



Zoe Birch is a Chartered Physiotherapist and founder of PhysioMotion, which operate a clinic at Green Park as well as providing physiotherapy at home. In her latest article Zoe explores the subject of stress fractures and how to deal with them.

WHAT IS A STRESS FRACTURE?

HOW TO DIAGNOSE A STRESS FRACTURE?

Typically you will have constant gradual onset of increasing pain with tenderness over a specific spot on the bone that will decrease with rest. You can also have associated swelling in the area.

If your doctor or physiotherapist suspects a stress fracture due to history of symptoms and localised pain, they may send you for a MRI scan to get a definitive diagnosis and to also understand the severity of the fracture.

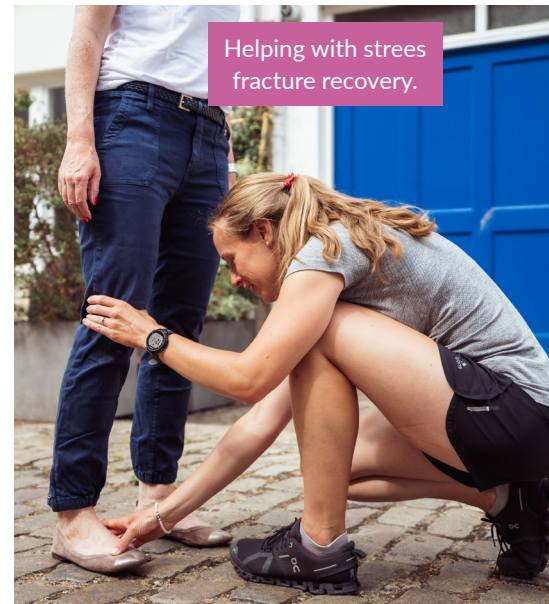
They may also recommend you having a bone density scan and blood tests, to see whether you have an underlying cause for your stress fracture that can be managed at the same time.

HOW DO I GET BETTER?

Initially you will need to stop high impact activities, especially the sport or activity that caused the fracture. Depending on the location of the fracture, it may be immobilised with a boot or offloaded with crutches. Usually it will take 6-8 weeks for the fracture to heal, but if the area is known for a poor blood supply you may require the bone to be surgically repaired.

Once the fracture has healed, and to prevent future stress fractures it is worth:

- 1. Working with a physiotherapist to identify areas of weakness and poor movement control that cause overloading in certain areas of the body. They can also help with training regimes, safely increasing training loads, specific training programmes for your sporting activity and managing any minor injuries alongside your training. For osteoporosis-related stress fractures, they will be able to provide you with progressive loading exercise programme to stimulate the bone that was highlighted on the bone scan to have reduced density to remodel and improve bone quality without risk of fracturing the area.**
- 2. Seeing a Dietician to improve your general diet, address any nutritional discrepancies identified in your blood test, and optimising your nutritional input during training, events and recovery. They will also help with recommended supplements, such as**



Helping with stress fracture recovery.

vitamin D, that could reduce risk of stress fractures in the future.

- 3. If the stress fractures are in the ankles or feet, alongside physiotherapy intervention, it would be advisable to have an assessment with a podiatrist, who will perform a gait analysis and see if gait re-education in walking and/or running and orthotics are required to reduce the risk of future fractures. They can additionally review your footwear and advise what would be appropriate for your feet and activity, as well as suggest when these need to be replaced.**

IN CONCLUSION

Sustaining a stress fracture can be frustrating and concerning, but there is a lot you can do to prevent it happening and to recover from one, with gradual increase of pressures of your body, specific diet for your body's needs, and correct equipment for the activities you participate in.

If you are concerned about sustaining a stress fracture why not speak to a physiotherapist, sports physician or rheumatologist to help identify whether you have high risk factors and provide you will tailored advice to help you.

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"Isn't a stress fracture just the same as a fracture or broken bone I hear you ask!" Well yes and no. The differences between a fracture and a stress fracture are:

- 1. A stress fracture doesn't cause a complete break of the bone**
- 2. It is usually caused by repetitive pressure on the bone or change in the density of the bone, such as that caused by osteoporosis.**

They are most common in weight bearing bones of the legs and feet.

WHAT CAUSES A STRESS FRACTURE?

Bone adapts gradually and goes through a remodelling when you increase the load that you place upon it. It is unable to perform this sufficiently if the bone is subjected to unaccustomed forces that it doesn't have enough time to recover from. This results in more bone cells being reabsorbed than replaced, and putting you more at risk of a stress fracture.

Remodelling can also be affected by under-loading of the bone. This happens when its areas are not being stimulated to replace the old cells removed with new cells resulting increased size of matrix in the bone.

Three main contributors to a stress fracture are: overtraining, osteoporosis and eating disorders.

Overtraining – This can be a sudden uptake of a sporting activity, or an increase in training intensity, duration or frequency.

Osteoporosis – Bones are weaker due to reduced bone density.

Eating disorders - Reduce the nutrients required to produce bone cells during remodelling, such as vitamin D and calcium.

Other contributing factors are: previous stress fractures, foot problems, participating in high impact sports, being overweight and gender.