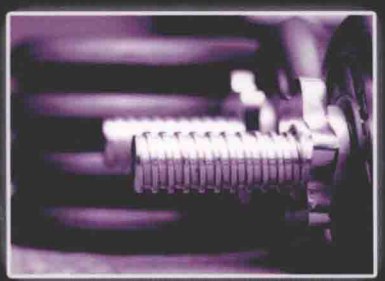
Workbook to Accompany

Introduction to Sports Medicine AND Athletic Training

SECOND EDITION



ROBERT C. FRANCE

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INTRODUCTION TO SPORTS MEDICINE AND ATHLETIC TRAINING

Second Edition

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Workbook to Accompany Introduction to Sports Medicine and Athletic Training, Second Edition

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Notice to the Reader

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PREFACE

This workbook has been developed with the goal of assisting learners in maximizing the benefits derived from the textbook, *Introduction to Sports Medicine and Athletic Training*, Second Edition. The uniqueness of the textbook approach to sports medicine by the thorough incorporation of anatomy and physiology is completely integrated into the workbook as well. The organization of the workbook exactly mirrors that of the textbook, so the information and exercises of Chapter 12 of the workbook, for instance, originate from information presented in Chapter 12 of the textbook.

The workbook provides a review of textbook key concepts to help learners grasp the main themes of each chapter, followed by a relatively detailed summary of textbook content presented in an organized outline form. The workbook then presents the learner with vocabulary review exercises in the form of matching questions, crossword puzzles, and other word puzzles in an effort to emphasize the specialized vocabulary associated with the field of sports medicine. Anatomy identification exercises that emphasize terminology used throughout the field of medicine, and that show the anatomical relationships of one body part to another, are provided in appropriate chapters. Quizzes allow learners to test their knowledge of the chapter material. Supplemental activities beyond those suggested by the textbook, including those that make use of the Internet, are also presented in the workbook to further familiarize learners with the textbook material. Critical-thinking exercises encourage learners to think about concepts learned in the chapter and apply that knowledge to a brief scenario that could be encountered in practice.

HOW TO BEST USE THE WORKBOOK

The key concepts list at the beginning of each chapter of the workbook is a convenience for learners. In this one section, learners will find a listing of all key concepts presented in the corresponding textbook chapter, without having to flip through several pages. This can be a particularly useful format for learners studying for tests.

The best way to use the chapter outline provided in the workbook is while reading the textbook. Important information presented in the textbook can be highlighted on the outline as the learner reads through each textbook chapter. Additionally, learners can make notes to the side of the outline as the chapter is read or as information is presented in class, making the outline an even more useful workbook tool, while at the same time customizing textbook material to the teaching method and emphasis stressed by their own instructor.

The vocabulary review sections can be used most effectively as practice tests. By matching given definitions with word lists, or by solving crossword puzzle clues, the learner can test his or her own ability to recognize the specialized terminology presented in the textbook. Since answer keys are provided only in the instructor's manual, these vocabulary review exercises can also be used as student assignments. A quiz has been added to each chapter, with answers in the instructor's manual.

The anatomical identification exercises have two main purposes. One is simply to learn the names of the structures and their relationship to one another. The second purpose is to familiarize learners with the overall shape of the structure. Coloring activities that accompany many of the diagrams in the workbook also force learners to find the boundaries of specific structures within the human body. It is difficult to treat injuries of a muscle like the trapezius, for example, unless the caregiver knows where the trapezius begins and ends. While there are many ways to color a diagram, the best method seems to be the use of colored pencils. Colored pencils have the advantage of light to dark shading depending on the pressure applied, the ability to be sharpened for the fine details within a diagram, and they do not bleed through the page.

Critical-thinking exercises were added to encourage learners to apply the knowledge learned in the chapter to a brief scenario. These exercises could be used for class discussion or assigned as homework.

The other activities suggested in each chapter are relatively specific to the subjects covered in that chapter. Often they will be used as assignment or classroom activities, but they can also provide ideas for independent

study and research. For the Internet exercises, no specific websites have been provided in the workbook. Instead, learners are encouraged to use any of the various search engines available for the Internet. Websites come and go, but the ability to enter certain key words into a search engine can make the difference between getting useful, rather than useless, lists of information sources.

Used in conjunction with the material presented in *Introduction to Sports Medicine and Athletic Training*, Second Edition, this workbook will allow learners to maximize their educational experience in this introduction to the exciting field of sports medicine.

CONTENTS

UNIT 1

Introduction to Sports Medicine and Athletic Training

CHAPTER 1

Sports Medicine: The Multidisciplinary Approach to Athletic Health Care

KEY CONCEPTS

- Sports medicine is a multidisciplinary approach to health care for those seriously involved in exercise and sport. Health care professionals from many disciplines are involved in the care of the athlete.
- Physician assistants work interdependently with a physician to aid in patient-care duties.
- The primary role of the health care providers involved in the care of athletes is to promote lifelong fitness and wellness, and to encourage prevention of illness and injury. The professionals involved come from a variety of specialty areas, such as physician's assisting, physical therapy, nutrition, chiropractic, and sports psychology.
- Parents play an active role in the prevention and treatment of their children's athletic injuries. Parents should maintain open communication with the athletic training staff regarding injury risk, athletic development, proper nutrition, and treatment of injuries.

Outline

I. Sports medicine is a multidisciplinary approach for those seriously involved in sport, involving a variety of professionals, such as family and team physicians, physician assistants, certified athletic trainers, and physical therapists.

A. Sports medicine was first recognized as a specialty in the twentieth century.

B. The American College of Sports Medicine was founded in 1954. It intended to guide the convergence of different fields with a common focus directed toward the goal of national health and fitness.

C. True sports medicine specialists have training that allows them to specifically address the needs of the athlete.

D. Athletes today commonly participate in strenuous exercise and intense athletic competition, which inherently carries a high level of risk.

E. Given the expansion of professional athletics, and the large number of participants at the college and high school levels, the importance of competition and performance has never been greater. Injury is often devastating to these individuals.

II. Professions associated with sports medicine and others associated with athletics make up the Athlete's Circle of Care.

A. Family and team physician
   1. Physicians promote lifelong fitness and wellness.
   2. Two years of additional training through accredited subspecialty programs in sports medicine is common.
   3. Additional training comes from continuing education and participation in sports medicine societies.
   4. Ideally, a balance of care between the family physician and the sports medicine specialist will provide the athlete with the most complete information and treatment.

B. Physician assistant (PA)
   1. A recognized profession since the 1960s, the physician assistant provides the extension of consumer access to health services by extending the time and skills of the physician.
   2. Duties include diagnostic and therapeutic patient care, and in most states, the ability to write prescriptions.
   3. Many team doctors use the services of a physician assistant for patient care.

C. Physical therapist (PT)
   1. Physical therapists specialize in a wide variety of areas in addition to sports medicine. These include pediatrics, orthopedics, aquatic therapy, wound care, women's health, and many others.
   2. Physical therapists can be found in a variety of health care facilities, such as hospitals, schools, and fitness facilities.

D. Physical therapy assistant (PTA)
   1. Along with the physical therapist, the physical therapy assistant provides patient care.
   2. Duties include developing treatment plans, documenting treatment progress, and modifying treatment established by the physical therapist as patients recover.

E. Chiropractor
   1. Spinal manipulation is used instead of drugs or surgery to promote the body's natural healing process.
   2. Chiropractors provide conservative management of neuromuscular disorders and related functional clinical conditions, including (but not limited to) back pain, neck pain, and headaches.

F. Massage therapist
   1. One of the oldest methods of providing relief of pain and discomfort, massage today has become important in promoting wellness and reducing stress.
   2. Massage therapists work along with physicians, nurses, and physical therapists in the promotion of health and healing.

G. Certified Strength and Conditioning Specialist/Personal Trainer
   1. Fitness instructors monitor and modify the athlete's conditioning and strength training.
   2. There are currently four accredited certifications for the personal trainer credential: the Certified Strength and Conditioning Specialist (CSCS), the National Strength and Conditioning Association Certified Personal Trainer (NSCA-CPT), the American Council on Exercise (ACE), and the National Academy of Sports Medicine (NASM).
   3. The certified athletic trainer can work with skilled strength and conditioning specialists to design specific workouts to fit an individual athlete's needs.

H. Sports nutritionist
   1. Nutritionists develop correct diets for athletic competitors, and instruct athletes on supplements and dietary aids.
   2. Improvement in performance can be achieved through special diets geared toward specific athletic events.

I. Sports psychologist
   1. Sports psychologists are specially trained in athletic motivation and performance. Goal setting and imagery are two techniques used to give athletes an edge.
   2. Sports psychologists can be found in clinical settings, educational institutions, private practice, and employed by professional sports teams.

J. The role of coaches in the Athlete's Circle of Care
   1. At all levels, from youth league competitions to professional sports teams, coaches teach athletes how to compete without injury.
   2. Good communication between the coach, athlete, and certified athletic trainer will ensure the best care for all athletes.

K. The role of parents in the Athlete's Circle of Care
   1. Parents should be actively engaged in the prevention and treatment of their children's injuries.
   2. Parents can be directly involved with sports medicine specialists, provide education to their children, and be active in providing proper nutrition and conditioning.

VOCABULARY REVIEW

Matching

Match the terms on the right with the statements on the left. Answers may be used once, more than once, or not at all.

_____ 1. Designs special diets to enhance athletic performance.

_____ 2. The primary physician caring for the athlete.

_____ 3. All individuals involved in the care of the athlete.

_____ 4. A practitioner working interdependently with the physician.

_____ 5. Provides pain relief through muscle manipulation.

_____ 6. A specialist who designs and implements a safe, effective strength and conditioning program.

_____ 7. The study and application of scientific and medical knowledge to aspects of exercise and injury prevention.

_____ 8. Helps athletes recover through emotional support and motivation.

_____ 9. Involved with the evaluation and rehabilitation of injury.

_____ 10. Provides education and credentials for fitness, sports performance, and sports medicine professionals.

A. Athlete's Circle of Care
B. Certified Strength and Conditioning Specialist (CSCS)
C. chiropractor
D. family and team physician
E. massage therapist
F. National Strength and Conditioning Association Certified Personal Trainer (NSCA-CPT)
G. physical therapist (PT)
H. physical therapy assistant (PTA)
I. physician assistant (PA)
J. sports psychologist
K. sports medicine
L. sports nutritionist
M. American Council on Exercise (ACE)
N. National Academy of Sports Medicine (NASM)
O. American College of Sports Medicine

Quiz

1. Which of the following was intended to guide the convergence of different fields towards the common goal of national health and fitness?

   A. National Academy of Sports Medicine
   B. American College of Sports Medicine
   C. National Strength and Conditioning Association
   D. American Council on Exercise

2. Who is most likely to implement goal setting and imagery to assist an athlete return to his or her sport after a serious injury?

   A. physical therapist
   B. family team
   C. sport psychologist
   D. chiropractor

3. According to the text, what was the major factor that led to the development of sports medicine as a recognized field?

   A. physical training and rehabilitation of military veterans
   B. Americans becoming sedentary and expanding waistlines
   C. legal issues in treatment
   D. increasing high school sport injuries

4. Medical care for all athletes must be directed by the _____.

   A. team physician
   B. family physician
   C. athletic trainer
   D. a and b

5. Which of the following is one of the oldest known methods for providing relief of pain and discomfort?

   A. physical therapy
   B. massage therapy
   C. chiropractics
   D. strength conditioning

6. The National Strength and Conditioning Association serves approximately _____ members, in _____ countries.

   A. 1000, 20
   B. 50,000, 65
   C. 30,000, 52
   D. 100,000, 100

7. According to the United States Department of Labor, careers in the health care industry are expected to _____.

   A. slow in growth
   B. grow moderately
   C. experience no change in growth
   D. be one of the fastest growing fields

8. In the team approach of the Athlete's Circle of Care, to whom does the athlete first report?

   A. coaching staff
   B. athletic training staff
   C. family physician
   D. specialists

9. The first _____ _____ were called restorative aides and were active in providing care during World War I.

   A. medical physicians
   B. physical therapists
   C. team physicians
   D. physician assistants

10. Good communication among _____ will ensure the best care for the athlete.

    A. athletes
    B. coaches
    C. certified athletic trainers
    D. all the above

Critical Thinking Exercises

1. You are the field hockey coach for a local high school. During an exercise drill, an athlete stands on the sidelines, looking distressed. What should you do? What resources can you recruit?

ACTIVITIES

1. Research the educational requirements necessary beyond high school for each of the specialists on the sports medicine health care team.

2. Select a sports medicine profession you would like to pursue after high school. Ask a person in your community who is currently active in that profession what training he or she completed after high school, and what training he or she pursues as a professional to keep up with changes in the profession.

ONLINE RESEARCH

1. Research your state's laws regarding the certification and training of the various health care professions associated with sports medicine.

2. Research the sports medicine programs available in schools similar to yours in your area. Compare and contrast these programs to the program at your school.

CHAPTER 2

Athletic Training

KEY CONCEPTS

- Athletic training has a long history that dates back as far as the care Galen provided gladiators in ancient Rome. Recognition of athletic training as an allied health profession, however, did not occur until 1991. As more and more people become involved in athletics, the field of athletic training continues to evolve and develop. The future of athletic training promises growth.
- The certified athletic trainer (ATC) is a highly educated and skilled professional specializing in the prevention, treatment, and rehabilitation of injuries. The certified athletic trainer works in cooperation with physicians and other allied health personnel.
- Skills required for athletic training include problem solving, deductive reasoning, sound judgment, good decision-making skills, knowledge of anatomy, physiology, biology, and advanced first aid, motor skills, communication skills, ability to work well with people, ability to work well under stressful conditions, and ability to maintain poise in emergencies. Tasks undertaken during athletic training include analyzing injuries, taping and bandaging, implementing and monitoring exercise and rehabilitation programs, demonstrating rehabilitation movements, using various modalities and training equipment, and recording, organizing, and storing information on injuries and rehabilitation.
- Certified athletic trainers work with athletes at various levels of competition in a wide variety of settings, ranging from high school to college, as well as amateur to professional programs. ATCs also work in clinic and industrial settings.
- Many professional organizations support the field of sports medicine and athletic training. The most widely known is National Athletic Trainers' Association (NATA), which is the organization that certifies most athletic trainers in the United States. Many states have their own professional organizations that promote the professional development of athletic trainers.

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- The Athlete's Bill of Rights sets standards and expectations for the fair treatment of any individual involved in sports or athletic competition.
- Anyone who works outside the scope of practice and expertise can be found negligent and, therefore, liable for his or her actions. Certified athletic trainers should take appropriate precautions to prevent exposure to lawsuits.

Outline

I. Athletic training is the rendering of specialized care to individuals involved in exercise and athletics.
   A. Responsibilities include prevention, recognition, evaluation, care, and rehabilitation of injuries.
   B. The American Medical Association (AMA) recognizes athletic training as an allied health profession.
   C. Title IX prohibits discrimination on the basis of sex from participation in athletics in schools, greatly increasing the number of female athletes.
   D. ATCs are an integral part of the athletic health care team in secondary schools, colleges and universities, clinics, professional sports programs, and industrial settings.

II. Certified Athletic Training
   A. Certified athletic trainers are individuals who enjoy exercise, sport, and recreation. They possess skills that allow them to work with people, solve problems, work under stress, analyze injuries, and communicate in a clear, precise manner.
   B. Apart from the clinical setting, trainers typically work varying schedules that often exceed 40 hours per week.
   C. ATCs must abide by the rules and procedures of their certifying organization and the state licensure or certification. Failure to act in accordance with these rules can result in disciplinary action or termination.
   D. The National Athletic Trainers' Association (NATA) has put forth a Code of Ethics.
   E. Minimum education includes a bachelor's degree from an accredited professional athletic training program.
      1. Training includes human anatomy and physiology, biomechanics, exercise physiology, athletic training, nutrition, and psychology/counseling.
   F. A certification test is administered by the National Athletic Trainers' Association Board of Certification (NATABOC) consisting of multiple-choice questions, a practical evaluation of athletic training skills, and a written simulation test.
   G. Topics covered include the following domains of athletic training: prevention; recognition, evaluation, and assessment; immediate care; treatment, rehabilitation, and reconditioning; organization and administration; and professional development and responsibility.
   H. Certified athletic trainers work in a variety of settings.
   I. Many professional organizations support the field of sports medicine and athletic training. The most widely known is NATA, which is the organization that certifies most athletic trainers in the United States.
   J. Regional, state, and local trainers' associations, found in most states, provide educational opportunities for certified athletic trainers, physicians, school administrators, athletic directors, coaches, parents, and athletes.

III. The Athlete's Bill of Rights is a series of standards that expresses the athlete's right to:
   A. Have fun through sports.
   B. Participate at a level commensurate with his or her maturity level.
   C. Have qualified adult leadership.
   D. Participate in a safe and healthy environment.

E. Competent care and treatment of injuries.
F. Share the leadership and decision making of their sport.
G. Participate in a sport regardless of their ability and income level.
H. Proper preparation for participation.
I. Equal opportunity to strive for success.
J. Be treated with dignity.
K. Say no.

IV. Liability and Risk Management
A. Hippocratic Oath: "I will use treatment to help the sick according to my ability and judgment, but I will never use it to injure or wrong them."
B. Anyone who works outside his or her scope of practice and expertise can be found negligent and, therefore, liable for his or her actions.
C. To avoid possible lawsuits, certified athletic trainers should take certain precautions.
1. Work within the scope of knowledge and expertise.
2. Keep proper documentation and maintain accurate records.
3. Follow proper training room rules and procedures.
4. Always have adequate training room supervision.
5. Keep in close contact with coaches, administration, and parents of athletes.
6. Inspect practice and game facilities daily.
7. Establish a return-to-play protocol.
8. Involve the team physician in all aspects of the program.
9. Establish an advisory program with members of all involved parties.
10. Establish and practice an emergency action plan.
D. Liability insurance can help avoid financial disaster.

VOCABULARY REVIEW

Matching

Match the terms on the right with the statements on the left. Answers may be used once, more than once, or not at all.

_____ 1. Prohibits discrimination on the basis of sex from participation in athletics in schools receiving federal funds.

_____ 2. Policies and standards for fair treatment of athletes.

_____ 3. A professional involved in the prevention, recognition, evaluation, and care of injuries.

_____ 4. Any area of health care that contributes to or assists the professions of physical medicine, dentistry, optometry, pharmacy, and podiatry.

_____ 5. An ancient declaration that has become a fundamental part of the practice of medicine.

A. allied health profession
B. Athlete's Bill of Rights
C. athletic training
D. certified athletic trainer (ATC)
E. Hippocratic Oath
F. Title IX

Quiz

1. One of the greatest scientists of the Renaissance period was _____.

A. Darwin
B. Aristotle
C. da Vinci
D. Hippocrates