Psychological Issues Related to Injury in Athletes and the Team Physician: A Consensus Statement

DEFINITION

Team physicians must address the physical and psychological issues related to athletic activity. This athletic activity may result in physical injuries, and these injuries produce a variety of psychological reactions. Additionally, psychological factors, especially stress, are an important antecedent to injuries, play an important role in injury rehabilitation, and contribute to successful return to play. While noninjury psychological issues related to athletic activity exist, they are outside the scope of this consensus statement.

GOAL

The goal of this document is to help the team physician improve the care of the athlete by understanding the relationship between injury and the psychological issues related to injury. To accomplish this goal, the team physician should have knowledge of and be involved with:

- Psychological antecedents of athletic injuries
- Psychological issues accompanying athletic injury
- Psychological issues of athletic injury rehabilitation
- Psychological issues and return-to-play
- Referring athletes to mental health providers

SUMMARY

This document provides an overview of selected medical issues that are important to team physicians who are responsible for the care and treatment of athletes. It is not intended as a standard of care, and should not be interpreted as such. This document is only a guide, and as such, is of a general nature, consistent with the reasonable, objective practice of the healthcare profession. Adequate insurance should be in place to help protect the physician, the athlete, and the sponsoring organization.

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This statement was developed by a collaboration of six major professional associations concerned about clinical sports medicine issues; they have committed to forming an ongoing project-based alliance to bring together sports medicine organizations to best serve active people and athletes. The organizations are: American Academy of Family Physicians, American Academy of Orthopaedic Surgeons, American College of Sports Medicine, American Medical Society for Sports Medicine, American Orthopaedic Society for Sports Medicine, and the American Osteopathic Academy of Sports Medicine.

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PSYCHOLOGICAL ANTECENDENTS OF ATHLETIC INJURIES

Psychological factors (i.e., stressful life events) may contribute to the risk of athletic injuries above and beyond physical and environmental factors. Personality factors (e.g., introversion/extroversion, self-esteem, perfectionism) and other psychological factors (e.g., a supportive social network, coping resources, high achievement motivation) alone do not reliably predict athletic injury risk. There is no "injury prone" personality type. However, there has been a consistently demonstrated relationship between one psychological factor—stress—and athletic injury risk.

TABLE 1. Selected signs and symptoms of stress.

Behavioral	Physical	Psychological
Difficulty sleeping	Feeling ill	Negative self-talk
Lack of focus, overwhelmed	Cold, clammy hands	Uncontrollable intrusive and negative thoughts or images
Consistently performs better in practice/ training than in competition	Profuse sweating	Inability to concentrate
Substance abuse	Headaches	Self doubt
	Increased muscle tension	
	Altered appetite	

Stress may be defined as the demands of a situation exceeding the resources to respond to those demands (see Table 1). Athletes who experience high levels of stress, whether on or off the field, are at greater risk of being injured. Certain subpopulations of athletes, such as those experiencing high life stress and low personal coping skills, may be at an even greater risk of sustaining athletic injury. Stress causes attentional changes (e.g., narrowing of attention, general distraction, increased self-consciousness) that interfere with an athlete's performance. Stress has been shown to cause increased muscle tension and coordination difficulties which increase the athlete's risk of injury. Teaching athletes stress management techniques has been shown to reduce injury rates over a season of participation.

It is *essential* the team physician:

- Recognize that psychological factors may play a role as antecedents to sports injuries.

It is *desirable* the team physician:

- Promote monitoring by the athletic care network [see "Sideline Preparedness for the Team Physician: A Consensus Statement" (1)] of major life events and stressors (e.g., death in family, divorce, change in peer relationships, life transitions) that may place athletes at greater risk for injury
- Develop strategies to address psychological factors that may contribute to the risk of athletic injuries including:
  - Educating coaches and parents regarding the effects of attitudes and behaviors that equate injury with worthlessness (e.g., "go hard or go home," "no pain, no gain") that may increase stress and consequently increase injury risk
  - Educating coaches and parents regarding excessive training and competition regimens in athletes
  - Addressing life stressors during preseason evaluations
  - Provision of psychological support services (e.g., stress management, counseling) as needed

PSYCHOLOGICAL REACTIONS ACCOMPANYING ATHLETIC INJURY

Athletes can be expected to experience a variety of emotional responses and stress upon being injured. They will attempt to interpret injury-relevant medical information, come to terms with being injured, and engage in coping responses. There is no predictable sequence of emotional reactions to athletic injury. For many athletes, exercise and physical activity serves as a primary coping mechanism and outlet for dealing with psychological issues. In these athletes, an injury may result in even greater emotional upheaval.

Emotional responses to injury include sadness, feelings of isolation, irritation, lack of motivation, frustration, anger, alterations in appetite, sleep disturbance, and feeling disengaged.

Problematic emotional reactions occur when symptoms do not resolve or worsen over time, or the severity of the symptoms seems excessive relative to other injured athletes (see Table 2). Depression is an especially significant warning sign. It magnifies other emotional responses and impacts recovery from injury.

It is *essential* the team physician understand:

- Emotional reactions accompany athletic injuries
- These reactions may resolve or become problematic, thus impacting recovery from injury

It is *desirable* the team physician:

- Promote monitoring of emotional reactions by the athletic care network
- Facilitate provision of psychological support services as needed
- Educate athletes, coaches and parents regarding emotional reactions to injury and recovery
- Promote utilization of a supportive social network in injury recovery

PSYCHOLOGICAL ISSUES OF ATHLETIC INJURY REHABILITATION

Psychological antecedents and emotional reactions play a key role in athletic injury rehabilitation. Injured athletes treated with a comprehensive rehabilitation program that includes addressing these issues experience less stress. Also, some studies have suggested the use of psychological strategies such as goal setting, positive self-statements, cognitive restructuring, and imagery/visualization is associated with faster recovery. These strategies may be helpful by reducing stress and increasing coping mechanisms and social support.

However, rehabilitation may be affected by problematic emotional reactions, the most common of which are loss of identity, fear and anxiety, and a loss of confidence.

TABLE 2. Problematic emotional reactions (examples).

Persistent Symptoms	Worsening Symptoms	Excessive Symptoms
Alterations of appetite	Alterations of appetite into disordered eating	Pain behaviors
Sleep disturbance	Sadness into depression	Excessive anger or rage
Irritability	Lack of motivation into apathy	Frequent crying or emotional outbursts
	Disengagement into alienation	Substance abuse

Warning signs characterizing poor adjustment to injuries include:

- Unreasonable fear of reinjury
- Continued denial of injury severity and response to recovery
- General impatience and irritability
- Rapid mood swings
- Withdrawal from significant others
- Extreme guilt about letting the team down
- Dwelling on minor physical complaints
- Obsession with the question of return-to-play

The levels and types of emotional reactions experienced also change over time; from the initial onset of injury, through rehabilitation, to return-to-play.

A number of factors should be considered when treating injured athletes. These factors include:

- *Building trust and rapport with the injured athlete*. Injured athletes often experience a range of emotions that make it difficult for athletic care network members to establish rapport and build trust. Listening to the athlete is particularly important, not only to make a medical diagnosis but also to assess and monitor their emotional state.
- *Educating the athlete about the injury*. Injured athletes must understand and process injury-relevant information, often at a time when they are experiencing emotional upheaval. It is critical that explanations of injuries be presented in terms that the injured athlete can understand. An effective method to assess this understanding is to ask the athlete to provide their interpretation of information given to them.
- *Identifying misinformation about the injury*. Injured athletes often obtain inaccurate information from a variety of sources (e.g., parents, coaches, teammates, Internet) that may contribute to confusion and emotional upheaval.
- *Preparing the athlete and coach (only with athlete's permission) for the injury recovery process*. The injury recovery and rehabilitation process is variable due to characteristics of the injury, treatment provided, presence of complications and psychological issues. Therefore, the athlete and coach should be educated that an injury is best managed on an individualized basis. In addition, coaches should be encouraged to help the injured athlete avoid isolation from the team.
- *Encouraging the use of specific stress coping skills*. Injured athletes can experience considerable stress throughout the injury and rehabilitation process. Psychological as well as physical strategies will enhance the recovery process (see Table 3).

TABLE 3. Selected techniques for coping with stress.

Cognitive-Based Techniques	Somatic-Based Techniques	Cognitive Behavioral-Techniques
Thought stopping Thought replacement and imagery Positive self talk	Slow, deep or centered breathing, Progressive muscle relaxation Biofeedback training	Goal setting Stress management training

It is *essential* the team physician:

- Recognize psychological factors play a role in injury rehabilitation

It is *desirable* the team physician:

- Understand athletic injury rehabilitation programs should incorporate psychological as well as physical strategies
- Coordinate a comprehensive rehabilitation program that addresses physical and psychological issues, including provision of psychological support services as needed
- Coordinate graduated return to practice and play to promote psychological readiness
- Assess an athlete's social network
- Educate athletes, parents, families, friends, and others about the importance of a supportive social network

PSYCHOLOGICAL ISSUES AND RETURN-TO-PLAY

Psychosocial readiness is one criterion for return-to-play [see "The Team Physician and Return-To-Play Issues: A Consensus Statement" (2)]. Emotional reactions, including a lack of confidence, apprehension and fear, may accompany an athlete's return-to-play. These reactions may become problematic, interfere with performance and increase the probability of reinjury. The team physician should assess not only physical factors, but emotional reactions, when making the return-to-play decision. In conjunction with medical care, the supportive social network can help reduce the emotional upheaval and stress accompanying an injury and its rehabilitation.

It is *essential* the team physician understand:

- Physical clearance to return-to-play may not correlate to psychological readiness

It is *desirable* the team physician:

- Coordinate the athletic care network to monitor the psychological readiness of athletes who are preparing to return-to-play or have returned-to-play
- Coordinate efforts to maintain the athlete's contact with the team to enhance psychological readiness
- Coordinate psychological support services as needed

REFERRING ATHLETES TO MENTAL HEALTH PROVIDERS

Athletes experience emotional responses to injury, and most of these responses are transient. The athletic care network and supportive social network are often effective in helping the athlete deal with these issues. However, athletes with problematic emotional reactions who need treatment

should be referred to a licensed mental health provider, preferably one with experience working with athletes.

Licensed mental health providers have met the minimum educational and training requirements by their state. These are the only mental health providers licensed to treat problematic emotional reactions (See examples in Table 2). Along with other providers, they may also offer "sport psychology" consultation (e.g., performance enhancement, life skills training, imagery). In treating both transient and problematic emotional responses, athlete confidentiality is of particular importance.

Among athletes, there are different levels of comfort with referral to licensed mental health providers. Obstacles to referral include general apprehension, confidentiality concerns, perception of others, fear of revealing symptoms, and misunderstanding of mental health treatment. Coaches and team physicians' attitudes towards mental health have an impact and influence on athletes. In addition, accessibility to providers and issues related to reimbursement may serve as obstacles to obtaining treatment.

It is *essential* the team physician:

- Identify licensed mental health providers for athlete referrals
- Maintain confidentiality, recognizing psychological issues are particularly sensitive

It is *desirable* the team physician:

- Integrate licensed mental health providers into the athletic care network
- Educate coaches, parents and athletes about the importance of psychological treatment
- Dispel the perception that "counseling equals weakness"
- Coordinate referrals for mental health treatment
- Involve mental health providers in educational programs for coaches, athletes and parents about psychological issues

CONCLUSION

Psychological factors have been shown to be an important antecedent to the onset of athletic injuries and also play an important role in injury rehabilitation and ultimately successful return-to-play. Team physicians must consider psychological, as well as physical factors, when treating and coordinating care for injured athletes.

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