STRESS FRACTURES OF THE FOOT & ANKLE

What are Stress Fractures?
Stress fractures are small cracks in a bone. These fractures are most often a result of “overuse,” and are commonly seen when someone has a recent (change) INCREASE in their activity. Stress fractures occur most commonly in the weight-bearing bones OF THE LEGS. When these bones are subjected to a “new stress,” such as a new exercise routine, they may not be well adapted, and as a result, they may crack under the new stresses being applied.

Symptoms and Signs
The symptoms of stress fractures can vary widely, however, most commonly patients complain of pain. The pain may develop gradually, and often is relieved by rest. The pain usually becomes more intense with physical activity, and can be associated with swelling. Swelling and tenderness may be present in the area of pain. It is rare to see bruising or discoloration.

Causes and Risk Factors
Overuse is the first cause of stress fracture. This may be confusing, but overuse could simply mean a “change” in activity as well. (Changes) AN INCREASE in exercise, athletics, job duties, or even shoewear can bring on a stress fracture. Some patients even report stress fractures after a simple change like going on a vacation where an unusual amount of walking was done.

Other risk factors include certain sports that have a high frequency of repetitive activity. In particular running and jumping sports may cause stress fractures.

Osteoporosis may also place a patient at risk for stress fracture. Weak or (“soft”) BRITTLE bones may not be able to handle even the simplest of changes in activity, and as a result, develop a stress fracture.

Diagnosis
As with all medical conditions, the analysis of a history of the symptoms and the taking of a medical history are vitally important. This interview, along with a medical exam of the foot will often predict the diagnosis.

To complete the evaluation, a series of x-rays will likely be performed. If the crack is small, or the symptoms are present only for a short time, x-rays may be normal. Therefore, if needed, additional imaging by CT scan, nuclear bone scan, or MRI could be ordered.

Treatment
Since stress fractures most often occur as a result of overuse, the first treatment needs to include stopping the activity that brought on this condition. Simply put…a period of rest is needed. Taking time away from the activity may be needed for 6 to 8 weeks. Usually exercise can continue, but, picking a “LOW-impact” form of exercise such as swimming, elliptical trainer, or exercise bike is recommended.

Additional measures such as shoewear modification may be prescribed. A stiff shoe insert or bootwalker could be part of the treatment. And in certain cases, your doctor my recommend a cast or crutches. CALCIUM AND VITAMIN D SUPPLEMENTATION IS OFTEN PRESCRIBED.
Treatment - continued
Most stress fractures will heal with the conservative measures outlined above, however, there are instances when surgery is needed. The most common situation that requires surgery is when the bone fails to heal, this may be called a nonunion. Surgery would usually include placing screws to secure the bone. Sometimes this surgery also includes placing “fresh” bone into the area that is slow to heal…this is called bone grafting.

Outcomes and Complications
The most common complication that occurs with stress fracture is the nonunion. Other complications include malunion (healed bone but in a abnormal position), and recurrent fractures. Recurrent fractures typically occur if the underlying problem is osteoporosis. There are medications that may be able to be prescribed if the osteoporosis is SEVERE (to that severity).

Additional Resources
http://orthoinfo.aaos.org
http://www.mayoclinic.com/health/stress-fractures