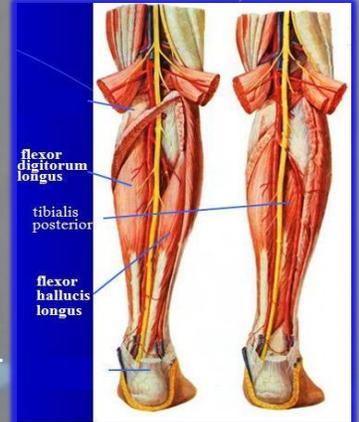


MEDIAL TIBIAL STRESS SYNDROME: SHIN SPLINTS

by: Dr. Julia Callaghan, B.Sc (Hons), DC

Medial tibial stress syndrome (MTSS), previously known as shin splints, is a common injury among soccer players. MTSS presents as a diffuse pain along the inside border of the tibia (shin), typically in the lower 4-6cm. Most commonly, the pain is caused by overuse or repetitive strain of a combination of three muscles: soleus, tibialis posterior, and flexor digitorum longus. These muscles all have attachment points along the medial/inner border of the tibia – when they are chronically strained they begin to pull away and inflammation is created; this leads to pain and weakness.

It is important to distinguish MTSS from a stress fracture of the tibia, as well as, from chronic exertional compartment syndrome. Typically, pain felt from a stress fracture is more local while pain from MTSS is described as diffuse. When in doubt, a radiograph may help to identify a stress fracture. It is possible that stress fractures may not appear on x-ray in which case a bone scan is more sensitive. Chronic exertional compartment syndrome is a vascular condition that occurs during exercise. The pressure in the lower leg increases to such extremes that the muscles become deprived of blood and oxygen. This results in sensations of extreme tightness and burning.



MTSS typically presents as palpable pain along the medial/inner border of the lower third of the tibia. This pain may be aggravated by passive stretching of the soleus (a muscle in the calf), performing heel raises or single leg hops. A vascular and neurological assessment would be normal.

No single cause of MTSS has ever been identified, but risk factors include:

- Abrupt increase in training
- Increased pronation
- Muscle Imbalances in the lower leg/lower extremity
- Hard or inclined running surfaces
- Inadequate shoes
- Previous injuries

Treatment options for MTSS include: relative rest, stretching, strengthening, and manual therapy including ART®, acupuncture, elastic taping, and guided return to play. As always, the best option is prevention! Take a good look at the risk factors above – most of them are easily modifiable!

Have a great season!



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Dr. Julia Callaghan is a chiropractor who takes a functional, evidence-based approach to care. She is certified in Active Release Technique (ART), Contemporary Medical Acupuncture, Graston, Elastic Taping, Selected Functional Movement Assessment (SFMA), Activator Methods, and is a Certified Strength and Conditioning Specialist (CSCS). She has worked at the PanAm Games, and is Assistant Coach of the Women's Varsity Soccer team and UW.