

## **Non Pharmacological Management of Persistent Pain in Elite Athletes: An Article Review**

### **Overview:**

When it comes to treating elite athletes with persistent pain there are a lot of similarities to treating anyone with persistent pain however there are a few differences to consider. First, a similarity is that we still want to apply the biopsychosocial model to consider the athlete as a whole. Our athletes are not just their injury. They have emotions and social lives within their sport and outside of their sport that which will have an impact on their pain. One of the biggest differences with treating the athletes is that their pain is likely to impact their performance which is an added stress. Treatment may also differ if they are in season versus out of season.

### **Types of Pain:**

**Nociceptive:** Pain that confines to a distinct anatomical structure, worsened by heating the affected tissue and showing predictable and consistent sensitivity to mechanical loading.

**Neuropathic:** Pain distributed along a peripheral nerve distribution and associated with demonstrable injury or lesion to the somatosensory nervous system.

**Nociplastic:** Pain that is regionally distributed, not worsened by heating the tissues, is associated with mechanical sensitivity at remote sites but not with demonstrable inflammation, injury, or structural deformation.

**Mixed pain:** Often individuals do not present with just nociceptive, neuropathic or nociplastic pain. They often present with a combination of two or more types of pain that is why using the biopsychosocial model is key.

### **Pain's effect on performance and nonperformance:**

Pain will affect an athletes performance but just as important is how pain may affect their life outside of sport. Pain can impact an athlete's diet, social behavior and relationships, sleep, learning and mood. These are, not surprisingly, reciprocal relationships where pain affects sleep and sleep affects pain.

## **Nonpharmacological management of persistent pain:**

### **Pain science education:**

First there needs to be targeted education about pain. This should include some target concepts that are listed in the table below:

There are danger sensors, not pain sensors
Any credible evidence that protection is warranted will increase pain; any credible evidence that it's not will decrease pain
The protective buffer offered by pain is expanded by inflammation
The protective buffer offered by pain is expanded by injury and pain history
Pain depends on context
Athletes are humans too
Pain does not equal injury

When discussing these topics, you need to help the athlete re-conceptualize their pain. This requires a good relationship between the therapist and the athlete and the athlete being open to change their opinions on pain.

### **Loading Management:**

This is where our traditional PT knowledge comes into use. During your examination you need to determine what is contributing to the athlete's pain. Once you determine what is driving the pain you need to remove what is provoking the pain and apply any analgesic loading that is warranted. Loading may differ depending if the athlete is in season or out of season. During the season you may be focusing more on pain reduction and may not be fully rehabilitating the injury due to loading that is applied during practice and competition.

### **Psychological Treatment:**

Psychological therapies should also be included in the treatment of athletes to help them with non-pain related factors that impede participation in optimal pain management and rehabilitation. One of these factors could include sleep. A strategy for improving sleeping could include Cognitive Behavioral Therapy (CBT) and mindfulness based stress reduction. Another

strategy that is used to impact athletes' psychological flexibility is called Acceptance and Commitment Therapy (ACT). This can help athletes be more willing to accept their pain which can help in the healing process. It is said that athletes have advanced pain coping strategies but have difficulty in discriminating between injury related pain and non injury related pain.

Ultimately to help manage these athletes it takes a cohesive message and a team approach from the rehabilitation professionals, coaches, athletic trainers and a psychologists.

Moseley GL, Baranoff J, Rio E, Stewart M, Derman W, Hainline B. Nonpharmacological Management of Persistent Pain in Elite Athletes: Rationale and Recommendations. Clin J Sport Med. 2018 Sep;28(5):472-479. doi: 10.1097/JSM.0000000000000601. PMID: 30024479.