PATHOPHYSIOLOGY

Lee-Ellen C. Copstead Jacquelyn L. Banasik



e volve

Contents

PART 1

Alterations in Homeostasis

UNIT I

Pathophysiologic Processes

- 1 Introduction to Pathophysiology Concepts, 2
- 2 Homeostasis and Adaptive Responses to Stressors, 14

PART 2

Alterations in Cellular Function, Genetics, and Development

UNIT II

Cellular Function

- **3** Cell Structure and Function, 30
- 4 Cell Injury, Aging, and Death, 65
- **5** Molecular Genetics and Tissue Differentiation, 85
- **6** Genetic and Developmental Disorders, 103
- **7** Neoplasia, 128

PART 3

Alterations in Immune and Inflammatory Response

UNIT III

Defense

- 8 Infectious Processes, 160
- 9 Inflammation and Immunity, 181
- 10 Alterations in Immune Function, 222
- 11 Malignant Disorders of White Blood Cells, 242
- 12 HIV Disease and AIDS, 263

PART 4

Alterations in Respiration and Tissue Oxygenation

UNIT IV

Oxygen Transport, Blood Coagulation, Blood Flow, and Blood Pressure

- **13** Alterations in Oxygen Transport, 290
- 14 Alterations in Hemostasis and Blood Coagulation, 330
- **15** Alterations in Blood Flow, 347
- **16** Alterations in Blood Pressure, 371

UNIT V

Cardiac Function

- **17** Cardiac Function, 396
- **18** Alterations in Cardiac Function, 428
- **19** Heart Failure and Dysrhythmias: Common Sequelae of Cardiac Diseases, *461*
- **20** Shock, 488

UNIT VI

Respiratory Function

- **21** Respiratory Function and Alterations in Gas Exchange, 510
- 22 Obstructive Pulmonary Disorders, 538
- **23** Restrictive Pulmonary Disorders, 563

PART 5

Alterations in Fluid Balance, Excretion, and Reproduction

UNIT VII

Fluid, Electrolyte, and Acid-Base Homeostasis

- 24 Fluid and Electrolyte Homeostasis and Imbalances, 592
- 25 Acid-Base Homeostasis and Imbalances, 615

INIT VIII

Renal and Bladder Function

- **26** Renal Function, 630
- 27 Intrarenal Disorders, 657
- 28 Acute Renal Failure and Chronic Kidney Disease, 681
- 29 Disorders of the Lower Urinary Tract, 700

UNIT IX

Genital and Reproductive Function

- **30** Male Genital and Reproductive Function, 719
- **31** Alterations in Male Genital and Reproductive Function, 737
- 32 Female Genital and Reproductive Function, 751
- **33** Alterations in Female Genital and Reproductive Function, 769
- **34** Sexually Transmitted Infections, 790

PART 6

Alterations in Metabolism and Nutrition

UNIT X

Gastrointestinal Function

- **35** Gastrointestinal Function, 804
- **36** Gastrointestinal Disorders, 831
- **37** Alterations in Function of the Gallbladder and Exocrine Pancreas, 854
- **38** Liver Diseases, 868

UNIT XI

Endocrine Function, Metabolism, and Nutrition

- **39** Endocrine Physiology and Mechanisms of Hypothalamic-Pituitary Regulation, *904*
- **40** Disorders of Endocrine Function, 922
- 41 Diabetes Mellitus, 942
- 42 Alterations in Metabolism and Nutrition, 969

PART 7

Alterations in Neural Control and Integration

UNIT XII

Neural Function

- Structure and Function of the Nervous System, 988
- Acute Disorders of Brian Function, 1035
- 45 Chronic Disorders of Neurologic Function, 1064
- 46 Alterations in Special Sensory Function, 1086
- 47 Pain, 1105

UNIT XIII

Neuropsychological Function

- 48 Neurobiology of Psychotic Illnesses, 1124
- 49 Neurobiology of Nonpsychotic Illnesses, 1145

PART 8

Alterations in Movement and Support

UNIT XIV

Musculoskeletal Support and Movement

- **50** Structure and Function of the Musculoskeletal System, 1160
- **51** Alterations in Musculoskeletal Function: Trauma, Infection, and Disease, *1178*
- **52** Alterations in Musculoskeletal Function: Rheumatic Disorders, *1202*

UNIT XV

Integumentary System

- **53** Alterations in the Integumentary System, 1220
- **54** Burn Injuries, 1261

Appendix: Clinical and Laboratory Values, 1284 Glossary, 1290

Index, 1323