

Tibial Stress Fracture

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What is a tibial stress fracture?

A stress fracture is the development of a microfracture of a bone due to repeated bending of the bone. In essence this is like taking a piece of wire and bending it backwards and forwards until it eventually breaks. A tibial stress fracture is micro fracturing of the shinbone related to oversteering of that bone.

What are the symptoms?

A stress fracture produces pain, which is fairly localised to the area of the bone that is involved. The pain will tend to occur with walking or running and as it gets worst there may be a continued pain even at rest. Unlike shin splints where the pain tends to get better with longer running, a stress fracture tends to get worst with continued running.

What causes a stress fracture?

Continued abnormal stress lines through the bone are caused by all the same things that cause shin splints. The common causes are flat feet, heavy pronation of the foot, running on hard surfaces, running on the camber of a road in the same direction all the time and repeated jumping sports.

What are the risks?

A stress fracture is basically a small break in the bone, which has not gone all the way through the bone. Therefore, continued injury at the sight of a stress fracture may cause the shinbone to break completely and this will not require a lot of force.

Are any tests required?

It is very important to confirm the diagnosis of a stress fracture. It is also important that it heals completely. So, whenever a stress fracture is considered a possible cause of leg pain, then an x-ray of the bone followed by a bone scan is almost always needed.

What can I do to treat this?

If you suspect that you may have a stress fracture of the tibia then it is very important to be properly assessed by a sports doctor and have the appropriate investigations. I would not advise self-treatment as inadequate treatment may result in a complete break of the tibia with all of the long-term complications of this.

What treatments are available?

Resting from the cause of a stress fracture is almost always all that is necessary to heal that stress fracture completely. Because the bone is actively healing at the time of diagnosis, then stopping the running will almost always heal it completely. Unfortunately there is a significant time frame for healing and this varies from one bone to another.

Whilst stopping the cause is important, this does not require plaster and crutches but rather requires cessation from running. Most athletes can maintain their fitness through swimming, deep-water running or other activities that avoid the impact of running.

What is the long-term outcome?

Whilst a tibial stress fracture will almost always heal with rest, attention needs to be given to the cause. Therefore an assessment by a podiatrist to correct any foot abnormalities is almost certainly warranted, as is an assessment of footwear, running style and running surface. If attention is given to these issues then the long-term outcome is excellent.