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Stress Fractures

By Matthew DeWall, MD

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The summer is already half over, and soon fall sports will begin. With the onset of two-a –day practices, and cross country runners hitting the course, some aches, pains, and sore muscles are expected. However, some athletes will experience pain from a more something more problematic – stress fractures.

Stress fractures occur due to repetitive small injuries to a bone, rather than one large injury. This causes microscopic fracture to the bone resulting in pain, swelling, and an inflammatory healing response. If left untreated, they could in theory progress to a full fracture with displacement of the bone as occurs with larger injuries. Stress fractures are more common in the bones of the lower extremities, and especially in runners. There is some correlation with a sudden increase in activity, and they have been commonly seen in military recruits beginning training. The similar situation can exist when athletes begin to train heavily after a summer of relative inactivity. Other predisposing factors can be partially at fault as well. Anything that causes the structure or function of the bone to be compromised can lead to stress fracture. For example, nutritional abnormality, hormonal imbalance, and associated muscle weakness causing the bone to be over-loaded, have been implicated as possible causes.

Stress fractures usually show up as pain that is brought on by activity, and can be quite severe. As it progresses, the pain can worsen to the point that it is present daily, and even at rest. Stress fractures that have been present for some time, or are more severe will show up on X-rays, but often a bone scan or MRI will be used to confirm the diagnosis.

The first step in treatment of stress fractures is to rule out any predisposing factors or general health problems like those mentioned above. Once this is done, and these issues are addressed, specific treatment of the fracture is dependent on several factors including severity and location. Due to body mechanics and because of the possibility of more severe complications if a full fracture occurred, stress fractures in some locations are considered “high risk”. These would include stress fractures around the hip, and some stress fractures in the shin. In these cases, very strict limitation of activity, and

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sometimes surgery is required. More commonly for stress fractures occurring in the lower leg and foot, treatment is as simple as a reduction in activity to allow the body to heal itself. This will usually involve limiting the impact activities like running and jumping, limiting weight bearing with crutches, and often immobilization and support in a cast or boot. Although simple, this is problematic for the athlete as it takes them away from their chosen activity for a period of time. How long and how limited the activity needs to be depends on how severe the injury is, and how it responds to rest. It will be the goal of the physician to get the athlete back into play as soon as possible, but it will require a few weeks to first limit, then gradually progress back to full activity. If return to activity is attempted too soon, the stress fracture can recur, and activity will have to be limited once again. Though very frustrating to the athlete at the time, these injuries typically heal by these simple means, and with no long term repercussions.

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