# Exercise Physiology Integrating Theory and Application

William J. Kraemer • Steven J. Fleck Michael R. Deschenes

Wolters Kluwer | Lippincott | Williams & Wilkins

### **Contents**

Dedication iii
Preface v
User's Guide vii
Acknowledgments xv

## PART I

#### Foundations of Exercise Physiology 1

Chapter 1 Applying Research to Everyday Exercise and Sport 3

Chapter 2 Bioenergetics and Meeting the Metabolic Demand for Energy 27

## PART II

#### Exercise Physiology and Body Systems 67

Chapter 3 Skeletal Muscle System 69

Chapter 4 The Nervous System 103

Chapter 5 Cardiovascular System 135

Chapter 6 Respiratory System 167

Chapter 7 Endocrine System 197

## PART III

#### **Nutrition and Environment** 239

Chapter 8 Nutritional Support for Exercise 241

Chapter 9 Fluid and Electrolyte Challenges in Exercise 275

Chapter 10 Environmental Challenges and Exercise Performance 295

## PART IV

#### Training for Health and Performance 327

- Chapter 11 Understanding and Improving Body Composition 329
   Chapter 12 Aerobic and Strength Training Prescription for Health and Performance 353
- Chapter 13 Exercise Testing for Health, Physical Fitness, and Predicting Sport Performance 385
- Chapter 14 Ergogenics in Exercise and Sport 415
- Chapter 15 Training Considerations for Special Populations 443

Index 475