



Don't Ignore Your Pain Symptoms - It Could be a Stress Fracture

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Pain is the body's way of trying to tell us something. It's a protective sign. Bone and the coverings on the outside of bone have lots of nerve endings capable of signaling problems. Like other tissues in our bodies, bone is constantly undergoing a re-model. It responds to physical stress by reinforcing its' underlying structure allowing it to withstand the stress. This describes a well-recognized principle called 'Wolff's Law of Bone'.

This bony 're-enforcement' like most construction projects, doesn't happen overnight. The key is that the bone has to be given time to respond and reinforce its structure. If the stress is applied faster than the bone can adapt to, the structure will fail (break) or fracture. Failure can happen suddenly, like falling off your bike and breaking your wrist, or it can be a slower process – occurring over days or weeks leading to a 'stress reaction' or stress fracture of bone.

Stress fractures of bone, in the leg, ankle or foot, occur commonly as a result of repetitive activity such as running. More stress is applied to the bone, at a rate faster than it can respond to and the microscopic structure of the bone begins to fail. This typically results in pain at the site of injury. If the failure is structurally more significant, or if the failure 'completes' by breaking thru the hard outer shell of the bone, the disability - pain and swelling may be obvious and make normal activity not possible. If the fracture is complete, the break in the bone may show up on a plain x-ray. Many stress fractures, often called hairline fractures, may not be initially recognized on x-rays, but typically will become apparent 6-8 weeks later, when the new bone produced to reinforce or heal the fracture becomes visible.

Many stress reactions start small, however and take longer to become symptomatic enough to stop activity. Athletes typically push thru their workouts, ignoring the warning signs, or misinterpret what the pain

workouts, ignoring the warning signs, or misinterpret what the pain represents. It is well recognized that these stress injuries commonly occur when athletes increase their training volume, change their training techniques, shoes, or the surface they train on, don't have the proper nutritional building blocks they need or just don't build in enough rest or recovery time into their schedule. Mild pain during a run can progress to become pain during and pain after. Ultimately the pain may be present all the time- before, during and after activities. Currently, MRI is the most commonly used imaging to look for or confirm the presence of stress fractures.

Unfortunately there is no substitute for time. Our current understanding of bone healing is that it often takes 6-8 weeks to recover. This is typically an active process, but all activity must be below a level that causes symptoms. Recognition of the problem, reducing applied stress by changing activity, optimizing availability of basic nutritional needs (calories, protein, Vitamin D and Calcium) will give most bony stress reactions time to heal. One of the worst things that can happen to an athlete is that they try to go back to the exact same activities, too rapidly or too intensely, and their stress fracture symptoms return prolonging the cycle of injury and recovery.

Pain in the body typically means something and ignoring it does not make them go away. Recognition of stress injury to bone is key, and most will heal if you give it the time and building blocks they need. Sports medicine physicians are experienced in evaluating and managing these problems, and should be consulted if symptoms worsen or persist after a couple of weeks.