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Newsletter

“Chiropractic care: the frontline in preventing and treating acute and chronic musculoskeletal pain.”

Shin Splints: A Runners Nightmare

As a runner there is no worse feeling than when you begin to experience sharp pain around the shin bone as your feet hit the ground. Shin splints or the more correct term “tibial stress syndrome” are a tenoperiostitis. Meaning, microtearing occurs where the muscle fascia of the tibialis anterior/posterior muscles attach to the bone. This can occur along the anterior (front) portion or the posterior (back) portion of the shin (tibia).

Shin splints are generally an over-use or high stress loading type injury, where the muscles in the feet which help to support the foot and act as shock absorbers fatigue. The shock then travels up the leg affecting the shin where the muscle inserts into the bone.

A recent study involving American College athletes found those more at risk of developing shin splints had:

- Only started under taking athletic activity in the last five years
- A previous history of shin splints
- A previous history of stress fractures
- Used orthotics

Furthermore, there is some evidence to suggest that there is an association between a dropped navicular bone (small bone in the mid-foot) and the occurrence of shin splints.

Currently there are no solid evidence-based interventions that prevent lower extremity stress reactions and fractures, with studies investigating the use of calcium supplementation, pre-performance stretching and foot orthotics.

There is limited evidence to support the use of customised, semi-rigid, “shock absorbing” insoles for the treatment of pain and injury prevention associated with plantar fasciitis and posterior tibial stress fractures.

The correct way to manage shin splints if they do occur is through rest, ice-massage, compression, anti-inflammatory (oral or topical) and a graded return to activity rehabilitation program, which should include exercises to strengthen, stretch and improve balance and proprioception within the feet and legs. Additional external factors such as diet, hydration, training techniques and schedules should also be addressed.

Chiropractic care can be of benefit to help restore normal function to the joints in the feet, ankle, knee, hip and lower back as well as helping to rebalance the muscles in the lower extremities. Remember if you are in doubt or it fails to recover with rest and ice, see a primary health care practitioner.

Hobbar T, et.al “Contributing Factors to Medial Tibial Stress Syndrome: A Prospective Investigation”, *Journal of Medicine and Science in Sport and Exercise*, 2009, March, 41 (3), pages 490-496

Hume P, et.al “Effectiveness of Foot Orthoses for Treatment and Prevention of Lower Limb Injuries: A Review”, *Journal of Sports Medicine*, 2008, 38 (9), pages 759-779

Johnston E, et.al “A Randomised Controlled Trial of Leg Orthosis versus Traditional Treatment for Soldiers with Shin Splints: A Pilot Study”, *Journal of Military Medicine*, 2006, 71, pages 40-44

Have Your Say

If you have any feedback or would like your questions answered, send it through to:

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Occupational and Non-Occupational Musculoskeletal Injuries

Occupational or workplace injuries are a huge burden for employers, costing the economy billions of dollars every year. In 1999, a National Academy of Sciences Study in the US found the total costs of musculoskeletal injuries in the workplace to be more than one trillion US dollars per year. The study found that effective prevention of workplace pain through active intervention was not only possible, but would result in significant cost savings for the employer while in turn, reducing the disability experienced by the employee (Melhorn and Gardner, 2004).

Musculoskeletal injuries (any injury involving bones, joints, muscles, tendons, ligaments) account for over half of all workplace injuries and a study in the US found that occupational back pain is the single most common and costly musculoskeletal disorder in the work place (Baldwin, 2004).

For employers there is often a blurring of when and where an employees' injury occurred, at the workplace or off the job. A paper in the US found that 28.6% of injuries to working age adults were work-related. It also found that the mechanisms of injury, for work and non-work injuries were similar and these included:

- Falls
- Overexertion
- Struck/Caught by something

It also found that motor vehicle accidents were less likely to occur at work, but overexertion injuries were more likely to occur at work.

This overlap in initiating injury mechanisms between work and non-work suggests that there is an opportunity here to broaden injury prevention programs. Programs which are traditionally confined to one specific setting. Recommendations from one study suggests, by creating a "global", work and non-work injury prevention program it "may result in considerable cost savings not only to society but also directly to the employers, who incur most of the associated costs" (Smith et.al, 2006).

One of the greatest strengths of the Chiropractic treatment model is its focus on preventative care. With a recent study showing preventative Chiropractic care trends towards reducing lower limb injuries. The evidence is clear that Chiropractic works for acute musculoskeletal injuries, but its strength in preventative care should also be considered as a part of any occupational injury prevention program.

Baldwin ML, "Reducing the Costs of Work-Related Musculoskeletal Disorders: Targeting Strategies to Chronic Disability Cases", Journal of Electromyography and Kinesiology, Feb 2004, 14 (1), pages 33-41

Hoskin W, Pollard H, "The Effects of a Sports Chiropractic Manual Therapy Intervention on the Prevention of Back Pain, Hamstring and Lower Limb Injuries in Semi-Elite Australian Rules Footballers: A Randomised Control Trial", BMC Musculoskeletal Disorders, April 2010

Melhorn JM, Gardner P, "How We Prevent Prevention Musculoskeletal Disorders in the Workplace", Journal of Clinical Orthopaedics and Related Research, Feb 2004, (419), pages 285-96

Smith G, "Blurring the Distinction Between On and Off the Job Injuries: Similarities and Differences in Circumstances", Journal of Injury Prevention, August 2006, 12 (4), pages 236-241

Latest Research on the Effectiveness of Manual Treatment for Musculoskeletal Conditions

A paper from the UK, published in February 2010 reviewing the quality and quantity of scientific evidence surrounding manipulation and mobilisation for the treatment of musculoskeletal complaints revealed the following.

Spinal manipulation and/or mobilisation is effective in adults for:

- Acute/Subacute/Chronic lower back pain
- Acute/Subacute neck pain
- Migraine headaches
- Cervicogenic headaches
- Dizziness

Manipulation/mobilisation is effective for several extremity joint conditions.

Bronfort G, et.al "Effectiveness of Manual Therapies: The UK Evidence Report", Journal of Chiropractic and Osteopathy, Feb 2010, 18 (3)