

Stress Fractures: A Sure Way to Slow You Down

By Jason S. Ahuero, M.D.

Health and fitness are important to many of us here in Houston, and we are fortunate to have a wide variety of options available to stay in shape. It can certainly be exciting and invigorating to try new forms of exercise and start new training programs, which can be wonderful for our fitness and overall well-being. Sometimes, however, we can be tempted to throw caution to the wind and suddenly stress our body much more than it is accustomed. In an attempt to avoid injury, I would urge careful progression of activity, whether you are taking up a running program, boot camp, Zumba™, or any change in activity.

Stress fractures are usually overuse injuries. They are one of the most common injuries I see in my practice. While they are most common in runners, dancers, military recruits, gymnasts, tennis and basketball players, they can be seen in anyone undergoing a rapid change in physical activity. They also can be caused by a change in playing surface (change from soft clay court to hard tennis court) or from change in foot wear (from a cushioned running shoe to a “minimalist” shoe). Stress fractures result from a series of loading and unloading cycles that cause damage to a bone. Overtired muscles are no longer able to lessen the shock of repeated impacts. If these forces exceed the bone’s capacity to repair and remodel, a fracture will occur. The most common sites of stress fractures include the metatarsals (small bones in the midfoot), calcaneus (heel bone), and tibia (shin bone), but can occur in other bones throughout the body as well.

So how does one try to prevent a stress fracture from occurring? Most importantly, any new fitness program should be started gradually. A general rule of thumb is to limit an increase in activity (distance, time and speed) to 10% each week. Avoid shoes that are worn out and use proper sports equipment. Strength training can prevent muscle fatigue and increase the bone’s resilience to repeated impact. Alternating types of activities can also be helpful. For example, instead of jogging exclusively, alternate it with swimming or biking.

Stress fractures can also occur from normal activity when your bone is abnormal as a result of osteoporosis (a loss of bone strength and density). This is sometimes called an “insufficiency fracture”. A stress fracture can be the first sign of osteoporosis. Anyone that develops a stress fracture without a history of overloading, especially if other risk factors are present, should talk to their doctor about being evaluated for osteoporosis. This may include bone density measurement as well as metabolic evaluation for calcium and vitamin D deficiency.

Pain and swelling are the most common symptoms of a stress fracture. The pain usually starts gradually, occurs with exercise and may be relieved with rest. The site of the fracture may be tender to touch. Eventually the pain may persist during normal activities. If you suspect a stress fracture, it is important to stop the activity and rest, and seek the advice of your physician. Ignoring the pain can definitely worsen the problem! Your doctor will typically take a history to assess your risk for stress fractures and examine the painful area. Imaging tests may help confirm the diagnosis. X-rays obtained in the first 2-3 weeks after a stress fracture may appear normal. MRI or bone scans can be utilized for early detection of these fractures if necessary.

The good news is treatment is usually a matter of activity modification and protected weight bearing. My usual recommendation is to limit your activities to those that do not cause pain. Occasionally a protective shoe or walking boot is utilized to protect the foot while a fracture heals. This decrease in loading forces allows the bone to repair itself. Duration of rest and protection varies from 6-12 weeks. Some stress fractures require surgical treatment if they fail to heal or are in one of several bones which carry a high risk of not healing.

We are fortunate in our community to have many places to turn for foot and ankle care. When seeking medical treatment for foot or ankle pain, be sure to select the physician who is most highly qualified through advanced training in the latest techniques and in experience. Take time to ask about medical school education, areas of specialization, residency training, and experience with your particular issue.

Dr. Jason Ahuero is a fellowship-trained orthopedic surgeon sub-specialized in foot and ankle surgery. His practice focuses on the management of congenital, traumatic and degenerative disorders of the foot and ankle with expertise in ankle replacement surgery and sports injuries of the foot and ankle. Dr. Ahuero is an Assistant Professor of Orthopedic Surgery at Baylor College of Medicine.