

**Chronic ankle pain and fibrosis successfully treated with a new noninvasive augmented soft tissue mobilization technique (ASTM): a case report.**

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The authors are from Ball Memorial Hospital, Muncie, IN, and they use a clinical case report to demonstrate the clinical effectiveness of a new form of instrumented soft tissue mobilization in the treatment of excessive connective tissue fibrosis (scar tissue) around an athlete's injured ankle.

Post-traumatic scar tissue was causing the athlete to have pain with activity, pain on palpation of the ankle, decreased range of motion, and loss of function. Surgery and several months of conventional physical therapy failed to alleviate the athlete's symptoms.

The authors discuss the mechanical and neurological adverseness caused by connective tissue fibrosis. They note:

"Many athletes develop excessive connective tissue fibrosis (scar tissue) or poorly organized scar tissue in and around muscles, tendons, ligaments, joints, and myofascial planes as a result of acute trauma, recurrent microtrauma, immobilization, or as a complication of surgical intervention."

"This can lead to soft tissue adhesions, tendinitis, tendinosis, fascial restrictions, and chronic inflammation or dysfunction which in many cases responds poorly to conventional treatments."

Excessive scar tissue contributes to chronic soft tissue dysfunction that cause significant disabilities and time lost from work or training activities, and these problems are often difficult to successfully treat.

Augmented Soft Tissue Mobilization Technique originated from and expanded on the concepts of cross-friction massage, and allows a specific and controlled amount of microtrauma into an area with excessive or poorly organized scar tissue.

"This controlled micro-injury causes microvascular trauma and capillary hemorrhage that induces a localized inflammatory response."

"The inflammatory response is the initial step for the body's healing cascade and immune/repairative system."

"This process appears to stimulate connective tissue remodeling through resorption of fibrosis, along with inducing repair and regeneration of collagen secondary to fibroblast recruitment."

COMMENTS FROM DAN MURPHY:

This article fits well into our classroom model:

- 1) Trauma leading to scar tissue, fibrosis, and adhesions, what we call "the fibrosis of repair."
- 2) This leads to chronic inflammation and dysfunction. Recall that chronic inflammation alters the thresholds of the nociceptive afferent system, what we call "altered threshold and/or supersensitivity."
- 3) Mechanical management helps to "remodel" the adverse fibrosis, helping to restore function.