

2



Organizing and Administering an Athletic Health Care Program

■ Objectives

When you finish this chapter you will be able to:

- Identify the rules of operation that should be enforced in an athletic health care program.
- Explain budgetary concerns for ordering supplies and equipment.
- Explain the importance of the preparticipation physical examination.
- Identify the records that an athletic health care program must maintain.
- Describe a well-designed athletic health care facility.

Operating an effective athletic health care program requires careful organization and administration.¹⁵ This chapter is intended for the individual who at some point may assume some administrative responsibility for an athletic program perhaps at a secondary or middle school, or even at a community college or small Division III college. In this case, some understanding of the considerations necessary for operating an effective athletic health care program is essential. As stated in Chapter 1, the consistent support and commitment to an athletic health care program on the part of an athletic administrator can have a tremendous impact on the success of the athletic program.

This chapter looks at the administrative tasks required for successful operation of an athletic health care program, including facility design, policies and procedures, budget considerations, organizing preparticipation physical examinations, and record keeping.

ESTABLISHING RULES OF OPERATION FOR AN ATHLETIC HEALTH CARE PROGRAM

Every athletic health care program must develop policies and procedures that carefully delineate the daily routine of the program.³ This is imperative for handling health problems and injuries.^{1,11,21}

It is first necessary to decide exactly who will be taken care of in the athletic health care facility. The ath-

letic administrator or school principal must decide the extent to which the athlete will be served. For example, will prevention and care activities be extended to athletes for the entire year, including summer and other vacations, or only during the competitive season? A policy should clarify whether students other than athletes, athletes from other schools, faculty, and staff are to receive care.²⁵ Often legal concerns and the school liability insurance dictate who, other than the athlete, is to be served.

Every athletic health care program must develop policies and procedures that carefully delineate the daily routine of the program.

Providing Coverage

A concern of any athletic program is to try to provide the most qualified health care possible to the athlete. Unfortunately, as indicated in Chapter 1, budgetary limitations often dictate who is responsible for overseeing the health care program for the athletes. Ideally an institution hires a certified athletic trainer who is primarily responsible. In some cases, schools rely on a nurse to provide

The members of the school board at All-American High School voted to allocate \$25,000 to renovate a 25-by-40-foot storage space and to purchase new equipment for an athletic training health care facility. The athletic administrator has been asked to provide the school principal with a wish list of what should be included in this facility. It has been estimated that the physical renovation will cost approximately \$17,000.

? How may this space be best used, and what type of equipment should be purchased to maximize the effectiveness of this new facility?

care. And in other situations in which there are no athletic trainers or nurses, health care responsibility usually falls on the coach. Regardless of who is in charge of the health care program, policies must be established concerning how to best provide coverage to various athletic teams.¹⁶ High schools with limited available supervision may only be able to provide athletic training facility coverage in the afternoons and during vacation periods. Ideally, high-risk sports should have a certified athletic

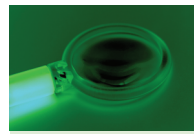
trainer and physician present at all practices and contests.

Hiring a Certified Athletic Trainer in Secondary Schools

It would be ideal to have certified athletic trainers serve every secondary school in the United States.¹⁰ Many of the physical problems that occur later from improperly managed sports injuries could be avoided if proper care from an athletic trainer had been provided initially. Many times a coach is in a situation without an athletic trainer and by default must assume the responsibility for athletic health care. In some cases, a coach assumes additional athletic training responsibilities and is assisted by a high school student who is interested in becoming an athletic trainer.

In 1995, the National Athletic Trainers Association adopted the following position on hiring athletic trainers in secondary schools:

The National Athletic Trainers' Association, as a leader in healthcare for the physically active, believes that the prevention and treatment of injuries to student-athletes are a priority. The recognition and treatment of injuries to student athletes must be immediate. The medical delivery system for injured student-athletes needs a coordinator within the local school community who will facilitate the prevention, recognition, treatment and reconditioning of sports related injuries. Therefore, it is the position of the National Athletic Trainers' Association that all secondary schools should provide the services of a full-time, on-site, certified athletic trainer (ATC) to student athletes.



FOCUS BOX 2-1

Looking to hire a certified athletic trainer?

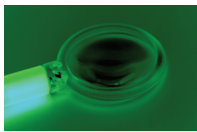
1. *Hiring a certified athletic trainer in a faculty-athletic trainer capacity.* This individual is usually employed as a teacher in one of the school's classroom disciplines and performs athletic training duties on a part-time or extracurricular basis. In this instance, compensation usually is on the basis of released time from teaching, a stipend as a coach, or both.
2. *Employing a centrally placed certified athletic trainer for a school district.* In this case the athletic trainer, who may be full- or part-time, is a nonteacher who serves a number of schools. The advantage is savings; the disadvantage is that one individual cannot provide the level of service usually required by a typical school.
3. *Contracting with a clinic to provide a certified athletic trainer.* Most clinical athletic trainers see patients with sports-related injuries during the morning hours in the clinic. In the afternoons, athletic trainers' services are contracted out to local high schools or small colleges for game or practice coverage.
4. *Using a certified graduate student from a nearby college or university.* The graduate student receives a graduate assistantship with a stipend paid by the secondary school or community college. In this situation, both the graduate student and the school benefit. However, this practice may prevent a school from employing a certified athletic trainer on a full-time basis.

Based on a proposal from the American Academy of Pediatrics, in 1998 the American Medical Association adopted a policy calling for certified athletic trainers to be employed in all high-school athletic programs. Although this policy was simply a recommendation and not a requirement, it was a very positive statement supporting the efficacy of athletic trainers in the secondary schools.

Focus Box 2-1 explains how athletic trainers are employed in secondary schools.

Athletic Health Care Facility Policies

The athletic health care facility should be used only for the prevention and care of sports injuries.⁴ Too often the athletic health care facility becomes a meeting or club room for teams and athletes. Unless definite rules are established and practiced, room cleanliness and sanitation become an impossible chore. *Focus Box 2-2* lists some important



FOCUS BOX 2-2

Rules and policies of the athletic health care facility

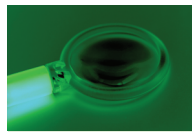
- *Cleated shoes are not allowed.* Dirt and debris tend to cling to cleated shoes; therefore cleated shoes should be removed before athletes enter the athletic training facility.
- *Game equipment must remain outside.* Because game equipment such as balls and bats add to the sanitation problem, it should be kept out of the athletic health care facility. Athletes must be continually reminded that the athletic health care facility is not a storage room for sports equipment.
- *Shoes must be kept off treatment tables.* Because shoes tend to contaminate treatment tables, they must be removed before any care is given to the athlete.
- *Athletes should shower before receiving treatment.* The athlete should make it a habit to shower before being treated if the treatment is not an emergency. This procedure helps keep tables and therapeutic modalities sanitary.
- *Roughhousing and profanity are not allowed.* Athletes must be continually reminded that the athletic health care facility is for injury care and prevention. Horseplay and foul language lower the basic purpose of the athletic health care facility.
- *No food or smokeless tobacco is allowed.*

athletic health care facility policies. Specific policies regarding emergency protocols (Chapter 8), lighting (Chapter 10), heat stress (Chapter 10), and fluid replacement (Chapter 10) will be discussed later in the text.

Keeping Facilities Clean

The practice of good hygiene and sanitation is of the utmost importance in an athletic health care program.²⁹ Preventing the spread of infectious diseases such as MRSA, which is a highly contagious bacterial infection (see Chapter 23), is everyone's responsibility. Athletes should be surrounded by as hygienic an environment as possible and each individual must practice sound health habits. Chapter 9 discusses the management of bloodborne pathogens. It is important to be aware of and adhere to guidelines for the operation of an athletic care facility as dictated by the Occupational Safety and Health Administration (OSHA).

Focus Box 2-3 lists guidelines to help maintain a sanitary environment.



FOCUS BOX 2-3

Suggestions for maintaining a sanitary environment

- Sweep the gymnasium floors daily.
- Clean and disinfect drinking fountains, showers, sinks, urinals, and toilets daily.
- Air out and sanitize lockers frequently.
- Clean wrestling mats and wall mats daily.
- Urge the use of clean dry towels each day for each individual athlete.
- Issue individual equipment and clothing to each athlete to avoid skin irritations.
- Do not allow swapping of equipment and clothing.
- Launder and change clothing frequently.
- Allow wet clothing to dry thoroughly before the athlete wears it again.

Cleaning responsibilities in most schools are divided between the athletic training or coaching staff and the maintenance crew. Care of permanent building structures and trash disposal are usually the responsibilities of maintenance, whereas upkeep of specialized equipment falls within the province of the coaches or athletic trainers. Division of routine cleaning responsibilities may be organized as suggested in *Focus Box 2-4*.

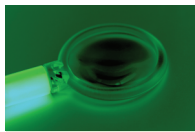
Good hygiene and sanitation are essential for an athletic training program.

Establishing Health Habits for the Athlete

To promote good health among the athletes, the coach and/or the athletic trainer should encourage sound health habits. *Focus Box 2-5* provides a checklist that may be a useful guide for coaches, athletic trainers, and athletes.

Providing Emergency Phones

The installation or availability of an emergency telephone adjacent to all major activity areas or the availability of a mobile phone is a must. It should be possible to use this phone to call outside for emergency aid or to contact the athletic health care facilities when additional assistance is required. Walkie-talkies are also useful when practices or games occur at several different facilities simultaneously. These devices can greatly enhance communication without incurring a tremendous expense.



FOCUS BOX 2-4

Cleaning responsibilities

The maintenance crew should:

- Sweep floors daily.
- Clean and disinfect sinks and built-in tubs daily.
- Mop and disinfect hydrotherapy area twice a week.
- Refill paper towel and drinking cup dispensers as needed.
- Empty wastebaskets and dispose of trash daily.

The athletic training staff should:

- Clean and disinfect treatment tables daily.
- Clean and disinfect hydrotherapy modalities daily.
- Clean and polish other therapeutic modalities weekly.

Emergency Action Plan

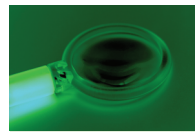
In cooperation with existing community-based emergency health care delivery systems, the individual developing an athletic health care program should develop a systematic plan for accessing the emergency medical system and subsequent transportation of the injured athlete to an emergency care facility.^{1,7,12} Meetings should be scheduled periodically with EMTs or paramedics who work in the community to make certain that they understand their role as a provider of emergency health care. It is important to communicate the special considerations for dealing with athletic equipment issues before an emergency arises.⁵ *Focus Box 2-6* provides a sample for the emergency action plan. Chapter 8 discusses the emergency management plan in detail. The Emergency Action Plan should be reviewed by administrators and revised on a regular basis.

RECORD KEEPING

Record keeping is a major responsibility in an athletic health care program. **There is no choice**

Keeping adequate records is of major importance in the athletic health care program.

when it comes to keeping records! Keeping records and filling out forms is time-consuming and to some extent annoying. Nevertheless, in a time in which lawsuits are the rule rather than the exception, accurate and up-to-date records are an absolute necessity. Medical records are also critical for accurate and timely assessment and evaluation of practices



FOCUS BOX 2-5

Recommended health practices checklist

- Are the athletes medically cleared to participate?
- Is each athlete insured?
- Do the athletes promptly report injuries, illnesses, and skin disorders to the coach or the athletic trainer?
- Do the athletes practice good daily living habits of resting, sleeping, and proper nutrition?
- Do they shower after practice?
- Do they dry thoroughly and cool off before departing from the gymnasium?
- Do they avoid drinking from a common water dispenser?
- Do they avoid using a common towel?
- Do they avoid exchanging gym clothes with teammates?
- Do they practice good foot hygiene?
- Do they avoid contact with teammates who have a contagious disease or infection such as MRSA or herpes?

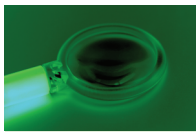
as well as essential for documentation of practices and activities to ensure that responsibilities and expectations are being met. In addition to keeping medical records, injury reports, treatment logs, personal information cards, injury evaluations and progress notes, supply and equipment inventories, and annual reports must be maintained. In today's health care system, the trend is moving toward an electronic system as opposed to maintaining a paper record.

Administering Preparticipation Health Examinations

The primary purpose of the preseason health examination is to identify whether an athlete is at risk before he or she participates in a specific sport.^{17,18} The preparticipation examination should consist of a medical history, a physical examination, and a brief orthopedic screening. Information obtained during this examination will establish a baseline to which comparisons may be made following injury.² The examination may reveal conditions that could warrant disqualification from certain sports.

Preparticipation health examination:

- medical history
- physical examination
- maturity assessment
- orthopedic screening



FOCUS BOX 2-6

Sample emergency action plan

Emergency action plan for women's ice hockey

Emergency Personnel

Certified athletic trainer and athletic training students on site for practice and competition; additional sports medicine staff accessible from main athletic health care facility (across street from arena)

Emergency Communication

Fixed telephone line in ice hockey satellite athletic health care facility (_____-_____-_____)

Emergency Equipment

Supplies (AED, trauma kit, splint kit, spine board) maintained in ice hockey satellite athletic health care facility; additional emergency equipment accessible from athletic health care facility across street from arena (_____-_____-_____)

Roles of First Responders

Immediate care of the injured or ill student athlete
Emergency equipment retrieval

Activation of emergency medical system (EMS)

911 call (provide name, address, telephone number; number of individuals injured; condition of injured;

first-aid treatment; specific directions; other information as requested)

Direct EMS to scene

Open appropriate doors

Designate individual to "flag down" EMS and direct to scene

Scene control: Limit scene to first-aid providers and move bystanders away from area

Venue Directions

Ice hockey arena is located on corner of _____ Street and _____ Street adjacent to _____. Two gates provide access to the arena: _____ Street; drive leads to arena as well as rear door of complex (locker room, athletic training room)

Sports Medicine Staff and Phone Numbers

Athletic Trainer in Charge	929-0000
Head Athletic Trainer	929-0001
Team Physician	929-0002

From *NCAA Sports Medicine Handbook 2000-2001*.

The examination will also satisfy insurance and liability issues (see Chapter 3).

The preparticipation physical may be administered on an individual basis by a personal physician (a medical doctor or osteopath), or it may be done

using a station examination system with a team of examiners.²⁰ Examination by a personal physician has the advantage of yielding an in-depth history and an ideal physician-patient relationship. A disadvantage of this type of examination is that it may not be directed to detection of factors that predispose the athlete to a sports injury.²

The most thorough and sport-specific type of preparticipation examination is the station

examination.²⁰ This method can provide the athlete with a detailed examination in a short time. A team of nine people is needed to examine thirty or more athletes. The team should include two physicians, two medically trained nonphysicians (nurse, athletic trainer, physical therapist, or physician's assistant), and five managers, athletic training students, or assistant coaches who are assigned specific tasks during the preparticipation exam based on their level of expertise.

A preparticipation exam should include all of the following items.

Medical History A medical history form should be completed before the physical examination and orthopedic screening; its purpose is to identify any past or existing medical problems. This form should be updated for each athlete every year. Medical histories should be closely reviewed by the physician, the coach, and the athletic trainer so that they will be prepared should some medical emergency arise. Necessary participation release forms and insurance information should be collected along with the medical history (Figure 2-1).

2-2 Critical Thinking Exercise

All-American High School offers eighteen sports, which are divided into six fall, six winter, and six spring sports. The school has a total of approximately 500 athletes, and approximately 200 of them are involved in the fall sports. A preparticipation exam must be arranged and administered so that each athlete can be cleared for competition.

? How can the preparticipation exams be set up to most efficiently clear 200 athletes for competition in the fall sports?

MEDICAL HISTORY FORM

DATE OF EXAM _____

Name _____	Sex _____	Age _____	Date of birth _____
Grade _____ School _____		Sport(s) _____	
Address _____		Phone _____	
Personal physician _____			
<i>In case of emergency, contact</i>			
Name _____		Relationship _____	
Phone (H) _____		(W) _____	

**Explain "Yes" answers below.
Circle questions you don't know the answers to.**

<p>1. Has a doctor ever denied or restricted your participation in sports for any reason? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Do you have an ongoing medical condition (like diabetes or asthma)? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>3. Are you currently taking any prescription or nonprescription (over-the-counter) medicine or pills? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>4. Do you have allergies to medicines, pollens, foods, or stinging insects? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>5. Have you ever passed out or nearly passed out DURING exercise? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>6. Have you ever passed out or nearly passed out AFTER exercise? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>7. Have you ever had discomfort, pain, or pressure in your chest during exercise? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>8. Does your heart race or skip beats during exercise? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>9. Has a doctor ever told you that you have (check all that apply):</p> <p style="margin-left: 20px;"><input type="checkbox"/> High blood pressure <input type="checkbox"/> A heart murmur</p> <p style="margin-left: 20px;"><input type="checkbox"/> High cholesterol <input type="checkbox"/> A heart infection</p> <p>10. Has a doctor ever ordered a test for your heart? (for example, ECG, echocardiogram) <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>11. Has anyone in your family died for no apparent reason? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>12. Does anyone in your family have a heart problem? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>13. Has any family member or relative died of heart problems or of sudden death before age 50? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>14. Does anyone in your family have Marfan syndrome? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>15. Have you ever spent the night in a hospital? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>16. Have you ever had surgery? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p>17. Have you ever had an injury, like a sprain, muscle or ligament tear, or tendonitis, that caused you to miss a practice or game? If yes, circle affected area below: <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>18. Have you had any broken or fractured bones or dislocated joints? If yes, circle below: <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>19. Have you had a bone or joint injury that required x-rays, MRI, CT, surgery, injections, rehabilitation, physical therapy, a brace, a cast, or crutches? If yes, circle below: <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 10%;">Head</td> <td style="width: 10%;">Neck</td> <td style="width: 10%;">Shoulder</td> <td style="width: 10%;">Upper arm</td> <td style="width: 10%;">Elbow</td> <td style="width: 10%;">Forearm</td> <td style="width: 10%;">Hand/fingers</td> <td style="width: 10%;">Chest</td> </tr> <tr> <td>Upper back</td> <td>Lower back</td> <td>Hip</td> <td>Thigh</td> <td>Knee</td> <td>Calf/shin</td> <td>Ankle</td> <td>Foot/toes</td> </tr> </table> </div> <p>20. Have you ever had a stress fracture? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>21. Have you been told that you have or have you had an x-ray for atlantoaxial (neck) instability? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>22. Do you regularly use a brace or assistive device? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>23. Has a doctor ever told you that you have asthma or allergies? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	Head	Neck	Shoulder	Upper arm	Elbow	Forearm	Hand/fingers	Chest	Upper back	Lower back	Hip	Thigh	Knee	Calf/shin	Ankle	Foot/toes	<p>Yes</p> <p>No</p>	<p>24. Do you cough, wheeze, or have difficulty breathing during or after exercise? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>25. Is there anyone in your family who has asthma? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>26. Have you ever used an inhaler or taken asthma medicine? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>27. Were you born without or are you missing a kidney, an eye, a testicle, or any other organ? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>28. Have you had infectious mononucleosis (mono) within the last month? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>29. Do you have any rashes, pressure sores, or other skin problems? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>30. Have you had a herpes skin infection? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>31. Have you ever had a head injury or concussion? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>32. Have you been hit in the head and been confused or lost your memory? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>33. Have you ever had a seizure? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>34. Do you have headaches with exercise? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>35. Have you ever had numbness, tingling, or weakness in your arms or legs after being hit or falling? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>36. Have you ever been unable to move your arms or legs after being hit or falling? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>37. When exercising in the heat, do you have severe muscle cramps or become ill? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>38. Has a doctor told you that you or someone in your family has sickle cell trait or sickle cell disease? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>39. Have you had any problems with your eyes or vision? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>40. Do you wear glasses or contact lenses? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>41. Do you wear protective eyewear, such as goggles or a face shield? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>42. Are you happy with your weight? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>43. Are you trying to gain or lose weight? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>44. Has anyone recommended you change your weight or eating habits? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>45. Do you limit or carefully control what you eat? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>46. Do you have any concerns that you would like to discuss with a doctor? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>FEMALES ONLY</p> <p>47. Have you ever had a menstrual period? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>48. How old were you when you had your first menstrual period? _____</p> <p>49. How many periods have you had in the last 12 months? _____</p> <p>Explain "Yes" answers here: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
Head	Neck	Shoulder	Upper arm	Elbow	Forearm	Hand/fingers	Chest											
Upper back	Lower back	Hip	Thigh	Knee	Calf/shin	Ankle	Foot/toes											

I hereby state that, to the best of my knowledge, my answers to the above questions are complete and correct.

Signature of athlete _____ Signature of parent/guardian _____ Date _____

Used with permission from ©2004 American Academy of Family Physicians, American Academy of Pediatrics, American College of Sports Medicine, American Medical Society for Sports Medicine, American Orthopedic Society for Sports Medicine, and American Osteopathic Academy of Sports Medicine.

FIGURE 2–I Sample medical history form. (Source: Used with Permission from the Physician and Sports Medicine.)

Physical Examination The physical examination should include assessment of height, weight, body composition, blood pressure, pulse, vision, skin, teeth, ears, nose, throat, heart and lung function, abdomen, lymphatics, genitalia, maturation index, and—if funds allow—urinalysis and blood work (Figure 2–2).

Maturity Assessment Maturity assessment should be part of the physical examination as a means of protecting the young athlete. Most commonly used methods are the circumpubertal (sexual maturity), skeletal, and dental assessments. Of the three, Tanner’s five stages of assessment, indicating maturity of secondary sexual characteristics, is the most expedient for use in the station method of examination (see Chapter 25 for detailed discussion).³⁰

Orthopedic Screening Orthopedic screening may be done as part of the physical examination or separately by a physician or an athletic trainer. An example of a very quick orthopedic screening examination appears in Table 2–1; it usually takes about 90 seconds. A more detailed orthopedic examination may be conducted to assess strength, range of motion, and stability at various joints.

Sport Disqualification As discussed previously, sports participation involves risks. Most conditions that warrant a recommendation for disqualification can be identified during a preparticipation health evaluation and should be noted in the medical history.¹⁸ Because of the Americans with Disabilities Act, physicians cannot legally disqualify athletes

from competing because of an existing medical problem. They can only recommend that the athlete voluntarily choose not to participate. In general, the athlete who has lost one of two paired organs such as eyes or kidneys is cautioned against playing a collision or contact sport.² Such an athlete should be counseled into participating in a noncontact sport. The athlete with one testicle, or one or both that are undescended, must be apprised that there is a small risk, which is substantially minimized with the use of an athletic supporter and a protective device.

Release of Medical Records

The coach, athletic trainer, or other members of the sports medicine team may not release an athlete’s medical records to anyone either in writing or verbally without written consent. If the athlete wishes to have medical records released to colleges or universities, professional sports organizations, insurance companies, the news media, or any other group or individual, he, she, the parent, or the guardian must sign a waiver that specifies which information is to be released. The only exception to this is the appropriate disclosure of information among those professionals who are involved in providing health care to the injured individual.

HIPAA Regulations The Health Insurance Portability and Accountability Act (HIPAA) regulates how any member of the sports medicine team who has health information about an athlete can share that information with others.⁸ The regulation guarantees

TABLE 2–1 Orthopedic Screening Examination

Activity and Instruction	To Determine
Stand facing examiner	Acromioclavicular joints; general symmetry
Look at ceiling, floor, over both shoulders; touch ears to shoulders	Cervical spine motion
Shrug shoulders (examiner resists)	Trapezius strength
Abduct shoulders 90 degrees (examiner resists at 90 degrees)	Deltoid strength
Full external rotation of arms	Shoulder motion
Flex and extend elbows	Elbow motion
Arms at sides, elbows 90 degrees flexed; pronate and supinate wrists	Elbow and wrist motion
Spread fingers; make fist	Hand or finger motion and deformities
Tighten (contract) quadriceps; relax quadriceps	Symmetry and knee effusion; ankle effusion
Perform a lunge with each leg	Hip, knee, and ankle motion
Stand with back to examiner	Shoulder symmetry; scoliosis
Knees straight, touch toes	Scoliosis, hip motion, hamstring tightness
Raise up on toes, raise heels	Calf symmetry, leg strength

PHYSICAL EXAMINATION FORM

Name _____ Date of birth _____

Grade _____ Weight _____ % Body fat (optional) _____ Pulse _____ BP ____/____ (____/____, ____/____)

Vision R 20 / _____ L 20 / _____ Corrected: Y N Pupils: Equal _____ Unequal _____

Follow-Up Questions on More Sensitive Issues	Yes	No
1. Do you feel stressed out or under a lot of pressure?	<input type="checkbox"/>	<input type="checkbox"/>
2. Do you ever feel so sad or hopeless that you stop doing some of your usual activities for more than a few days?	<input type="checkbox"/>	<input type="checkbox"/>
3. Do you feel safe?	<input type="checkbox"/>	<input type="checkbox"/>
4. Have you ever tried cigarette smoking, even 1 or 2 puffs? Do you currently smoke?	<input type="checkbox"/>	<input type="checkbox"/>
5. During the past 30 days, did you use chewing tobacco, snuff, or dip?	<input type="checkbox"/>	<input type="checkbox"/>
6. During the past 30 days, have you had at least 1 drink of alcohol?	<input type="checkbox"/>	<input type="checkbox"/>
7. Have you ever taken steroid pills or shots without a doctor's prescription?	<input type="checkbox"/>	<input type="checkbox"/>
8. Have you ever taken any supplements to help you gain or lose weight or improve your performance?	<input type="checkbox"/>	<input type="checkbox"/>
9. Questions from the Youth Risk Behavior Survey (http://www.cdc.gov/HealthyYouth/yrbs/index.htm) on guns, seatbelts, unprotected sex, domestic violence, drugs, etc.	<input type="checkbox"/>	<input type="checkbox"/>
Notes: _____ _____ _____		

	NORMAL	ABNORMAL FINDINGS	INITIALS*
MEDICAL			
Appearance			
Eyes/ears/nose/throat			
Hearing			
Lymph nodes			
Heart			
Murmurs			
Pulses			
Lungs			
Abdomen			
Genitourinary (males only)†			
Skin			
MUSCULOSKELETAL			
Neck			
Back			
Shoulder/arm			
Elbow/forearm			
Wrist/hand/fingers			
Hip/thigh			
Knee			
Leg/ankle			
Foot/toes			

*Multiple-examiner set-up only.

†Having a third party present is recommended for the genitourinary examination.

Notes:

Name of physician (print/type) _____ Date _____

Address _____ Phone _____

Signature of physician _____, MD or DO

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FIGURE 2–2 Sample physical examination form. (Source: Used with Permission from the Physician and Sports Medicine.)

that athletes have access to their medical records, gives them more control over how their protected health information is used and disclosed, and provides a clear avenue of recourse if their medical privacy is compromised. Authorization by an athlete to release medical information is not necessary on a per-injury basis. A blanket authorization signed by the athlete at the beginning of the year will suffice for all injuries and treatment done during the course of participation for that year. These one-time, blanket authorizations must indicate clearly what information may be released, to whom, and for what length of time.¹⁹

FERPA Regulations The Family Educational Rights and Privacy Act (FERPA) is a law that protects the privacy of student educational records. It has been suggested that in some instances medical records should be kept along with a student's educational records and thus the right to privacy of medical records would be protected under FERPA instead of HIPAA. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she reaches the age of 18 or attends a school beyond the high school level. Students to whom the rights have been transferred are "eligible students." Parents or eligible students have the right to inspect and review the student's educational records maintained by the school. Parents or eligible students have the right to request that a school correct records that they believe to be inaccurate or misleading. Schools must have written permission from the parent or eligible student to release any information from a student's educational records.

Injury Reports

An injury report serves as a record for future reference (Figure 2–3). If the emergency procedures followed are questioned at a later date, a person's memory of the details may be somewhat hazy, but a report completed on the spot provides specific information. In a litigation situation, questions may be asked about an injury that occurred 3 years in the past. All injury reports should be filed in an administrator's office. The reports should be made out in triplicate, with one copy sent to the school health office, one to the physician, and one retained.

Treatment Log

Each athletic health care facility should have a sign-in log available for the athlete who receives any service. Emphasis is placed on recording treatments for the athlete who is receiving daily therapy for an injury. As with injury records, treatment logs

often have the status of legal documents and are used to establish certain facts in a civil litigation, an insurance action, or a criminal action following injury. These are subject to HIPAA and FERPA regulation and must be kept private.

Personal Information Card

An athlete's personal information should be maintained in a file card or database. This card is completed by the athlete at the time of the health examination and serves as a means of contacting the family, personal physician, and insurance company in case of emergency. This information is efficiently stored on a PDA if available.

Injury Evaluation and Progress Notes

The injured athlete should be evaluated by an athletic trainer, physical therapist, or physician who must record this information in some consistent format. If no athletic trainer or physician is available, the coach should either recommend to the parents or make arrangements for the athlete to be seen by a local physician, who must document the diagnosis in a medical record.

Supply and Equipment Inventory

A major responsibility of anyone who oversees athletic health care is to manage a budget, most of which is spent on equipment and supplies. Every year an inventory must be conducted and recorded on such items as new equipment that is needed, equipment that needs to be replaced or repaired, and expendable supplies that need replenishing.

A major problem often facing athletic administrators is obtaining an adequate budget.

Annual Reports

Most athletic administrators require an annual report on the functions of the athletic health care program. This report serves as a means for making program changes and improvements. It commonly includes the number of athletes served, a survey of the number and types of injuries, an analysis of the program, and recommendations for future improvements.

DEVELOPING A BUDGET

One of the major problems administrators face is to obtain a budget of sufficient size to permit the institution to perform a creditable job of providing health care to the athlete.¹⁴ Many high schools experience difficulty in providing sufficient funding for athletic health care except for the purchase of tape, bandages, and a medical bag that contains a

One of the responsibilities of overseeing an athletic health care program is maintaining accurate records for every athlete.

What kinds of records or types of information should be included in these records?

that high schools do. By and large, athletic health care is recognized as an important aspect of the college athletic program.

Budgetary needs vary considerably within programs; some require only a few thousand dollars, whereas others spend hundreds of thousands of dollars. The amount spent on

building and equipping an athletic health care facility, of course, is entirely a matter of local option. In purchasing equipment, immediate needs as well as availability of personnel to operate specialized equipment should be kept in mind.²⁵

Budget records should be kept on file so that they are available for use in projecting the following year's budgetary needs. They present a picture of the distribution of current funds and serve to substantiate future budgetary requests. Expenditures for individual items vary in accordance with different administrative philosophies. An annual inventory must be conducted at the end of the year or before replenishing supplies and equipment. Accurate records must be kept to justify future requests.²⁴

Ordering Supplies and Equipment

Supplies are expendable and usually are for injury prevention, first aid, and management. Examples of supplies are athletic tape, germicides, and massage lotion. The

Equipment may be fixed or nonfixed.

Purchasing may be done through direct buy or competitive bid.

term *equipment* refers to those items that are not expendable. Equipment may be further divided into fixed and nonfixed.

Fixed equipment does not necessarily mean that it cannot be moved but that it is not usually removed from the athletic health care facility. Examples of fixed equipment are icemakers, weight equipment, and electrical therapeutic modalities. Nonfixed equipment refers to nonexpendable items that are less fixed, that may be part of an emergency or field kit, or that may be at the sport site. Examples are blankets, scissors, and training kits. *Focus Boxes 2-7 and 2-8* provide a list of supplies for the athletic health care facility and for a field kit.

Purchasing Systems Purchasing of supplies and equipment must be done through either direct buy or competitive bid. For expensive purchases, an institutional purchasing agent is sent out to competing local vendors who quote a price on specified supplies or equipment. Orders are generally placed with the lowest bidder. Smaller purchases or emergency purchases may be made directly from a single vendor.

Additional Budget Considerations

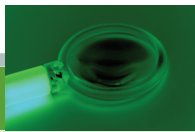
In addition to supplies and equipment, other costs may be included in the operation of an athletic health care program; these costs include telephone and postage, contracts with physicians or clinics for services, ongoing maintenance of equipment (i.e., modalities), professional liability insurance, memberships in professional organizations, the purchase of professional journals or textbooks, travel and expenses for attending professional meetings, and clothing to be worn in the athletic health care facility.

CONSIDERATIONS IN PLANNING AN ATHLETIC HEALTH CARE FACILITY

For a school or athletic administrator who may have to assume responsibility for planning an athletic health care facility, some guidance and understanding of what should be included in that facility is necessary.²²

Essential to any sports program is the maximum use of facilities and the most effective use of equipment and supplies.²⁸ The sports medicine or athletic health care facility must be specially designed to meet the many requirements of an athletic injury management program (Figure 2-4).²⁷ The size and the layout of the athletic health care facility depend on the scope of the athletic program, including the size and number of teams and athletes, what sports are offered, and the daily traffic flow patterns in the athletic health care facility.⁹ The athletic health care facility should be designed to meet regulations and guidelines established by the Occupational Safety and Health Administration (OSHA).

Ideally, the athletic health care facility should be designed from a new space. Realistically, it is more likely that an athletic health care facility in a high school would be constructed in an existing classroom; in an old locker room, weight room, team room, cafeteria, or library; in a corner of the gymnasium; or, in some cases, in a storage or a custodian's closet. Therefore, this new athletic health care facility will need to be designed and adapted based on where power supplies, water supplies, heating and air conditioning, and drains already exist. It should be stressed that regardless of where the athletic



FOCUS BOX 2-7

Recommended basic health care facility supplies

Tape

White adhesive, 1½ inch
White adhesive, 1 inch
Liteguard, 2 inch
Elastic, 2 inch
Elastic, 1 inch
Prewrap

Bandages

Bandage strips
Telfa, 2 by 3
Band-Aid Clear Patches
Gauze, 4 by 4 (sterile)
Elastic Wraps, 3, 4, 6 inch
Steri Strips, ¼ inch

Foam and Felt

1-inch felt
⅛-inch adhesive foam
Moleskin

Braces and Splints

Finger splints
Air splint, leg
Velcro, 1 inch (both sides)
Knee immobilizer
Ankle brace, left
Ankle brace, right
Thermoplastic material, 4 inch
Cervical collar (small, medium, large)
Heel cups (medium, large)
Patella strap, large
Wrist immobilizer (left, right, universal)
Ankle braces (xx-small, x-small, small, medium, large, x-large)
Triangular bandage
Slings

Nose guard
Elbow sleeves
Thigh sleeves
Back support (x-small, small, medium, large, x-large)
Knee sleeves
Stockinet, 3 inch

Modalities

Flex All, 1 gallon
Topical analgesic, 5 lb tub
Skin lubricant, 5 lb tub
Gray T-band
Black T-band
Heat packs (medium, large)
Ice bags
Plastic-wrap (small, large)
Lotion, 1 gallon

First Aid

Automatic External Defibrillator (AED)
Pocket mask
Cotton rolls (nose plugs)
Tongue depressors
Cotton tip applicators
Non-latex gloves (medium, large)
Cotton balls
Skin-preps
Save-A-Tooth
Penlights
Biohazard bags
Safety goggles

Taping Accessories

Heel and lace pads
Tape adherent spray
Tape remover

Sharps

Scissors
Tweezers
Nail clippers (large, small)
Tape cutters
Shark refill blades

Antiseptics

Hydrogen Peroxide
Rubbing alcohol
Sterile water

Skin Treatments

Antibiotic ointment
Second Skin
Baby powder

Eye Treatment

Eye wash
Penlights

Crutches

Large
Medium
Small
Large aluminum

Water

Bottle carriers
Water bottles
Coolers (3, 7, 10 gallon)
Chest

Other

Stools
Spray bottles
Bucket
Cloth towels

health care facility is located, it should be considered a medical care facility and organized appropriately.

An area of less than 1,000 square feet is impractical. An athletic health care facility 1,000 to 1,200 square feet in size is satisfactory for most schools. The 1,200-square-foot area (40 feet by 30 feet) permits handling a number of athletes at one time and allows ample room for the bulky equipment needed. A facility of this size is well suited for pregame preparation. Careful planning will determine whether a larger area is needed or is desirable.^{13,26,27}

The athletic health care facility should be located immediately adjacent to the men's and women's

locker rooms.³¹ The facility should have an outside entrance from the field or court, making it unnecessary to bring injured athletes in through the building. This door also permits access when the rest of the building is not in use.

The athletic health care facility should be organized to provide distinct areas for (1) taping and bandaging; (2) injury treatment

The athletic health care facility is a multipurpose area used for first aid, therapy and exercise rehabilitation, injury prevention, medical procedures such as the physical examination, and athletic training administration.

FOCUS BOX 2-8

Recommended basic field kit supplies

Adhesive bandages
Tape cutters
Scissors
Eye cover
Tooth saving kit
Petroleum jelly
Razor blades
Sterile eye irrigating solution
Non-latex gloves
Biohazard bags
Tape spray
Skin lubricant
Gauze pads: 2 by 2, 3 by 3, or 4 by 4
Heel cup
Sling
Hydrogen peroxide
Finger splints
Cotton-tipped applicators
Tongue depressors
Topical analgesic
Lotion

Sunscreen
Tape supplies:
white adhesive
1 inch, 1½ inch
heel and lace pads
prewrap
elastic adhesive
1 inch, 2 inch, 3 inch
Elastic wraps:
2 inch, 3 inch, 4 inch,
6 inch double 4 inch,
double 6 inch
Alcohol
Reusable elastic wrap
Adhesive foam
Adhesive felt
Penlight
Contact lens cases
Contact lens wetting solution
Mirror

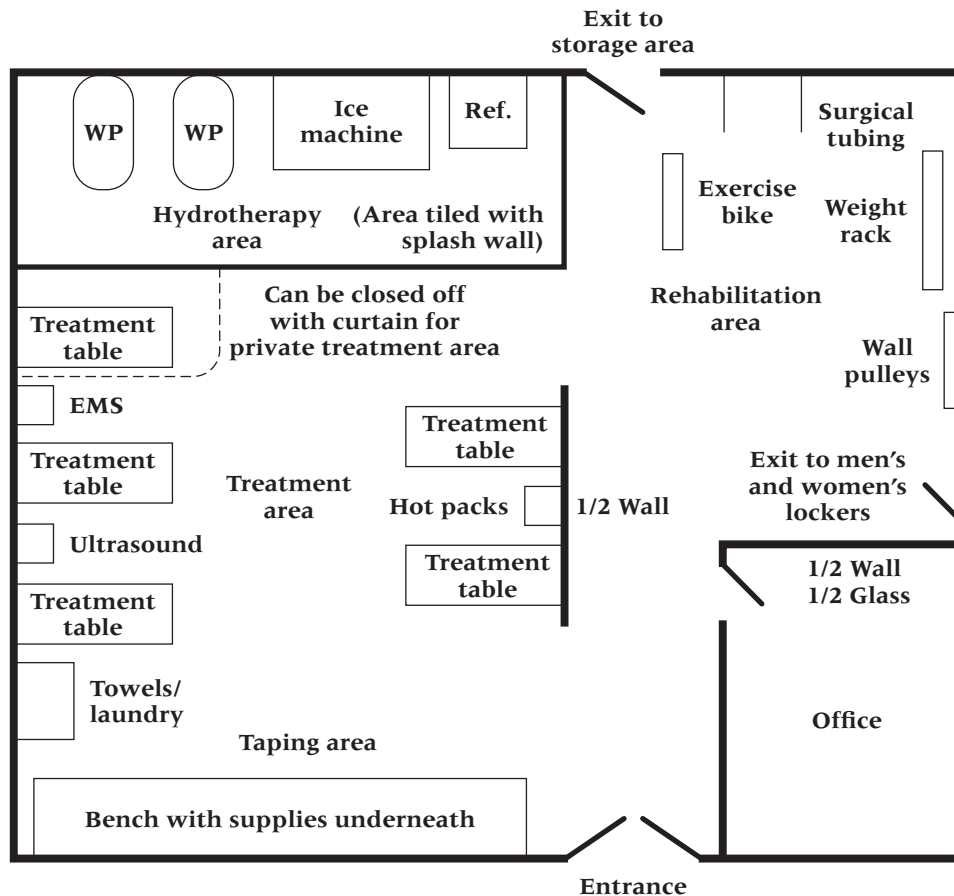


FIGURE 2-4 The ideal athletic health care facility should be well designed to maximize its use.

using rehabilitative equipment and/or therapeutic modalities; (3) a wet area for whirlpools, a refrigerator, and an ice machine; and (4) an area where a physician or an athletic trainer can conduct evaluations in privacy. This could be either a separate room or an area separated from the rest of the athletic health care facility by a curtain or screen. An office for the athletic trainer should provide for secure storage of medical records and patient files.

Storage Facilities

Many athletic health care facilities lack adequate storage space (Figure 2–5). Often storage facilities are located a considerable distance away, which is extremely inconvenient. Each of the four special service areas should contain storage cabinets and shelves for storing general supplies and the small specialized equipment used in the respective areas. A large walk-in closet is a necessity for storing bulky equipment, medical supplies, adhesive tape, bandages, and protective devices. Some supplies may require storage in an environment that is temperature controlled. Medications should always



FIGURE 2–5 An effective athletic health care program must have appropriate storage facilities that are highly organized.

be stored in a secure locked cabinet. Another important piece

It is essential to have sufficient storage space for supplies and equipment.

of equipment is a refrigerator for storing frozen ice cups for ice massage and other necessities.²³

ATHLETIC INJURY MANAGEMENT CHECKLIST

The following is a checklist of things that should be done in organizing and administering an athletic health care program.

- Establish rules and policies for the athletic health care facility.
- Arrange for the facilities to be cleaned and maintained in cooperation with the maintenance staff.
- Establish health habits for the athletes.
- Arrange for the availability or purchase of emergency phones.
- Arrange for preparticipation exams for all athletes.
- Maintain appropriate and necessary injury records (injury reports, medical history, etc.).
- Develop a budget for purchasing supplies and equipment.
- Put together a field kit with the appropriate supplies.
- Find a space of reasonable proportions that can be used for an athletic training room.

SUMMARY

- Organization and administration of the athletic health care program demands significant time and effort on the part of those overseeing the program.
- The athletic health care program best serves the athlete by establishing specific policies and regulations governing the use of available services.
- Preparticipation exams must be given to athletes and should include a medical history, a general physical examination, and an orthopedic screening.
- The individual overseeing the athletic health care program must maintain accurate and up-to-date medical records in addition to the other

- paperwork necessary for the operation of the athletic training program.
- Budgets should allow for the purchase of equipment and supplies essential for providing appropriate preventive and rehabilitative care for the athlete.
- The athletic health care program can be enhanced by designing or renovating a facility to maximize the potential use of the space available.

SOLUTIONS TO CRITICAL THINKING EXERCISES

- 2-1 The athletic health care facility should have specific areas designated for taping and preparation, treatment and rehabilitation, and hydrotherapy, and should have adequate storage facilities that are positioned within the space to allow for an efficient traffic flow. Equipment purchases might include four to five treatment tables and two to three taping tables (these could be made in-house if possible), a large-capacity ice machine, a combination ultrasound/electrical simulating unit, a whirlpool, and various free weights and exercise tubing.
- 2-2 The preparticipation examination should consist of a medical history, a physical examination, and a brief orthopedic screening. The preparticipation physical may be effectively administered using a station examination system with a team of examiners. A station examination can provide the athlete with a detailed examination in a short time. A team of people is needed to examine this many athletes. The team should include physicians, medically trained nonphysicians (nurses, athletic trainers, physical therapists, or physician's assistants), and managers, student coaches, or assistant coaches.
- 2-3 The individual overseeing the athletic health care system should keep a record of the medical history, injury reports, a personal individual information card, treatment logs, injury evaluations and progress notes, and a form for release of medical records.

REVIEW QUESTIONS AND CLASS ACTIVITIES

- What major administrative functions must be performed in overseeing an athletic health care program?
- Design two athletic health care facilities—one for a medium-sized high school and one for a large university.
- Observe the activities in the athletic health care facility. Pick both a slow time and a busy time to observe.
- Why do hygiene and sanitation play an important role in athletic health care? How should the athletic training facility be maintained?
- Fully equip a new medium-sized high school or college athletic health care facility or a clinical facility. Pick equipment from current catalogs.
- Establish a reasonable health care budget for a small high school, a large high school, and a large college or university.
- Identify the groups of individuals to be served in the athletic health care facility.
- Organize a preparticipation health examination for ninety football players.
- Record keeping is a major function in athletic health care. What records are necessary to keep?
- Debate what conditions constitute good grounds for medical disqualification from a sport.

REFERENCES

- Allan, D. C. 2000. Management strategies in athletic training, 2nd ed. (Review). *Journal of Sports Chiropractic and Rehabilitation* 14(4):132.
- American Academy of Pediatrics. 2010. *Pre-participation physical evaluation*, 4th ed. Elk Grove Village, IL: American Academy of Pediatrics.
- Ammon, R., & Southall, R. 2010. *Sport facility management: Organizing events and mitigating risks*. Morgantown, WV: Fitness Information Technology.
- Anderson, B. 2006. Policies and philosophies related to risk management in the athletic setting. *Athletic Therapy Today* 11(1):10.
- Anderson, J., Courson, R., Kleiner, D., & McLoda, T. 2002. National Athletic Trainers' Association Position statement: Emergency planning in athletics. *Journal of Athletic Training* 37(1):99–104.
- Bagnall, D. 2001. Budget planning key in secondary schools. *NATA News*, January 15.
- Barker, Anita. 2005. Developing a crisis management plan. *Athletics Administration* 40(2):41.
- Blair, S. A. 2003. Implementing HIPAA. *ACSM's Health & Fitness Journal* 7(5):25–27. NCAA; Privacy rules affect exchange of student athlete medical records. *NCAA News* 40(5):10, 2003.
- Brown, J. 2009. Athletic training facilities. In T. Sawyer (ed.), *Facilities planning for health, fitness, physical activity, recreation & sports*. Champaign, IL: Sagamore Publishing.
- Claiborne, T., Su-I, H., & Cappaert, T. 2007. Certified athletic trainers provide effective care in the high school setting. *Athletic Therapy Today* 12(2):34.
- Curtis, N. 2006. Risk management. *Athletic Therapy Today* 11(1):34.
- Davidson, D., & Eickoff-Shemek, J. 2006. Is your emergency action plan complete? *ACSM's Health & Fitness Journal* 10(1):29–31.
- Doyle, M. 2002. A new dimension for the athletic training room: The spirit of the room. *Athletic Therapy Today* 7(1):34–35.
- Fried, G. 2009. *Managing sport facilities*. Champaign, IL: Human Kinetics.
- Goforth, M., Almquist, J., & Matney, M. 2007. Understanding organization structures of the college, university, high school, clinical, and professional settings. *Clinics in Sports Medicine* 26(2):201.
- Herbert, D. 1994. Professional considerations related to conduct of preparticipation exams. *Sports Medicine Standards and Malpractice Report* 6(4):49.
- Herbert, D. 2007. Emergency preparedness recommendations for high school and college athletic programs. *Sports, Parks & Recreation Law Reporter* 21(1):71.
- Hunt, V. 2002. A general look at the preparticipation exam. *NATA News*, May 15.
- Hunt, V. 2003. Meeting clarifies HIPAA restrictions. *NATA News*, February 10–12.
- Johnson, M. D., Kibler, B., & Smith, D. 1993. Keys to successful preparticipation exams. *Physician Sports Medicine* 21(9):108.
- Knight, K. L. 2009. Athletic training clinic operations. In K. Knight (ed.), *Developing*, 3rd ed. Champaign, IL: Human Kinetics, pp. 14–19.
- Newell, K. 2008. Sports medicine checklist. *Coach and Athletic Director* 77(10):72.
- Oliver, C., & Schroeder, T. 2002. Athletic training room essentials. *Interscholastic Athletic Administration* 28(4):21.
- Rankin, J., & Ingersoll, C. 2006. *Athletic training management: Concepts and applications*. St Louis, MO: McGraw-Hill.
- Ray, R. 2011. Where athletic trainers work: Facility design and planning. In R. Ray & J. Konin (eds.), *Management strategies in athletic*

- training*, 4th ed. Champaign, IL: Human Kinetics.
26. Sabo, J. 1999. Athletic training room design and layout. Proceedings of National Athletic Trainers' Association 50th annual meeting and clinical symposia, June 16–19. Kansas City, MO: Human Kinetics.
 27. Sabo, J. 2001. Design and construction of an athletic training facility. *NATA News*, May 10–23.
 28. Sawyer, T. 2005. Facility design and management for health, fitness, physical activity, recreation and sports facility development. Champaign, IL: Sagamore Publishing.
 29. Schwartz, E. 2010. Sport facility operations management. St. Louis, MO: Elsevier.
 30. Tanner, M. 1962. Growth of adolescence, 2nd ed. Oxford, England: Blackwell Scientific.
 31. Wiese-Bjornstal, D. 2000. Gender in the athletic training room. *Athletic Therapy Today* 5(5):262.

ANNOTATED BIBLIOGRAPHY

Rankin, J., & Ingersoll, C. 2006. *Athletic training management: concepts and applications*, 3rd ed. St Louis, McGraw-Hill.

This text is designed for upper-division undergraduate or graduate students interested in all aspects of organization and administration of an athletic training program. The second edition has been expanded to include coverage of sports medicine clinics, industrial athletic training, the process of seeking employment, third-party reimbursement, financial management, risk management, and information technology, including distance learning and the Web.

Ray, R., & Konin, J. 2011. *Management strategies in athletic training*, 4th ed. Champaign, IL: Human Kinetics.

This was the first text available to cover the principles of organization and administration as they apply to many different employment settings in athletic training. The third edition contains many examples and case studies based on principles of administration presented in the text.