

# Therapeutic Imagery and Athletic Injuries

Peggy A. Richardson, PhD  
Leslie M. Latuda, BS

**Abstract:** *The rehabilitation process of an injured athlete can be accelerated if clinicians will use an imagery model in conjunction with existing therapeutic care. There is sufficient evidence to suggest a positive relationship between imagery and the healing process. Thus, we provide athletic trainers and practicing clinicians with basic information relating to the use of imagery in rehabilitation. Specifically, a sample imagery program is discussed incorporating the following prescribed steps: introducing imagery to the athlete, evaluating the athlete's imaging ability, assisting the athlete in developing basic imagery skills, and providing tips on the adjunctive use of imagery in a rehabilitation program.*

One of the most frustrating occurrences in an athlete's career is an injury. One solution for getting an injured athlete back into a sport as quickly as possible is combining imagery with other rehabilitation techniques. In this article, we present basic information on imagery, perspectives on mind-body integration, an athlete's perception of an injury, and suggestions for an adjunctive use of imagery in the rehabilitation program that could lead to a speedy and successful recovery from an athletic injury.

Imagery is a mental technique that allows a person to focus on a particular

physical behavior or skill and to mentally practice that task or skill.<sup>17</sup> All athletes have the capability to expedite their own recoveries by using imagery as a psychological strategy.<sup>12,18</sup> When an injury occurs, athletes should not be confined to a rehabilitation program consisting of only the traditional medical or physical interventions; attention must also be given to the mind-body orientation. The use of an imagery model as an adjunct to existing therapeutic care<sup>7,10,18</sup> allows the athlete to cope better with internal and external pain,<sup>2,3,16</sup> speeds the recovery process of the injured area,<sup>3,5,12</sup> and keeps physical skills from deteriorating.

## The Role of Imagery

Imagery is the ability to use all the senses to create or recreate an experience in the mind.<sup>11,17</sup> Thus, imagery is a sensory experience that occurs in the mind without environmental props.

Imagery research in sport dates back to 1930 when the technique was used to enhance physical practice and to prepare an athlete mentally for competition.<sup>13</sup> Only recently have researchers extended the role of imagery to the rehabilitation process. For example, Green et al<sup>4</sup> suggested that, for every physiological change that occurs in the body, there is a simultaneous change in the mental-emotional state. Further, both imagery and actual experiences trigger similar neurophysiological functions.<sup>7</sup> Applying this concept to an athletic population, Weiss and Troxel<sup>18</sup> suggested that athletes be taught to think constructively and not destructively when dealing with injury management. They advocated visualizing successful rehabilitation as a useful strategy for injury recovery. Since athletes already engage in imagery to im-

prove their physical skills, the transition of using imagery to cope with injuries might be beneficial in addressing varied psychological factors related to injuries.

## Mind-Body Partnership

There is a growing body of medical literature suggesting that a mind-body connection facilitates the healing process. Researchers<sup>1,14</sup> have reported an improved facilitation of the immune system response when activated by imagery. Others have discussed the effective use of imagery during rehabilitation from illness and injuries.<sup>2,3,12,15,16</sup> For example, in a discourse about mental imagery and the traumatic idea, Putnam<sup>15</sup> suggested that therapists who attempt to assist patients in reshaping traumatic ideas often use a variety of treatment techniques, including mental imagery. His major proposition recognized the importance of manipulations of physical and mental behavior with adjunctive mental imagery treatment.

In addition, Fiore<sup>3</sup> reported a high degree of success using imagery exercises with cancer patients. His research indicates positive treatment results and positive attitudes of patients who used visualization skills. Visualization reduces panic-stress images in the mind. Elimination of images that cause vasoconstriction will allow normal blood flow to resume and relax the muscles in the injured area, facilitating healing.<sup>16</sup>

The treatment protocol of wound care methods combined with imagery helped to reduce pain and anxiety associated with burn patients admitted to a hospital burn unit.<sup>2</sup> The success of the procedure was attributed to the potent effect of image on somatic function. Imagining reduced the physiological and verbal expressions of fear and pain.

Imagery is also used to assist in the healing of fractures and hip disarticulations<sup>8</sup> and as a tool in stress management.<sup>6</sup> Both counseling and imagery should be used as psychotherapies with individuals who encounter illness. Patients can confront disease, illness, or injury through imagery, recognize how it looks or feels, and eventually gain control over the illness or the injury.<sup>3</sup>

In the area of sport, rehearsing the skill or movement in one's mind has been shown to keep the body active and

---

*Peggy A. Richardson* is Regents Professor of Kinesiology and Assistant Chair of Kinesiology, Health Promotion, and Recreation at the University of North Texas in Denton, TX 76203.

*Leslie M. Latuda* is a Research Fellow in Kinesiology at the University of North Texas.

send blood to the injured area for faster healing.<sup>7,16</sup> Further, research conducted at the Center for Optimal Performance indicated that when athletes incorporated imagery with other physical therapies, many reported that injuries that were once chronic were no longer a problem.<sup>12</sup> Therefore, the literature supports, to some extent, a link between imagery and sport performance and between imagery and the healing process.

### Psychological Responses to Injury

We have discussed what imagery is and the mind-body integration, but before you can be successful in this area, you must recognize how the athlete is feeling psychologically. After an injury, an athlete typically undergoes a sequence of predictable psychological reactions similar to those of a person who encounters a personal loss.<sup>9,10</sup> Athletes frequently respond to an injury by denying that there is physical damage, but when reality sets in, feelings of anger and depression take over. They may not understand the injury, or they may be apprehensive about their ability to attain the skill level they had before their injury. Thus, the nature of the injury needs to be explained to the athlete in lay terms that will facilitate an image of the injury in the rehabilitation process. Also, knowing what the athlete is feeling psychologically will better enable you to help the athlete cope with the injury, as well as to follow the rehabilitation protocol.

### The Imagery Program

Now that you have acquired an understanding of what imagery is and why it is an important tool in the rehabilitation process, we offer four steps to assist you in establishing a rehabilitation program that includes imagery.

#### Introduce Imagery to the Athlete (Step 1)

Imagery works best when the athlete believes it will assist the healing process. The athlete should understand that imagery will not guarantee a full recovery, but that it has been successful when used adjunctively in the recovery process. Remember, the injured athlete is not very happy with life at this point. Simply define what imagery is and possibly give

him/her a description of famous athletes in sports who have used imagery to improve sport skills and recover from injuries, such as Chris Everett, Jack Nicklaus, Bo Jackson, Greg Louganis, or Troy Aikman. Finally, you should provide a brief explanation of how imagery works so the athlete will know that mentally going through the actions while injured will benefit him/her both during and after the healing process.

#### Evaluate the Athlete's Imagery Ability (Step 2)

You must informally assess the athlete's ability to image (ie, ask questions or have him/her describe "how" and "what" was imaged), and you must recognize that there are differences among athletes. To be successful when using imagery, the athlete needs to have some background training on how to increase his/her ability to image. The athlete needs to be able to see, control, and vividly construct a mind-image. Injured athletes who attend practices and competitions might visualize running through the drills and workouts just as though they were physically performing them.

You now have the ingredients necessary to put together an imagery program; however, it is up to you to analyze the needs of your injured athlete. The following are some tips to get the athlete started:

- Make sure that the athlete is relaxed before imaging.
- Make sure that the athlete is in a quiet setting.
- The athlete should image himself/herself going through the movements or plays.
- The athlete should always have realistic expectations about outcomes.

#### Assist the Athlete in Developing Basic Imagery Skills (Step 3)

Imagery is a skill; therefore, each athlete needs to go through the three phases of vividness, controllability, and self-perception in the basic training (twice a day for 15 minutes) in order to be successful in this program. Further, the clinician should provide the following exercises and narration/instructions for the patient-athlete.

**Vividness (5 minutes).** Practice Exercise—"Pick a basic skill in your sport.

Go over that skill in your mind. Feel the muscles at work as you go through the skill. Feel the contractions, the stretches of every muscle associated with the skill. As you practice the skill in your mind, combine all the sensations that normally occur when you perform the skill. For example, what do you most often see or hear or feel? Do not combine all the sensations at once; go through them slowly, making sure each becomes a part of your practice as you repeat the skill."

Other exercises can also be used. As the athlete masters the exercises of vividly creating these pictures in his/her mind, more complex images can then be presented in order to expand the athlete's imaging abilities.

**Controllability (5 minutes).** Practice Exercise—"Take the sport skill that you imaged in the last exercise. Now, imagine performing the skill with teammates or opponents. Imagine yourself successfully completing plays in relation to the movements and placement of your teammates or the opposition."

**Self-perception (5 minutes).** Practice Exercise—"Look back over your playing career and pick a performance in which you feel you did your best, a time when you felt you had flow and everything was working for you. Play that scene over in your mind using all your senses. Try to pick out the characteristics that made you perform so well and try to identify why they were present in the winning situation. Think about the preparations that were made for the event. Also, think about what caused the great performance."

After the athlete has a basic understanding of imagery techniques, it becomes important to link these skills to the rehabilitation process.

#### Provide Tips on Adjunctive Use of Imagery in Rehabilitation Programs (Step 4)

When implementing the program for an athlete, keep the information concise and simple; focus on the injury. A sample program using a knee injury with a hypothetical athlete is provided.

**Injury Imagery.** Have the athletic trainer or attending physician explain in lay terms exactly what the knee injury entails. Show the athlete an x-ray or picture with the muscles, ligament, and

bones involved in the injury. If the athlete has an understanding of the exact place and an explanation of the injury, the imagery process will be enhanced. For example, a phrase like "the ligaments need to reattach to the bone" will be meaningful to the athlete.

After the explanation, the clinician should have the athlete go through the following exercises:

Exercise 1—"I want you to close your eyes and picture your knee. Now I want you to bring into focus the area the doctor told you was injured. Picture the x-ray and the unattached ligaments. Once you have these in focus, concentrate on one ligament at a time."

When you are sure that the athlete has an image of the injury (about 5 minutes), have the doctor explain the rehabilitation process to the athlete, including exercises to be done, conditioning, and a target date for returning to the sport. After the initial examination, the athlete needs to start on the imagery skills as soon as possible and engage in this first process for 5 minutes, 3 times a day.

Exercise 2—"Now I want you to visualize your knee. See the torn ligaments growing back onto the bone. Feel the ligaments growing and see the knee with all parts completely attached."

**Skill Imagery.** The athlete should attend all team meetings, practices, and games. The athlete should observe plays, strategies, and pay special attention to the situations that surround his/her position. After the practice session or meeting, the athlete needs to go through the following exercise:

"I want you to imagine yourself physically going through the plays in your mind. Take one play at a time but expe-

rience all aspects of the play. Then add to the mind-practice, going through the plays with teammates and opponents. Go through each play one at a time, just as you saw it practiced on the field."

**Injury Rehabilitation Protocol.** After the athlete practices *injury imagery* and *skill imagery* for one week, he/she should progress in the imagery session to the injury rehabilitation protocol.

"I want you to picture your knee where the ligaments are now mending to the bone. You have done a good job in attaching these ligaments in your mind. Now picture your knee completely healed. Mentally raise your knee a couple of inches; now bring it back down. Move it up again and let it back down slowly. I want you to feel the knee raising comfortably."

The athlete should go through this exercise for about 10 minutes 3 times a day. Slowly progress with lifting the knee with each imagery session. After approximately 1 week, alter the imagery exercise so the athlete is walking with little discomfort to the knee.

## Closing Thoughts

Throughout this article, we have tried to offer some helpful hints on imagery and how it can be a productive tool in the rehabilitation of the injured athlete. There are numerous stories of athletes who have used imagery and had remarkable recoveries from injury and quick returns to their former skill levels. We hope that when you implement this imagery protocol into your rehabilitation program, you and your athlete reap great benefits. Just remember that imagery is only productive when used and practiced

throughout the healing process. You are now on your way in helping your athletes to a speedy recovery.

## References

1. Achterberg J. Enhancing the immune function through imagery. Presented at the Fourth World Conference on Imagery; May 1991; Minneapolis, MN.
2. Achterberg J, Kenner C, Lawlis F. Severe burn injury: a comparison of relaxation, imagery and biofeedback for pain management. *J Ment Imag.* Spg 1988;12:71-88.
3. Fiore N. The inner healer: imagery for coping with cancer and its therapy. *J Ment Imag.* Sum 1988;12:79-82.
4. Green E, Green A, Walters E. Biofeedback for mind/body self-regulation: healing and creativity. In: Peper E, Ancoli S, Quinn M, eds. *Mind/Body Integration: Essential Readings in Biofeedback.* New York, NY: Plenum Press; 1979:125-140.
5. Green L. The use of imagery in the rehabilitation of the injured athletes. *Sports Psychol.* 1992;6:416-428.
6. Hanley G, Chinn D. Stress management: an integration of multidimensional arousal and imagery theories with case study. *J Ment Imag.* Sum 1989;13:107-118.
7. Ievleva L, Orlick T. Mental links to enhance healing: an exploratory study. *Sports Psychol.* 1991;5:25-40.
8. Korn E. The use of altered states of consciousness and imagery in physical and pain rehabilitation. *J Ment Imag.* Spg 1983;7:25-34.
9. Kubler-Ross E. *On Death and Dying.* New York, NY: Macmillan Publishing Co; 1969:38-137.
10. Kulund D. *The Injured Athlete.* Philadelphia, PA: JB Lippencott Co; 1982:213-224.
11. Leuba C. Images as conditioned sensation. *J Exp Psychol.* 1940;26:345-351.
12. Lynch G. Athletic injuries and the practicing sport psychologist: practical guidelines for assisting athletes. *Sports Psychol.* 1988;2:161-167.
13. Martens R. Imagery in sport. Presented at the Medical and Scientific Aspects of Elitism in Sport Conference; Sep 1982; Brisbane, Australia.
14. Post-White J. The effects of mental imagery on emotions, immune function and cancer outcome. Presented at the Fourth World Conference on Imagery; May 1991; Minneapolis, MN.
15. Putnam F. Mental imagery and the traumatic idea. *J Ment Imag.* Spg 1991;15:151-153.
16. Sarno J. *Mind Over Back Pain.* New York, NY: Morrow & Co; 1984:33-112.
17. Vealey R, Walters S. Imagery training for performance enhancement and personal development. In: Williams J, ed. *Applied Sports Psychology.* Mountain View, CA: Mayfield Publishing Co; 1986:216-227.
18. Weiss M, Troxel R. Psychology of the injured athlete. *Athl Train, JNATA.* 1986;21:104-109, 154.