

Dear Patient

Shin Splints

Shin Splints is a generic term used to describe pain felt along the front or inside of the shins. It is a common syndrome sparked by overuse or overload, particularly in sports that involve repetitive jumping and running. Activities involving a high degree of impact can result in a pressure build up within the muscles of the calf (compartment syndrome), inflammation of the shin bone (periostitis) or, in extreme cases, stress fracture of the shin bone.

ANATOMY

The lower leg is made up of two bones, the larger tibia (shin bone) and the smaller fibula (bone on the outside of the leg). Four groups of muscles attach to these bones, controlling movements of the foot and toes. These muscle groups are named - anterior compartment (at front of shin), lateral compartment (on outside of shin), posterior compartment (at the back of the leg) and the deep posterior compartment on the inner side of the shin. The muscles of the deep posterior compartment are those most commonly affected in shin splints. Each muscle group is surrounded by strong connective tissue which attaches the muscles onto the bone.

Tibialis Posterior is one of the muscles located within the posterior compartment. It arises from the tibia and runs down into the arch of the foot, helping to support the arch. When the foot pronates or rolls, as it does when accepting weight, the flattening arch pulls on the Tibialis Posterior muscle and its tendon. This pull is transferred to the muscle's attachment at the tibia.

HOW DO SHIN SPLINTS DEVELOP ?

Shin splints are usually associated with a sudden change in activity or circumstance involving the lower limbs such as with a change of running surface or footwear, increase in training intensity, or a resumption of sport following a break. Occasionally, they develop gradually over a period of time. If the muscles of the posterior compartment are overworked, they may become swollen or engorged with blood. This stretches the surrounding connective tissue which, in turn, 'pulls' on the bone. This irritates the bone's surface and a condition called periostitis develops.

COMMON SIGNS AND SYMPTOMS

- Pain felt on the side of the shin.
- Pain made worse with activity, eased with rest.
- Pain gradually worsens with time.
- Pain aggravated by pressing on the shin bone and surrounding muscles.
- A deep ache or persistent tightness in the calf muscles.
- Throbbing pain in the calf muscles.



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TREATMENT OF SHIN SPLINTS

Initial treatment is aimed at reducing pain and inflammation using ice, rest, anti-inflammatory medication if prescribed and electrotherapy. Ice may be applied regularly every 2 to 3 hours for 15 to 20 minutes over the affected area and, most importantly, after aggravating activities. Rest, either complete or partial, from aggravating activities is highly recommended to allow the inflammation to settle and give the affected muscles time to recover.

Swimming and deep water aerobics are good ways of maintaining aerobic fitness while resting the affected leg from impact and further damage.

Further treatment will vary depending on the causative factor. Strategies may include change or modification of footwear, orthotics, foot strapping, specific stretching and strengthening exercises, cross friction massage, myofascial release, and education.

If not treated, shin splints may cause a stress fracture of the tibia to develop. If shin splints do not respond to treatment and rest, further investigation is required.



In some cases, shin splints will not respond to treatment and will require complete rest from aggravating activities for a prolonged period of 4 to 12 weeks. If this is unsuccessful, surgery (fasciotomy) may be recommended.



Foot strapping may change lower limb biomechanics, reducing stress and pressure on the shin, improving symptoms.

Disclaimer : The material contained in these pages is intended as a guide only and does not constitute advice or treatment. For further information, please see your qualified health professional.

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