearance of signs and symptoms. In infectious diseases, this period is often called the incubation (latent) period. Prodromal refers to the appearance of the first signs and symptoms indicating the onset of a disease. These are often nonspecific, such as headache, malaise, anorexia, and nausea, which are associated with a number of different diseases. Sequela refers to subsequent pathologic condition resulting from a disease. Convalescence is the stage of recovery after a disease, injury, or surgical operation.

7. A disease that is native to a particular region is called
- epidemic.
  - endemic.
  - pandemic.
  - ethnographic.

ANS: B

A disease that is native to a particular region is called endemic. An epidemic is a disease that spreads to many individuals at the same time. Pandemics are epidemics that affect large geographic regions, perhaps spreading worldwide. Ethnographic does not describe a disease distribution pattern.

8. In general, with aging, organ size and function
  - a. increase.
  - b. decrease.
  - c. remain the same.
  - d. are unknown.

ANS: B

In general, with aging, organ size and function decrease.

9. The stage during which the patient functions normally, although the disease processes are well established, is referred to as
  - a. latent.
  - b. subclinical.
  - c. prodromal.
  - d. convalescence.

ANS: B

The stage during which the patient functions normally, although the disease processes are well established, is called the subclinical stage. The interval between exposure of a tissue to an injurious agent and the first appearance of signs and symptoms may be called a latent period or, in the case of infectious diseases, an incubation period. The prodromal period, or prodrome, refers to the appearance of the first signs and symptoms indicating the onset of a disease. Convalescence is the stage of recovery after a disease, injury, or surgical operation.

## MULTIPLE RESPONSE

1. Your patient's red blood cell count is slightly elevated today. This might be explained by (*Select all that apply.*)
  - a. gender difference.
  - b. situational factors.
  - c. normal variation.
  - d. cultural variation.
  - e. illness.

ANS: A, B, C, E

Gender, situations (e.g., altitude), normal variations, and illness may all determine red blood cell count. Culture affects how manifestations are *perceived* (normal versus abnormal).

2. Socioeconomic factors influence disease development because of (*Select all that apply.*)
  - a. genetics.
  - b. environmental toxins.
  - c. overcrowding.
  - d. nutrition.
  - e. hygiene.



ANS: B, C, D, E

Socioeconomic factors influence disease development via exposure to environmental toxins (occupational) and overcrowding, nutrition (over- or undernutrition), and hygiene (e.g., in developing countries). Genetics is not influenced by socioeconomic factors.

3. When determining additional data to gather before making a diagnosis, what factors need to be considered? (*Select all that apply.*)
  - a. Reliability
  - b. Expense
  - c. Validity
  - d. Generalizability
  - e. Repetition

ANS: A, C

Two considerations one must use when choosing additional data to gather include the reliability and validity of the tests being weighed. Reliability, or precision, is the ability of a test to give the same result in repeated measurements. Validity, or accuracy, is the degree to which a measurement reflects the true value of the object it is intended to measure. Expense, generalizability, and repetition are not characteristics that are typically considered.

4. Which of the following statements are accurate when considering diagnostic testing for an individual with a possible medical condition? (*Select all that apply.*)
  - a. The more often a patient has a test, the more accurate the average result is.
  - b. Sensitivity is the chance the test will be positive if the hypothesized disease is present.
  - c. Testing is generally not accurate during the prodromal stage to make a diagnosis.
  - d. Specificity shows that a test will be negative if the person does not have the disease.
  - e. Reliability demonstrates a test is accurate under a number of different conditions.

ANS: B, D

Sensitivity is the probability that the test will be positive when applied to a person with the condition. Specificity is the probability that a test will be negative when applied to a person who does not have a given condition. Test results are usually not aggregated and averaged. A disease process is well established during the prodromal phase of illness, so some diagnostic testing would indicate its presence. Reliability, or precision, is the ability of a test to give the same result in repeated measurements.