

APPLIED SPORTS MEDICINE FOR COACHES

James H. Johnson • Esther M. Haskvitz • Barbara A. Brehm



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Dedication

For my favorite team: Carolyn, Cheryl, Scott, and Luke.

—J.J.

For my family and friends who have helped me go the distance.

—E.H

For my favorite athletes, Ian and Adam Curtis, who have taught me about the power of sport.

—B.B.

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Preface

At Smith College we have specialized in the education of coaches for more than 20 years. Our program is recognized nationally for its excellence, and is the only institution to have received Level IV accreditation from the National Association for Sport and Physical Education. One of our goals is to translate theory into practice. What do coaches need to know to successfully prepare athletes for competition, prevent injury, and keep their athletes healthy? Programs in coaching education are often varied, but with a few exceptions they require their students to take a course in athletic injuries. Such sports medicine courses are usually oriented to the care and prevention of athletic injuries, and coaching education students are mixed in with students intending to be athletic trainers. But students in coaching education programs are preparing for a career in coaching, not athletic training.

Sports medicine for coaches is far more than the care and prevention of injuries. Coaches structure the training of athletes and prepare their teams for athletic contests. Coaches must do all they can to structure training cycles and daily practices in ways that both prevent injury *and* help their athletes achieve peak performance. By understanding the common causes of sports injuries, coaches can design effective practices that reduce injury risk. By improving motor skills, muscle balance, and physical fitness, coaches can help athletes prevent noncontact anterior cruciate ligament (ACL) injuries. Understanding the physiology of recovery processes, coaches can help their athletes walk the fine line between training and overtraining, and prevent overuse injuries while at the same time building physical fitness. While coaches must respond appropriately to emergency situations, they do not diagnose injury or prescribe treatment. However, they do welcome recovering athletes back to play and work with health care professionals to understand returning athletes' limits and training needs. Coaches should understand common athletic injuries in order to communicate effectively with their athletic trainers and help athletes return safely to play.

For some time we have been aware that a textbook that specifically addresses what a coach needs to know about sports medicine does not exist in this country. There are a number of excellent athletic injury books, but they are written for the licensed health care professionals who diagnose and care for athletes who have been injured. We believe it is time for a text that specifically addresses what coaches need to know about sports medicine and that is why we wrote this book.

Who Should Read this Book?

Any student entering the field of coaching will find this book interesting and relevant. In addition, current coaches may find this book a welcome addition to traditional athletic injury texts. Coaches will no longer have to weed through unnecessary information to find out what they need to know about training athletes appropriately for peak performance and injury prevention. Indeed, we believe that anyone interested in coaching may benefit from this text.

Highlighted Topics

Written for the Coach. One of the main highlights of this text is that it is specifically written for coaches. We have pared down sports medicine knowledge to what coaches need to know. Each chapter has specific recommendations for the coach's role. We are well aware of the time constraints placed upon coaches. Therefore, one of our goals is the integration of optimal performance training with injury prevention. The properly trained athlete is the best defense against injury.

Overtraining. Sport in the United States is more competitive than ever. As a consequence, athletes often train year round for competition in one sport. Young athletes often specialize early in their careers, training to compete in only one sport. As a result, overtraining injuries have become more common. This book includes a chapter on overtraining, examining various causes and symptoms of overtraining, and spells out what the coach can do to prevent overtraining.

Acknowledgments

During the past 25 years numerous students have completed our coaching education program. These students now range far and wide, coaching all manner of sports. Our students have challenged us to do our best to make information clear and applicable to sport. This challenge has continually pushed us to reconsider our course content and teaching methods in order to more fully engage our coaching education students, and we wish to thank our students for their diligence. Likewise, we have worked with many excellent coaches who expect us to understand coaching, to appreciate the responsibilities of the coach, and to understand the power of sport. Coaches have kept our feet on the ground and we appreciate their candor.

Specifically, we wish to thank the following coaches and athletic trainers for spending the time to participate in numerous interviews and question sessions: Dave Allen, Tim Bacon, Karen Balter, Kim Bierwert, Deb Coutu, Chris Davis, Liz Feely, Karen Klinger, Kris Martini, Bonnie May, E. J. Mill, Lynn Oberbillig, Phil Nielsen, Kelli Steele, and Andy Whitcomb.

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Contents

PART I: INJURY PREVENTION

Chapter 1	Coaches' Role in Sports Medicine	2
	The Coach's Role in Sports Medicine	4
	Working with the Athletic Trainer	5
	Monitoring Stress	7
	The Coach as a Resource	8
	Summary	9
Chapter 2	The Prevention of Athletic Injuries	10
	Is it Possible to Prevent Athletic Injuries?	11
	Strength Training and Athletic Injuries: How Does Muscle Strength Protect Joints?	12
	Warm-Up	15
	Flexibility Training and Injury Prevention: A Controversial Subject	17
	Overuse Injuries	22
	Stress Fractures	25
	Fatigue is Related to Injury	25
	Collision Injuries	26
	Summary	26
Chapter 3	Noncontact ACL Injuries: Causes and Prevention	29
	ACL Anatomy and Function	30
	Injury Mechanisms	31
	The Female Athlete and ACL Injuries	32
	The Coach's Role in ACL Prevention	34
	Summary	42
Chapter 4	Environmental Challenges: Heat, Playing Surface, and Thunderstorms	44
	Heat Balance	45
	The Challenge of Heat	46
	Heat Illness	48
	Treatment for Heat Illnesses	49
	The Coach's Role in Heat Illness Prevention	50
	Women, Children, and Heat	56
	Playing Surface	56
	Electrical Storms	58
	Summary	59
Chapter 5	Protective Equipment	62
	Principles of Protection	63
	Types of Protective Equipment	66
	Summary	75

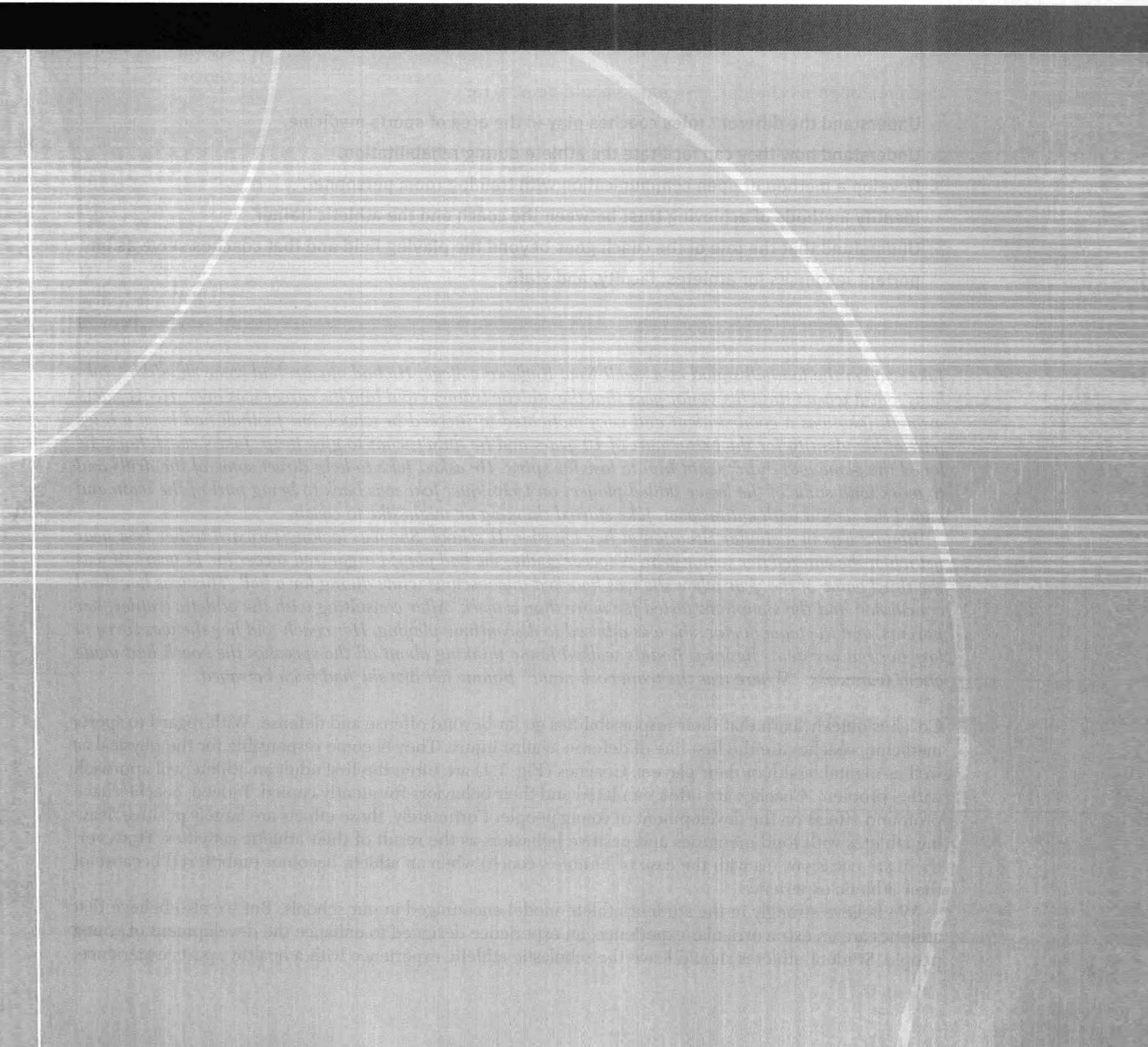
Chapter 6	Overtraining and Underrecovery in Athletes	77
	Overtraining	79
	Underrecovery	81
	The Coach and Overtraining	82
	Strategies for Preventing Overtraining	83
	Summary	94
 PART II: HEALTHY ATHLETES		
Chapter 7	Conditioning Athletes	98
	Training Basics—Response and Adaptation	99
	Energy Systems—An Overview	101
	Training Principles	106
	Energy Systems—How to Predict	107
	Energy Systems—How to Train	109
	Sport-Specific Training	113
	Summary	114
Chapter 8	Strength and Power Training	116
	Strength Training Should be Functional	117
	Strength, Power, or Endurance?	117
	Adaptations to Resistance Training	118
	Resistance Training Variables and Concepts	119
	Strength Training Basics	122
	Periodized Strength Training	125
	Resistance Training by Season	127
	Implementing a Resistance Training Program	128
	Resistance Training Activities	132
	Power Training	133
	Compatibility of Aerobic Training and Resistance Training	137
	Summary	138
Chapter 9	Nutrition and Performance	141
	Understanding Nutrients	143
	Power Eating for Peak Performance	161
	Summary	165
Chapter 10	Weight Control and Disordered Eating	167
	Body Composition and Sport	168
	Weight Loss Advice for Athletes	177
	Gaining Weight	186
	Pathogenic Weight Control, Disordered Eating, and Eating Disorders	188
	Summary	195
Chapter 11	Health and Performance	199
	Respiratory Tract Infections	200
	Other Infections	206
	Substance Abuse and Sports	208
	Athletes with Special Health Needs: What the Coach Should Know	217
	Summary	225

PART III: SPORTS INJURIES

Chapter 12	Basic Principles of Treatment and Rehabilitation	230
	The Musculoskeletal System	231
	Acute Injuries	232
	Chronic Injuries	236
	Injury Management	237
	The Healing Process	239
	Therapeutic Modalities	240
	The Goal of Rehabilitation and How to Achieve It	243
	Criteria for Return to Play	247
	Summary	248
Chapter 13	Common Upper Limb Injuries	250
	The Shoulder Complex	251
	The Elbow	258
	The Wrist and Hand	264
	Summary	270
Chapter 14	Common Lower Limb Injuries	272
	The Hip Complex	273
	The Knee Joint	279
	Leg, Ankle, and Foot	284
	Summary	291
Chapter 15	Head and Spine Injuries	293
	Head Anatomy	293
	Athletic Head Injuries	294
	Spine Anatomy	303
	Cervical Spine Injuries	305
	Low Back Pain	306
	Training the Back to Avoid Injury	309
	Summary	312
Chapter 16	Emergency Situations on the Field and Beyond	314
	The Emergency Plan	314
	Catastrophic Incidents	317
	Expectations of the Coach	319
	CPR and First Aid Certification	319
	The Unconscious Athlete	319
	Primary and Secondary Survey	321
	Managing Shock	324
	Controlling Bleeding	325
	Bloodborne Pathogens and Standard (Universal) Precautions	327
	Moving and Transporting the Injured Athlete	330
	Summary	333
Chapter 17	Psychology and Sports Injuries	335
	Psychological Factors Influence an Athlete's Risk of Injury	336

Psychological Response to Sport Injury	343
Psychology and Sports Injury Rehabilitation	345
Return to Play	349
Summary	350
Index	353

INJURY PREVENTION



Coaches' Role in Sports Medicine

Upon reading this chapter, the coach should be able to:

1. Understand the different roles coaches play in the area of sports medicine.
2. Understand how they can facilitate the athlete during rehabilitation.
3. Develop a method of open communication with training room personnel.
4. Identify methods of achieving trust between the coach and the athletic trainer.
5. Understand that the role of the coach goes beyond the playing field and that coaches serve as important resources for athletes, faculty, and staff.

Jake was on the football squad at a small New England college. He had always had some shoulder problems, but it wasn't until his senior year that the athletic trainers told him his career was over. He was devastated. Jake was a good student and very motivated to succeed in school, but football had been a huge part of his identity for the better part of 10 years and he didn't want to give it up. Jake's coach knew he loved the game and didn't want him to lose his spirit. He asked Jake to help direct some of the drills and to work with some of the lesser skilled players on technique. Jake was back to being part of the team and ended the season with enthusiasm. Jake started thinking he might like to coach.

Bonnie was in a similar situation at her Division II school. She was looking forward to her best year yet when she entered her senior year. A soccer goalie, she had played organized soccer for 17 years. It was the third game of the year when she was knocked unconscious while diving for a ball. This was her third concussion and the symptoms lasted for more than a week. After consulting with the athletic trainer, her parents, and the team doctor, she was advised to discontinue playing. Her coach told her she was sorry to lose her but accidents happen. Bonnie walked home thinking about all the speeches the coach had made about teamwork. "Where was the teamwork now?" Bonnie felt like she had been betrayed.

Coaches quickly learn that their responsibilities go far beyond offense and defense. With regard to sports medicine, coaches are the first line of defense against injury. They become responsible for the physical as well as mental health of their players. Coaches (Fig. 1.1) are often the first adult an athlete will approach with a problem. Coaches are often emulated and their behaviors frequently copied. Indeed, coaches have profound effects on the development of young people. Fortunately, these effects are largely positive, leaving athletes with fond memories and positive behaviors as the result of their athletic activities. However, there are occasions (as with the case of Bonnie's coach) when an athlete becomes embittered because of their athletic experience.

We believe strongly in the student-athlete model encouraged in our schools. But we also believe that athletics are an extracurricular experience; an experience designed to enhance the development of young people. Student-athletes should leave the scholastic athletic experience with a healthy sports experience.



■ FIGURE 1.1 A. Coaches teach technique, tactics, and strategy. B. Coaches often counsel athletes on a wide variety of subjects.

The coach's role in sports medicine is a unique one, and the knowledge and attitude of the coach is one key to achieving this goal. We also believe that coaches should have a firm philosophical foundation regarding the place of athletics in the development of the individual. Coaches need knowledge in exercise physiology, biomechanics, sport psychology, and motor learning. Coaches should have a firm pedagogical base and awareness of the sociocultural basis of sport. Coaches should never stop learning.

In preparation for this text, and specifically for this chapter, we set out to learn some of the “Best Practices” presented by a wide variety of successful and respected coaches. We selected new as well as seasoned coaches from a variety of sports and institutions. We conducted personal interviews with each coach regarding their role in sports medicine, problem solving, and establishing a working relationship with the athletic trainer. We learned that coaches are resource persons for students and faculty. In addition, we also interviewed athletic trainers to get their side of the picture. We wanted to know the best way for athletic trainers and coaches to work together to do what's best for the athlete. The following is a summary of the questions and answers we gathered.

FOCAL POINT

Excerpts from an Interview with E. J. Mills, Amherst College Football Coach

Q: With regard to sports medicine, how do you see your role?

A: Ultimately, we have a great medical staff. I trust them and in almost all cases I defer to the medical staff. I never, ever question their judgment when they tell me an athlete cannot play. As the head coach I have to create an environment where athletes feel comfortable going to the athletic trainer. We do a pretty good job with this. My golden rule is that I try to coach the team as if I was coaching my own children. How would I want them to be treated? I put a lot of faith and trust in the medical staff. We have a great situation with two full-time athletic trainers, a general practitioner who is here almost daily, and an orthopedic surgeon who is routinely in attendance. I believe the athletic trainers act in the best interest of the athletes. We have a united front.

Q: What is the best way to establish communication with the training room staff?

A: We're fortunate with one athletic trainer assigned exclusively to us. We play on Saturday afternoons and have a clinic starting at noon on Sunday with all medical staff. Sometimes athletes feel fine after the game and then something may swell during the night. I meet with the doctors and athletic trainer on Sunday afternoon to review each athlete. I meet every day with the athletic trainer at 11:30 and go over what each athlete can do. There's a lot of communication. You can almost set your watch by our meetings.

(continues)

Excerpts from an Interview with E. J. Mills, Amherst College Football Coach (continued)

Q: Is there ever conflict between you and the athletic trainer?

A: To me it's pretty clear. If an athlete is hurt they should go to the training room. If they're not hurt they shouldn't be in there. I don't want the athlete to hide in the training room and I'll talk to the athletic trainer if that happens. But if an athlete says they are hurt, who am I to tell them they're not.

Q: What happens when an athlete receives a serious injury during the season? Do you have a plan to maintain contact with the athlete?

A: If an athlete has to go to the hospital, I'm right there with them as soon as practice is over. I do whatever it takes at that point. Athletes normally use practice time to get treatment and rehab since school pressures here are quite tough. But I try to boost them up and encourage them to keep working. I do try to get the athletes to maintain contact and encouragement. I know it's devastating for many athletes and I think they often get very down when they go back to their room. But let's face it; I still have about 60 other athletes to deal with. This is a very tough situation for coaches and athletes.

THE COACH'S ROLE IN SPORTS MEDICINE

The common theme identified by our coaches was injury prevention. "My most important role in sports medicine is to prevent the injury from happening. Let's face it; the best way to treat an injury is to prevent it from happening in the first place." The last thing coaches want to do is hurt their athletes. "Do no harm" was a commonly mentioned position. Many factors are involved in injury prevention (see Chapter 2). Injuries can be caused by such factors as poor technique, poor training, bad equipment, or unsafe practices. For example, one of our swimming coaches indicated that, "One of my main responsibilities is to determine if the athlete is doing anything that will predispose them to injury. When an athlete first comes to our program I find out what injuries they have had, what kind of treatment they received, and what did they do about it?"

Teaching technique and training athletes are two of the main jobs of the coach, as well as two of the most effective measures of defense against injury. "I try to make sure that everyone is properly trained and not overtrained. I try to keep everyone healthy." As one of the soccer coaches said, "I'm responsible in our practice program for knowing what the most common injuries are and how to prevent them. I'm very careful with those athletes who start the season unprepared. This is especially true for new athletes. They just don't know what's in store for them and how to prepare. This is one reason why I do fitness testing at the beginning of the year. I know that I have to ease some athletes in if their fitness is low and they are more susceptible to injury. I spend considerable time and attention teaching athletes the system before they leave school. It's the new athletes who seem to be the most vulnerable."

The coach is often immediately involved when an athlete is injured. In many of the smaller colleges and high schools an athletic trainer is not present during practice. In such cases we recommend that schools adopt a procedure for prompt communication between coach and athletic trainer. If an athlete gets hurt on the field, do you wait to send them to the training room or send them immediately? If an athlete sprains an ankle during practice they may frequently continue to play on it. The prior exercise has an analgesic effect and the athlete doesn't feel too bad. However, continued exercise with an injured ankle simply facilitates blood flow (and swelling) to the area. That extra 30 minutes of practice may not be worth it in the long run. What do you do when athletes hit heads and one loses consciousness? All coaches should be First Aid and CPR certified but we believe these certifications are minimal at best. Coaches need more.

The second most common role mentioned is to facilitate the rehabilitation process. When athletes get injured they are normally assigned to treatment and rehabilitation. The athletic trainer's goal is to put a healthy athlete back onto the field as quickly as possible. But the athletic trainer may be dealing with athletes from as many as 5 teams, as well as some out of season athletes. As one of the volleyball coaches said, "The trainers have to contend with 300 athletes; I only have 15. My job is to follow up with the trainer's advice. Is the athlete doing what she's supposed to do to get back on the court? I don't direct the rehab work but I do make sure they're doing it." The coach is the ultimate person the athlete reports to. Normally, athletic trainers have little control over the athletes and coaches have to be involved. The athlete should also know that the coach continues to be interested in them and that they are important to the team.

Coaches are occasionally involved with some specifics of the rehabilitation process. If the athletic trainer understands the functional requirements of the sport, they can rehabilitate the athlete to satisfy those requirements. Some athletic trainers may not be fully aware of a sport. Many times coaches are not allowed to work with students out of season because of national and/or conference regulations. One of the best practices we learned involved an athletic trainer and an out of season athlete. "We were rehabilitating an athlete to return to basketball but she was really nervous about performing some of the drills. We asked the coach to demonstrate the various drills the athlete would need to perform. He provided us with a drill packet and demonstrated the various drills involved. We then worked with the athlete until she was confident that she could perform those same drills."

WORKING WITH THE ATHLETIC TRAINER

Every coach we interviewed indicated that communication is the key to a good working relationship with the athletic trainer. Face-to-face is the most desirable form of communication. Questions can be asked and answered and misunderstandings are reduced. Our coaches routinely informed us that they do not want to receive injury information from the athlete; athletic trainer to coach is the appropriate line of communication. Our coaches and athletic trainers agreed that the responsibility for communication is equal between coach and athletic trainer. Occasionally, part of the problem is that athletic trainers tend to be less mobile than coaches. Since most of their work is limited to the training room, we learned that it is usually best for the coach to visit the athletic trainer. Coaches should adopt a policy of routinely visiting the athletic trainer at a time when the athletic trainer is not so busy. An athlete may have been injured and not notified the coach. The athletic trainers must adopt some system to notify a coach that they have seen an injured athlete. In all cases, communication between coach and athletic trainer should be private. When athletes are seriously injured, our coaches suggested that the coach, athletic trainer, and athlete should all meet together to discuss treatment and rehabilitation. The athlete should be a part of the process.

The attitude of the coach toward the athletic trainers is an important one for athletes. Athletic trainers want athletes to play; sending an athlete to the training room is the best way to care for and prevent further injury. As our athletic trainers suggested, "Coaches need to present a mindset at the beginning of the season that it is acceptable to seek treatment; that it is often better to seek treatment for a minor injury rather than wait until it is more serious, resulting in extensive time lost to practice and competition. Athletes should not need permission to seek treatment."

When an Athlete is Injured

When an athlete has been injured the coach needs to know the specifics. What can the athlete do? What are the limits? Are they out for the day, the week? Whether the athlete can practice or not is an important question. This is where communication is vitally important. Coach and athlete have to agree on what the athlete can do. One good suggestion that we repeatedly heard was that coaches should discuss their practice plans with the athletic trainer. In this way the athletic trainer can help the coach decide which drills or activities are appropriate. Since maintaining contact with the team is an important part of rehabilitation, encourage the athlete and athletic trainer not to use the entire practice time to conduct rehabilitation.

Coaches who have an understanding of tissue injury and recovery have a better idea of what athletes can and cannot do. Certain injuries routinely take a certain amount of time to recover and attempts to hurry that process often result in additional lost time. It is well known that athletes who have been injured are more susceptible to that same injury (1–3). This is especially true if the athlete has not recovered and continues to play or practice. Let's look at an obvious example of an acute injury that the coach wants to rush. An athlete has been injured and takes 3 days off for treatment and rehab. The athletic trainer wants the athlete to rest for one more day but the coach insists that the athlete start practicing on the fourth day. If the athlete gets hurt again, the injury will probably be more serious and the initial 3 days have been wasted. One extra day off may make a huge difference.

Athletes who have been injured during competition (Fig. 1.2) are immediately seen by the athletic trainer. In some sports a physician is also on duty on the sidelines. The athletic trainer has the final decision whether the athlete can continue to play. Occasionally, the athlete can be brought into these conversations. For example, our coaches and athletic trainers were willing to be a bit less conservative with older, more experienced athletes. Experienced athletes know their bodies and know their limits, and this knowledge should be considered. The basic question is whether the athlete will be placed at risk. If additional risk is involved, the athlete should not play.



■ FIGURE 1.2 An NATA certified athletic trainer evaluates an injured athlete on the field.

Establishing Trust

The best practice is for the athletic trainer and coach to have mutual trust. Once again, communication is one key to this trust and should start prior to the season. The athletic trainer needs to trust the coach to do the right thing and the coach needs to believe that the athletic trainer wants the athletes to play. Coaches need to take time to talk to the athletic trainer other than about specific athletes and injuries. When coaches ignore the advice of the athletic trainer trust is reduced. One of our athletic trainers presented the following example: “The coach stopped by and we agreed on the practice schedule for one of the injured athletes. Apparently the coach got angry that day and decided to really hammer this athlete, pushing him far beyond what we agreed. I decided at that point that I would be extra conservative the next time the coach asked. I didn't trust him to do the right thing.”

Coaches must respect the athletic trainer and believe they are working in the best interest of the athlete. Coaches should include the athletic trainer in their plans and seek their advice. Athletic trainers spend considerable time observing sport and are very good at it. They will often spot unsafe practices before the coach does. Coaches often feel more comfortable if the athletic trainer understands their sport and athletic trainers need to work to acquire a basic understanding of each sport. Although the responsibilities of the coach and athletic trainer are fairly distinct, there is considerable overlap in knowledge and responsibility. A good mutual relationship is therefore critical.

Knowledge is one way to improve trust. Coaches should stay abreast of the latest information on their sport; discussing this information with the athletic trainer keeps open the line of communication. Coaches should know what injuries are most frequent and the best way to prevent those injuries. Pushing athletes until they drag into the training room on a daily basis is not a good example. Punishing athletes by administering excessive exercise is another poor example. Professional meetings often include sports medicine information in addition to sport technique, strategy, etc. Coaches need to be well-read across the spectrum. Ignorance does not enhance trust.

The New Coach and the Athletic Trainer

Establishing trust is particularly important for the new coach. Even though the coach may have considerable experience, they are still unknown to the athletic trainer. As one coach said, “Don't make the assump-