

The Comeback: Rehabilitating the Psychological Injury

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INJURY is a frequent consequence of being an athlete or participating in recreational sport. Each year in the United States, it is estimated that 7 million child and adult sport participants sustain injuries¹ and more than 2 million sport injuries result in an emergency room visit, surgery, and/or rehabilitation.² When athletes become injured, physical

limitations are much more obvious than mental limitations. An adequate rehabilitation program, including both physical and psychological intervention, is essential for most athletes to reach full recovery. Due to a high percentage of non-adherence (30–91 %) to sport injury rehabilitation programs,^{3,4} psychological skills may be

used to increase adherence and subsequently decrease recovery time. Goal setting and mental imagery (with relaxation) can be used to improve adherence, the most common behavioral problem following sport injury.⁵ Along with improvements in adherence to integrating mental skills into the rehabilitation program, athletes could experience an increase in self-confidence and motivation,

as well as a reduction in anxiety and pain associated with rehabilitation.

Goal Setting: Use and Effectiveness for Injured Athletes

Setting a performance goal is a natural part of every athlete's daily routine; injured athletes can use goal setting to facilitate their recovery. A goal is defined as a desired objective toward which effort is directed.⁶ Both athletes and the sports medicine team (which includes the athletic trainer, physical therapist, and physician) agree that goal setting is an important part of the rehabilitation process. In addition, Playford et al.⁷ found that common objectives such as communication, assessment of the outcome of rehabilitation, and adherence to the program were improved through goal setting. Injured athletes often need daily encouragement to keep going to therapy sessions; goal setting can be the motivation that athletes need to adhere to treatment regimens. There are two types of goals that the athlete and the sports medicine team should utilize during rehabilitation: (a) short-term goals are often daily goals that motivate by allowing the athlete to see immediate progress, and (b) long-term goals provide direction and motivation to return to play in the future.

KEY POINTS

▶ Rehabilitation of athletic injury should include both physical and psychological components.

▶ Goal setting will be more effective in producing the desired outcome if the athlete is involved.

▶ Mental imagery can promote healing, decrease pain, and improve both self-motivation and adherence.

Although goal setting is common in the rehabilitation setting, goals are typically set for athletes by the athletic trainer. Injured athletes' motivation, self-confidence, and adherence to rehabilitation can be enhanced when the sports medicine team works with them to implement goal setting. Baker et al.⁸ found that when an athletic trainer conducted goal setting with athletes, greater progress was made toward rehabilitation goals. Furthermore, including the athletes in the goal setting process can help them by creating personal ownership of the rehabilitation goals. As a motivator, goal setting can be used to identify success in rehabilitation thereby increasing self-confidence and improving a potentially negative post-injury mindset to a more positive one; both goal setting⁹ and a positive mindset¹⁰ have been correlated with higher adherence rates in injured athletes. Additionally, Brewer et al.¹¹ found that participants who perceived themselves as recovering rapidly attributed their recovery to more stable and personally controllable factors than participants who perceived themselves as recovering slowly. Athletes who have a positive outlook on the injury and maintain a positive attitude during rehabilitation may also experience an increase in overall rehabilitation success. Goal setting, coupled with a positive mindset and athlete investment, is an effective technique for the sports medicine team to promote both physical and psychological injury recovery.

Mental Imagery: Use and Effectiveness for Injured Athletes

Although not as commonly used as goal setting, mental imagery can be implemented with injured athletes during rehabilitation to maintain a positive outlook, control stress, improve self-confidence, manage pain, and promote healing by imagining injured ligaments or bones repairing. Mental imagery is a skill that involves the visualization of an object, scene, or sensation as though it was actually occurring; however, the athletes are just seeing it in their minds.¹² Athletes can use imagery to imagine their rehabilitation exercises before actually performing the task. Using this technique may improve concentration on the exercise and can lead to an increase in effort throughout the rehabilitation process. Driediger et al.¹² found that imagery was used frequently to rehearse athletes' rehabilitation exercises and that athletes believed imagery was effective in rehabilitating athletic injury. If athletes are unable to

participate, they can use mental imagery to rehearse sport specific skills in their minds. An early study by Woolfolk et al.¹³ showed that when athletes used positive imagery to mentally rehearse a sport skill, the task performance improved without physical practice; using mental skills may be extremely useful post-surgically when limitations are most prevalent.

Handegard et al.¹⁴ found that participants who were given a specifically designed audiotape of guided imagery experienced an increase in self-confidence as compared to the other participants who did not receive a tape. Participants in this study reported ease in visualizing injured tendons and bones healing, and more interestingly, they attributed 30 to 40% of their recovery to using mental imagery. When designing imagery protocols for injured athletes, Dickstein and Deutsch¹⁵ found that rehearsing the imagery script with athletes had a greater effect on the rehabilitation outcome. In order for athletes to have a clear and concise idea on how and when to use imagery, they need to be taught imagery skill and encouraged to practice the imagery as much as possible. Dickstein and Deutsch also found that in addition to practice and education, using relaxation in conjunction with imagery had a positive effect in rehabilitation.

Mental imagery is not a new skill for most athletes; many athletes use imagery without knowing it when they focus on a new sport skill or are asked by the coach to "close your eyes and see the playing field" before a game. Mental imagery is a transferable skill, used by most for performance enhancement but can also be used by an injured athlete during injury rehabilitation. Evans et al.¹⁶ found that during the first week of rehabilitation, athletes feel intense frustration from injury. Imagery can be implemented to help athletes cope with the injury and the rehabilitation process by taking negative images/thoughts and turning them into positive ones. Athletes left alone to think negatively about injury or rehabilitation may be prone to experience setbacks or other negative results.¹⁵ Imagery can also minimize the pain athletes perceive during rehabilitation.¹⁷ When athletes believe that rehabilitation is too painful, they may give up on an exercise or fail to attend rehabilitation sessions; imagery can be used to help athletes imagine the injured bone or tendon healing, while focusing on peaceful images to minimize the pain.

Many imagery studies suggest that athletes use different types of mental imagery during stages of

their rehabilitation. Early phases of injury rehabilitation require a focus on decreasing pain, whereas mid to late stages of rehabilitation may require imagery to be more motivating and specific to rehabilitation exercises or sport skills.¹⁸ Relaxation, healing, and performance/rehabilitation imagery are different types of imagery used throughout the course of rehabilitation. In a recent case study, a Division I soccer athlete was given a set of mental imagery scripts (a relaxation, a healing imagery, and a performance imagery script) to compliment physical rehabilitation (Hamson-Utley, unpublished data, May 2008). Hamson-Utley found that the relaxation script and the healing imagery script were reported as most helpful by athletes and used most often during the first six weeks of rehabilitation, while performance imagery was used most often during the last six weeks of rehabilitation. Sordini et al.¹⁹ have suggested that imagery plays two roles, both cognitive and motivational. They found that the use of mental imagery differed as a result of sport type, gender, age, and type of athlete; competitive athletes used more imagery than recreational athletes. The sports medicine team, therefore, should encourage the use of relaxation, performance/rehabilitation, and healing imagery with their injured athletes, especially competitive athletes. Since athletic trainers have regular contact with athletes during rehabilitation, they are in the best position to implement such an intervention.

Summary

Goal setting and mental imagery are effective mental skills that can be implemented by rehabilitation therapists to improve the injury rehabilitation process for the athlete. Goal setting has been found to be the most effective when the sports medicine team and the athlete collaborated on setting short-term and long-term goals for rehabilitation. In addition, goals can serve as motivators for lengthy rehabilitations as adherence continues to be a challenge. Injured athletes can use mental imagery to maintain a positive outlook, to facilitate relaxation, to improve self-confidence, to manage pain, and to promote healing by imagining injured ligaments or bones repairing. While goal setting is a part of many rehabilitation plans, mental imagery is relatively new to the rehabilitation setting; members of the sports medicine team may need to be educated on the skill and its implementation with injured athletes.

Future research should identify and develop effective and efficient models to increase participation in the use of such interventions. When a sport psychologist is not readily available, continuing education is an avenue to deliver training on mental imagery to those who work with injured athletes. Rehabilitation should include both physical and psychological exercises. Rehabilitating an athlete is often a challenging process; however, incorporating psychological exercises alongside physical exercises will improve the likelihood that injured athletes are returned to the playing field when they are physically and mentally ready. ■

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