

**T**he term stress fracture is synonymous with chronic repetitive stress injury of bone. Most patients can identify the term stress fracture due to articles relating to problems experienced by runners and walkers. Stress fractures are stress injuries of bone. Both occur from repetitive stress injury, which can occur in any bone of the lower extremity. Runners

most often have stress fractures or stress reactions in the calcaneus and metatarsals of the foot; however, these injuries can also occur in the lower leg bones. Bone is a dynamic structure, and as a biologic material it is subject to change in environmental stimuli, and if the stimulus is repetitive in nature it can cause compressive changes to occur in the density of the bone. The most common bones in the lower extremities that have high incidents of stress fractures are located in the foot, and the causes can be multifactorial in nature. Changes in training surfaces and training schedules, along with changes in equipment can all contribute to abnormal stresses on the bone.

At the time a patient first presents for treatment, the diagnosis of a stress fracture is often clinically made due to the fact that original x-ray films can be negative and show no indication of changes in the bone. If your doctor suspects a stress fracture, he or she can order a bone scan or MRI to definitively confirm the diagnosis. Some common presentation of stress injury/fracture include pain present on the top of the foot, which increases significantly in the evening or pinpoint tenderness upon direct palpation overlying a metatarsal bone or on palpation of the heel. Treatment of these fractures is advisable because stress injuries can become chronic in nature and can also lead to other increasing types of injuries such as chronic bone pain and tendonitis and the need for surgical intervention. Treatment normally consists of anti-inflammatory medication and icing to decrease the swelling with accompanying immobilization in a pneumatic cast walker for a 4-6 week period. A patient's calcium levels also need to be



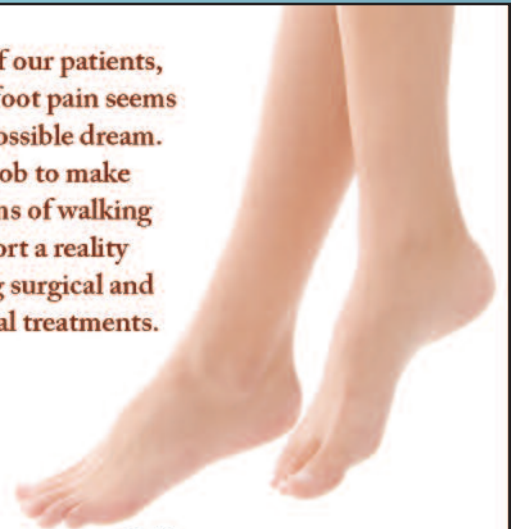
# Stress Fractures and Stress Reaction of Bone

taken into account along with levels of vitamin D, which aids in the absorption of calcium and development of bone. Should stress injuries become chronic, a bone stimulator may be prescribed for the patient.

In this age where running and walking have become a popular form of exercise for baby boomers, it is important the type of

shoe worn for these exercises is compatible with the patient's foot type, as well as the integrity of the shoe. Older individuals who walk for overall health should purchase proper shoe gear and avoid unyielding surfaces such as concrete, which may increase forces to the bones of the leg and foot. For additional information on stress fractures and injuries, visit our website at [www.pffcpc.com](http://www.pffcpc.com).

For many of our patients,  
life without foot pain seems  
like an impossible dream.  
It's our job to make  
their dreams of walking  
in comfort a reality  
by utilizing surgical and  
non-surgical treatments.



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