Orthopaedic Connection

Stress Fractures in Women

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Transforming patient information into patient understanding.

To begin, I think I will explain what a stress fracture is because a lot of my patients don't have a clear understanding. From my experience in the office with stress fractures I can imagine a lot of you don't have a clue either. Well, here goes.

Stress fractures are breaks in a bone that occur as a result of repetitive overuse, which causes the bone to fatigue. It's a pretty simple definition, but will allow us to get started.

I can "hear" you thinking why do I single out women in talking about stress fractures. Don't men and boys get stress fractures? Yes, but far less often than women do. I will get into the why of it later.

Women actually have a greater occurrence of several orthopaedic problems compared to men. A few of them are – non contact injury of the knee ACL, arthritis, osteoporosis and foot problems.

The number of school age women in organized sports in the last twenty-five years has exploded. A federal law commonly referred to as Title IX has resulted in seven times as many young women participating in interscholastic sports than before passage of the law.

Physiology. I don't want to make this class a physiology lesson, but some understanding is important. There is much more to the problem of stress fractures than an increased number of girls in sports. Women have a pelvis shaped differently (not a surprise), decreased muscle fibers and decreased lung volume, heart size and cardiac output compared to men. Lastly, bone mineral density declines in women beginning around age 25, the long term result being osteoporosis.

Cheerier note. Absolute strength in women is nearly equal to that of men when defined relative to fat free weight. Furthermore, resistance training results in similar relative gain in strength and muscle in women and men.

Now that you are a little more comfortable with stress fractures I want to get more detailed about why they occur. Don't worry, I promise not to lose you!

The Skeleton. In a stress fracture, the skeleton, in certain a location, is unable to withstand repeated mechanical loading of that particular bone.

A fracture (break, same thing) results from structural fatigue of the bone and the inability of the bone to repair the specific area of loading. During times of loading the bone is susceptible to microfracture and under continued, intense loading these microfractures can come together to form a stress fracture.

During periods of intense exercise bone formation can't keep up with normal daily bone resorption. A stress fracture often occurs in this situation.

Everybody still O.K.? If it's alright with you I'm going to stop here and continue the story of Stress Fractures next time.

For extra credit I invite readers to log onto our office teaching website for patients and families, www.orthopodsurgeon.com, which can take you to Your Orthopaedic Connection for lots more information.

Out goal is simple – To help people return to more pain free, functional lives.

Good health. Good life. All the best to you.

Be well.

Dr. Haverbush