Announcing the exercise physiology textbook that combines basic principles and research studies to logically connect theories to applied concepts.

- Flexible organization
- Consistent chapter presentation
- Integrated coverage of all age groups and both genders
- Topics correlate to health-related fitness and special applications
Data Graphs
Each chapter contains a multitude of graphs, tables, charts, and diagrams that clarify and enhance points made in the text.

Icons and Color Coding
Color tints and bold icons within figures and figure legends help you quickly distinguish the exercise response to six different categories of exercise.

Clear and Accurate Artwork
Detailed anatomic illustrations and practice-related photos place key concepts in context.
New to this Edition!

**Clinically Relevant Boxes**

Specially identified boxes highlight clinical information, situations, or case studies that you may experience during an internship or future employment.

**Focus on Application Boxes**

These callouts apply basic concepts, principles, or research findings to relevant practical situations, concerns, or recommendations.

**Focus on Research Boxes**

Classic, illustrative, and cutting-edge research studies are presented to help you develop an appreciation for how research affects changing practices in the field.
Check Your Comprehension Boxes

Mini-quizzes challenge students to work through problems, interpret circumstances, or deduce answers to reinforce learning.

Example Boxes

These highlighted equations enable students to visualize working out problems and calculate specific variables in exercise physiology.

Definition Boxes

Important terms are boldfaced in the text where they first appear to emphasize the context in which they are used. Definitions are provided in a callout box to create an on-the-spot glossary.

Body System Responses to Exercise

Consistently formatted diagrams clearly show how each body system responds to exercise in an integrated fashion and how those responses are interdependent.
Chapter Objectives
An overview of learning objectives highlights relevant information found in the chapter.

References and Suggested Readings
Key published articles are identified for further in-depth exploration and can be used as a source of additional information for laboratory reports and class papers.

Chapter Summaries
Concise copy points review the chapter's core content.

SUMMARY
1. The primary functions of the cardiovascular system are to transport oxygen and nutrients to the cells of the body and transport carbon dioxide and waste products from the cells to the lungs, regulate blood temperature, pH levels, and fluid balance, and to protect the body from blood loss and infection.
2. The cells of the heart, called cardiac muscle cells or cardiomyocytes, are functionally linked by intercalated disks with gap junctions. When one cell is depolarized, the stimulation spreads over the entire myocardium.
3. The heart has its own conduction system, consisting of the sinoatrial (SA) node, internodal fibers, and His bundle, the atrioventricular (AV) node, the bundle of His, the right and left bundle branches, and the Purkinje fibers. This specialized tissue is responsible for the coordinated contraction of the cardiac muscle cells.

REVIEW QUESTIONS
1. Diagram the conduction system of the heart, and describe how stimulation of the AV node leads to conduction of the heart.
2. Describe the electrical events in the heart in relation to pressure in the left ventricle, the volume of blood in the left ventricle, and the position of the heart valves.
3. Identify the different vessels of the peripheral circulation, and describe the velocity and pressure in each.
4. What accounts for the differences in heart rate?
5. Describe the hormonal mechanisms by which the heart attempts to compensate for a decrease in plasma volume.
6. Discuss the neurohormonal regulation of the cardiovascular system.

Chapter Review Questions
Essay-style questions help you build your critical-thinking, problem-solving, and decision-making skills.

REFERENCES
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*Each unit is designed with a consistent and comprehensive sequence of presentation: basic anatomy and physiology, the measurement and meaning of variables important to understanding exercise physiology, exercise responses, training principles, and special applications, problems, and considerations.*

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- Chapter 2: Energy Production
- Chapter 3: Anaerobic Metabolism During Exercise
- Chapter 4: Aerobic Metabolism During Exercise
- Chapter 5: Metabolic Training Principles and Adaptations
- Chapter 6: Nutrition for Fitness and Athletics
- Chapter 7: Body Composition: Determination and Relationship to Health
- Chapter 8: Body Composition and Weight Control

**Cardiovascular System Unit**
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- Chapter 11: The Cardiovascular System
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Student Online Resource Center

Learning goes beyond the pages of this textbook! Interactive materials are available to students via thePoint companion Website.

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- Reference List of American College of Sports Medicine Position Stands
- Answers to Crossword Puzzles and Worksheets

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