Evaluation and Treatment of Persistent Pain and Myofascial Pain Syndrome

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A thletic therapists treat athletes suffering from a wide variety of musculoskeletal conditions. These problems can be categorized by anatomical region, pathology, or causative factors.

Regardless of how the injury is described, proper diagnosis and treatment usually resolves the symptoms, promotes healing, and allows for a return to unrestricted sports participation. In fact most athletes and clinicians associate the resolution of symptoms with tissue repair. However, some athletes fail to respond and their symptoms persist beyond the normal time frame for tissue repair and maturation.

Persistent pain is frustrating to the athlete, coach, athletic therapist, and team physician. Is the problem related to a failure to heal or does the pain linger even though healing has already occurred?

In this article we briefly review the most common causes of persistent pain in athletes. Specifically, we will discuss the problem of myofascial pain syndrome (MFPS) in some depth. We hope this article helps athletic therapists to better identify the source of persistent pain when working with athletes who have not responded to treatment, as well as giving them a better understanding of the complexities of myofascial pain and somatization.

Persistent Pain

Causes

The causes of persistent pain span the spectrum from physical to mainly psychological (see Figure 1). The physical causes involve a failure to fully diagnose the problem, a failure to correct underlying biomechanical stresses, inappropriate treatment, or a rest-reinjury cycle. However, physical pain can also be a symptom of psychological stress and depression.

The causes of reflex sympathetic dystrophy and myofascial pain syndrome are complex and not fully understood, but psychological stress appears to contribute to or exacerbate these conditions. If pain fails to resolve, the sports therapist must reevaluate the injured athlete, beginning with the physical causes. If the initial diagnosis is confirmed and the treatment plan is appropriate, other causes should be investigated.

Diagnosis

When pain persists, the athletic therapist should reevaluate the injury and complaint of pain as though it were a new problem. In one instance, for example, an athlete diagnosed with bilateral plantar fasciitis failed to respond to treatment; reevaluation re-

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**Figure 1** A continuum of causes of persistent pain.
revealed that she really had bilateral navicular stress fractures (Denegar & Siple, 1996). The plan of treatment was modified and her persistent foot pain was resolved. Thus, the first step in reevaluation is to reconsider the original diagnosis.

An evaluation of the injured athlete’s movement mechanics is also an essential part of a comprehensive physical exam. Failure to identify biomechanical flaws may leave the major cause of an athlete’s persistent pain untreated. For example, a failure to recognize and control excessive subtalar pronation may compromise the response to the treatment of conditions such as medial tibial pain, plantar fasciitis, and patellofemoral pain.

Similarly, the role of the scapula in proper shoulder function is appreciated more fully than ever. Strategies that improve scapular stabilization may be the key to relieving persistent shoulder pain. The athletic therapist must recognize and correct biomechanical causes of injury when treating athletes whose symptoms fail to resolve.

**Plan of Care**

Persistent pain after injury or surgery can sometimes be attributed to an inappropriate or incomplete treatment. The athletic therapist must develop a comprehensive plan of treatments and therapeutic exercises that place appropriate stresses on healing tissues.

An aggressive postsurgical regimen of therapeutic exercises following patella bone-tendon-bone anterior cruciate ligament reconstruction can result in patella tendinitis in some patients. These problems must be identified, and the exercise regimen modified, to prevent the development of persistent anterior knee pain.

The appropriate treatment and rehabilitation program for specific athletic injuries is too extensive to be presented in this paper. Suffice it to say that when an athlete’s pain persists, the plan of care should be thoroughly reevaluated.

**Rest-Reinjury Cycle**

Excellence in sports requires that athletes put forth maximum effort in their training, in spite of pain. Injured athletes will generally accept a period of rest until the pain is relieved. Once the pain goes away, it is often interpreted as a sign that the tissue is healed and the athlete can return to unrestricted practice and competition. If the tissue is not ready, reinjury occurs and the rest-reinjury cycle begins (Peppard & Denegar, 1994).

The athletic therapist must appreciate that rehabilitation extends beyond specific treatments and therapeutic exercises and must include a gradual return to functional exercises. When the athletic therapist recognizes that persistent pain may stem from a rest-reinjury cycle, he or she can educate the athlete as to the differences between conditioning and reconditioning after injury. Reconditioning requires careful control of exercise intensity, frequency, and duration.

The exercise program must allow the athlete to stay within the exercise tolerance window. Exercise that results in pain severe enough to alter movement patterns must be avoided, and intensity and duration must be limited to avoid after-exercise pain.

A good rule of thumb is that the athlete should be able to do tomorrow what was done today. If he or she is too sore to repeat yesterday’s therapeutic and functional exercises, that means the exercise tolerance limit was exceeded and the rehabilitation process was slowed. When the rehab program is well structured, the exercise tolerance window widens and the athlete is better able to tolerate exercise-induced pain.

The athlete’s training must be specific, structured, and when possible, supervised. Coaches and strength and conditioning specialists can be invaluable in helping the injured athlete progress in a program of gradually more demanding sport-specific exercises and general reconditioning.

**Reflex Sympathetic Dystrophy**

Reflex sympathetic dystrophy (RSD) is a symptom complex characterized by pain that is disproportional to the injury. There is hypersensitivity to touch and movement, joint stiffness and muscle guarding, edema, erythema, hyperhidrosis, and osteopenia (Gieck & Buxton, 1986). The etiology of this condition is not fully understood, making treatment a greater challenge.

RSD may occur even after minor injury or following surgery. The symptoms can surface either immediately or later. An athlete may experience a normal post-injury or postsurgical course for several days before the first signs of RSD appear. In some cases the onset of RSD may not appear un-