

## STRESS FRACTURES

What is a stress fracture? A stress fracture is an overuse injury of the bone due to repetitive stresses being applied to the bone. Frequently it commonly occurs in long distance runners in the bones of the foot or lower leg. When we walk, run or jump, these repetitive forces applied to bone can cause microscopic fractures of the bone which typically heal when time is given for the bones to recover. In certain patients who do not give the bones time to self heal, they will develop further breakdown of the microscopic fractures such that the bone weakens and progresses to a clinical fracture.

What are the symptoms of a stress fracture? Classically an athlete who will describe a specific portion of their foot or lower leg with pain at a specific site that is persistent when activity is initiated. In the early stages, the athlete will feel pain after the activity and as the stress fracture worsens during the activity and if the condition continues the athlete will not even be able to participate in the activity because of the pain.

What is the treatment for stress fractures? Basically the etiology of a stress fracture is overuse. Therefore, rest is the main treatment for the stress fracture to allow natural healing of the body to repair and heal the fracture. Rest does not mean that all activity has to stop. Rest means that the repetitive forces across the bone should be minimized. Therefore, if a patient has a stress fracture of the foot or lower leg from running, they still can participate in activities such as bicycling or swimming since these activities will not apply repetitive stresses across the bone during the healing phase. Classically, it will take six to twelve weeks for the bone to heal before the patient can return to the sport activity.

How is the stress fracture diagnosed? The physical examination of the patient will typically note localized tenderness at the stress fracture site of the bone. It is not typically associated with swelling in the area. Standard x-rays may or may not demonstrate a fracture if it is in the early phase of the disease. Additional radiographic studies such as bone scans or an MRI are of benefit to make the diagnosis.

Who gets stress fractures? Stress fractures are typically seen in those patients who do repetitive impact loading to the bone site with insufficient time for healing between workouts. Classically over training is the main reason people develop stress fractures. Typically a recent change in the intensity, duration or

frequency of the training program is associated with the emergence of a stress fracture.

Stress fractures are of increased frequency in women athletes who give a history of menstrual irregularities. Stress fractures are of increased incidents in those patients who experience bone weakness such as osteoporosis.

What is the treatment for stress fractures? Basically the treatment for stress fractures is rest. The patient should refrain from repetitive impact loading until healing has occurred. Athletes who desire to return to their sport as soon as possible can consider bone growth stimulators to enhance the healing of the stress fracture. On a rare occasion when stress fractures do not heal, surgical intervention may be required.