

Psychology of Injury and Rehabilitation

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How prevalent is athletic injury?

Each year, an estimated 10 million individuals, including 3.5 million children under the age of 14, suffer a sport-related injury. Understanding the physical causes and consequences of injury is a high priority for athletes, coaches, and parents. It is equally important to understand the psychological factors and social factors that can lead to athletic injury, as well as understanding the role mental training plays in helping an athlete recover from injury.

What psychological and social factors influence athletic injury?

According to Andersen and Williams (1988), a variety of personal and social factors interact to increase an athlete's risk of injury. When athletes enter a potentially stressful situation, such as a key moment in an important competition, a stress response is initiated. The stress response includes the athlete's *evaluation* (e.g., "Do I have the skills to handle this?"), *physiology* (e.g., heart rate, muscle tension), and *attention* (e.g., what the athlete is focusing on). For example, if the athlete evaluates the situation as threatening (e.g., "I don't think I have the skills to handle this") she or he will experience negative physiological changes (e.g., increased muscle tension, increased heart rate), and attentional changes (e.g., tunnel vision, loss of focus), which together increase the chance of sustaining an injury. This occurs because the athlete is less able to see or react to what is happening around her or him. For example, a quarterback may fail to pick up a defensive lineman closing in on him and will be less able to effectively coordinate his physical movements in order to react in time.

Sport scientists have identified four factors that can influence an athlete's stress response and likelihood of injury. Personality traits can positively impact the stress response. Specifically, high levels of hardiness, optimism, and self-esteem help to buffer an athlete from sustaining an injury. For example, an athlete who is optimistic may naturally rely on more effective coping skills than one who is less optimistic. An athlete that possesses less optimism and greater anxiety may heighten the stress response. Second, athletes with a greater history of stressful life events, such as the death of a loved one, as well as more consistent daily hassles, and/or previous injuries, are more likely to perceive athletic situations as threatening, thus experiencing negative physiological changes (e.g., racing heart, sweating). Third, coping resources such as social support and stress management help athletes to effectively manage life stress, and decrease their risk of injury. Finally, mental skills strategies aimed at helping athletes to perceive sport stressors as a challenge rather than a threat, and teaching stress reduction techniques such as deep breathing and progressive muscle relaxation, are suggested to help buffer athletes from becoming injured due to stressful sport situations.



How do athletes respond psychologically to injury?

Researchers initially believed that an injured athlete displayed a consecutive series of responses similar to someone dealing with impending death. However, a more recent view is that both the behavioral (e.g., rehabilitation

adherence) and emotional (e.g., sadness, anger, fear) responses to injury are a result of athletes' personal evaluation of their injury (e.g., confidence that they can recover, perceptions of social support; Wiese-Bjornstal & Shaffer, 1999). In fact, an athlete's evaluation of an injury is strongly influenced by her or his personal (e.g., injury history, motivation) and situational (e.g., level of competition, team dynamics) factors. Now, an athlete's thoughts, emotions, and behaviors are believed to constantly fluctuate immediately after becoming injured and throughout the rehabilitation process.

What are some of the problems athletes experience in rehabilitation from injury?

One of the more difficult challenges facing sports medicine professionals is persuading injured athletes to comply with the prescribed rehab plan (Heil, 1995). Some athletes, perhaps due to fear of re-injury, lack of motivation, or even relief at not having the weight of performance expectations, may under comply, or fail to comply altogether. Others, fueled by the "no pain, no gain" belief so common in competitive sport, may *over* comply by doing more than what their athletic trainer or doctor have prescribed, or may participate too soon in prohibited activities in an effort to try to speed their recovery process; these things can actually make the injury worse and delay full recovery. In either case, mental skills can be used to help athletes stay on track with their rehab.

How can mental skills training be helpful for injured athletes?

Several mental skills may be useful in promoting rehabilitation compliance and effectiveness. Perhaps the most critical skill for athletes is *goal setting*. Goal setting is a way to involve the athlete in the charting of their progress and keep them in tune to just how much they are achieving in rehabilitation; it serves as a motivator. Goal setting is a particularly useful skill with regard to rehab compliance because it provides athletes with a "goal window" – the bottom of the window represents the latest they should meet their rehab goal and the top represents the earliest date (Frey, 2008). This provides athletes with flexibility in their rehab and helps them to evaluate whether they may be reaching the goal too quickly (over-compliance) or too slowly (under-compliance). Another skill that has shown to be useful with injured athletes is *imagery*, which is the creation or re-creation of an experience in the mind. Athletes can use imagery to "see" themselves successfully returning to competition, practice "mental reps" of their sport skills, and even visualize the healing process occurring at the site of injury. A third mental skill that is commonly taught to injured athletes is relaxation. By learning to control their breathing and muscular activation through different relaxation techniques, athletes can naturally relieve pain, improve their sleep, and improve muscle tension. Teaching the athlete deep breathing exercises and/or distraction techniques for use during a painful exercise (e.g., trying to get full range of motion back in the injured joint or even when icing) will allow the athlete to gain control over the situation, thus experiencing less pain. There are many apps available in iTunes and Google Play stores that athletes can use for goal setting, imagery, and relaxation to help them recover from their injury.



Where can I learn more?

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