

Incorporating Stress Management into Athletic Injury Rehabilitation

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Objective: Our objective is to provide a paradigm that can assist certified athletic trainers in selecting and implementing techniques to help athletes cope with the stress associated with injury.

Background: The psychological impact of injury and the stress associated with rehabilitation are well known in the athletic training room. Specific stress management techniques should be determined by the personality of the athlete, the specific stressors associated with the injury and rehabilitation process, and the education and expertise of the certified athletic trainer. Therefore, it is important that certified athletic trainers be proficient in stress theory regarding the psychological aspects of injury, as well as the techniques to address them.

Description: We provide a framework that applies transactional theory to athletic injury and suggests that an athlete's belief about injury plays a central role in the stress reaction. It describes the role of the certified athletic trainer in addressing the 4 components of transactional theory: 1) increased awareness, 2) information processing and appraisal, 3) modified behavior, and 4) peaceful resolution with injured athletes.

Clinical Advantages: The application of this conceptual framework allows certified athletic trainers to differentiate stress management techniques based on the individual athlete's reaction rather than apply a generic approach.

Key Words: coping, sports medicine, athletic trainers

While there exists a considerable body of literature regarding the psychology of injury and the stress reaction involved in athletic injury,¹⁻⁶ the literature regarding direct application of stress management techniques by the athletic trainer in the rehabilitation process is limited.⁷⁻¹⁰ In this article, we will discuss the role of the certified athletic trainer in reducing the impact of the stress reaction on injured athletes.

Throughout this article the word "stress" is used to denote the "nonspecific response of the body to any demand made upon it,"¹¹ and the term "stressor" is used to denote the situation or demand that produces stress. "Rehabilitation" refers to retraining and reconditioning the musculoskeletal system to regain the level of physical fitness present before the injury.

The model by Andersen and Williams¹² of stress and athletic injury describes the stress response as a precursor to injury. Once an athlete is injured, however, the injury itself is associated with the stress response in a reciprocal manner. The level of stress experienced may continue to be a function of the athlete's personality, history of stressors, coping resources, and stress management interventions, as suggested by Groye and Gordon,¹³ who extended the Andersen and Williams¹² model. Too much or too little stress may hinder the ability of the athlete to effectively perform rehabilitation.

Stress and coping are ways the body reacts and adapts to stressors to return to a state of equilibrium after a traumatic event (ie, injury). The development of individualized stress management techniques is therefore necessary to help athletes

effectively cope and adjust to injury, as well as to the rehabilitation process.

Lazarus¹ conceptualized stress and coping as a unique interaction between the individual and the environment and later developed a transactional (bidirectional, dynamic, mutually reciprocal) model.¹⁴ This model incorporated an individual's cognitive appraisal of stressors into the stress response. This model suggests that a person's belief, as well as his or her appraisal of the event, plays a central role in how the person reacts to that event. The 4 components of the transactional theory are 1) increased awareness, 2) information processing and appraisal, 3) modified behavior, and 4) peaceful resolution. These components may provide a paradigm for athletic trainers to incorporate stress management into the rehabilitation process.

APPLICATION PROCESS

Increased Awareness

Increased awareness involves a series of interactions in which both the athletic trainer and the injured athlete develop a clear understanding of the stress associated with the injury. This awareness includes discussing and viewing the injury in a narrow perspective (the rehabilitation process) as well as a broad perspective (the ripple effect of the injury in the athlete's life). The establishment of open and trusting relationships between athletic trainers and athletes allows athletic trainers

opportunities to assess athletes' perceptions of their stressors and to affect athletes' abilities to cope.

To use this information effectively and efficiently, athletic trainers may also benefit from courses, seminars, workshops, or lectures related to personality and personality assessments associated with stress and coping. For example, having a ballpark idea about Type A and Type B personalities¹⁵ may help the athletic trainer anticipate some aspects of an athlete's reaction to the stress of injury and rehabilitation.

For instance, Megan is a 21-year-old long distance runner at a Division I school, and she has a stress fracture. She reacts to her injury with behaviors that are common to Type B personalities in stressful situations (ie, withdrawal, avoidance, and absence of time urgency¹⁴). Increased awareness of this personality trait allows the athletic trainer to discuss with Megan the interaction of personality traits with the rehabilitation process. The suggestion of techniques and strategies (relaxation, cognitive restructuring, visualization) may help Megan to actively engage in the rehabilitation process. Being actively engaged in the rehabilitation process will reflect her commitment and counteract the athletic trainer's perception that she is unmotivated and noncompliant.

Information Processing and Appraisal

Awareness of athletes' personalities leads athletic trainers toward an understanding of how personality interacts with injured athletes' appraisals of the information related to injury and rehabilitation. According to Lazarus,¹ information processing is divided into primary and secondary appraisal.

Primary appraisal assesses the existing harm or loss that the stressor elicits. In the example of Megan, the primary appraisal is that the injury has taken away her ability to run and compete in a sport she loves. It has removed her from teammates and social support. The athletic trainer can assume a social support role by listening to Megan.

The secondary appraisal process determines existing coping strategies that can reduce the stress reaction resulting from the primary appraisal of harm or loss and then reviews steps toward modifying behaviors associated with the stress response. At this point in the example, rather than assuming that Megan is not coping, the athletic trainer discusses with Megan how she sees herself adjusting and explores with her ways to employ coping strategies.

Modified Behavior

The psychological impact associated with injury has been shown to affect motivation,¹⁶ positive self-talk,¹⁷ concentration,¹⁸ and feelings of control¹⁹ during rehabilitation sessions. Coping strategies addressing these issues can be psychological (eg, cognitive restructuring) or physical (eg, behavioral modification). The athletic trainer engages in an interactive process with the athlete that matches stress symptoms to specific coping strategies. For example, a psychological symptom such

as worry can be linked to the psychological technique of self-talk, and physical symptoms of exhaustion can be linked to the physical technique of relaxation.

The application of stress management techniques must be tailored to fit each athlete's personality and environment and assumes that the athlete is able to employ the technique. Before implementation, the athletic trainer needs to ask the athlete to explain the stress management technique back to the athletic trainer. In the case of Megan, she agrees with the athletic trainer that daily goal setting would help her gain time to accomplish what she wants and that she should interact with her teammates. However, when the athletic trainer asks Megan how she plans to set her goals, she responds by saying, "I don't know." At this point in the process of modifying Megan's behavior, the athletic trainer needs to teach a technique for goal setting or refer to an appropriate resource so Megan can learn the coping strategy chosen.

Some athletes cope very well with injury and rehabilitation and may not need or want additional intervention. These athletes may already effectively employ psychological or physical stress management techniques and may have developed the buffers necessary to deal with the stress associated with injury. The difference between buffers and stress management techniques is that stress management techniques deal directly with the stressor the athlete is experiencing (eg, worry), whereas buffers are strategies or healthy lifestyle behaviors (eg, good nutrition) that absorb the initial impact of the injury.²⁰ The link between the rehabilitation process and a healthy lifestyle may be one that the athletic trainer wants to reinforce with these athletes.

Through implementing stress management techniques or reinforcing lifestyle buffers, the athlete learns to share control of the rehabilitation process with the athletic trainer. Teaching the athlete to assume some control and responsibility for the rehabilitation process helps to increase compliance and avoid feelings of helplessness.

Peaceful Resolution

The final component of Lazarus's¹⁴ model is for the injured athletes to arrive at a peaceful resolution. This is not to say the perfect solution must be achieved, but it must be one that produces peace of mind. To achieve a peaceful resolution, the athletic trainer reviews the rehabilitation process with the injured athlete and helps the athlete evaluate the psychological and physical accomplishments associated with the rehabilitation process. This process also incorporates a discussion of decisions related to the athlete's continued involvement in sport.

Regardless of the decision, emotional support for the athlete is not terminated. It is important to note that the athletic trainer can provide emotional support and be on the athlete's side without having to be in total agreement with the decision the athlete has made. For example, supporting Megan, who wants to continue competing, is not the same as agreeing that it is the

best thing for Megan. However, acknowledgment that the athlete has the right to make decisions about his or her life is important. If a peaceful resolution is not reached and the stressor is still present, performance in rehabilitation or sport may continue to be adversely affected.

CONCLUSIONS

The paradigm described in this manuscript serves as a guide for athletic trainers to incorporate stress management into the rehabilitation process. Specific techniques for employment in the rehabilitation process should be determined by the personality of the athlete and the specific stressors associated with the injury and rehabilitation process, as well as the education and expertise of the athletic trainer. Therefore, it is important that athletic trainers be knowledgeable in the psychological aspects of injury, as well as in the psychological and physical techniques necessary to address them.

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