HOSPITAL FOR SPECIAL SURGERY

Stress Fractures

When we think of broken bones, we usually picture a traumatic event where excessive force causes the bone to break, perhaps an automobile accident or a collision on the football field. However, bones can begin to crack or break if repeated stress over weeks or months is just too much to handle. This is called a stress fracture. The most common site for a stress fracture is the tibia (your shin bone) but stress fractures can also occur in other bones, such as the pelvis (hip), femur (thigh) and metatarsals (foot). A "stress reaction" is the early phase of a stress fracture. Stress fractures can be the result of (1) too much stress on normal bone, (2) normal stress on abnormal bone or (3) too much stress on abnormal bone.

What type of stress fracture do you have?

Sometimes athletes get stress fractures as a result of excessive levels of training, a change in training conditions (ie. a switch to a harder training surface), poor athletic shoes and/or a rapid increase in training volume (too much, too fast). They have normally healthy bones, but they've just put too much strain on them. This is the first and most common type of stress fracture.

A second type of stress fracture occurs when the bones are weak because a person has osteoporosis. Osteoporotic bones may have difficulty tolerating the challenges of everyday activities.

The third type of stress fracture is the most complicated. This type occurs when an individual is very physically active yet has underlying bone weakness. She/he has undiagnosed premature osteoporosis (severe bone loss) or osteopenia (mild bone loss). This MAY BE related to restrictive eating patterns, which deprive a person's body of the energy and nutrients needed to maintain vigorous activity and promote bone health. It's important to determine the underlying reasons for a stress fracture before deciding on a treatment plan.

How can you help your doctor treat your stress fracture?

1. Follow her advice about restricting your activity. Stress fractures require at least 6-12 weeks of rest to heal. There's no magic way around this. Ask your doctor if there are ways you can cross-train during this rest period that will allow you to get some exercise without stressing your injured bone. For example, you may be able to exercise in a pool, ride a stationery bike or do some weight training, even if you can't run. If your doctor has given you crutches or some other assistive device, USE IT!

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2. Although it is frustrating to be off your feet, **don't** cheat and resume your sports activities until your doctor gives you the o.k. You'll only be sabotaging yourself. Slowly and gradually resume your training. Follow the guidelines of your doctor or physical therapist. Increase your distance or mileage by no more than 10% each week. It's better to go a little too slow at first than do too much and end up back where you started. You may discover another type of training that is enjoyable to you during your recovery. Consider varying your new training routine by including a variety of activities.

3. Work with a nutritionist to evaluate your food habits and nutritional status. Your bones will need adequate energy and vitamins (particularly protein, calcium and vitamin D) for speedy healing. Nutrition issues are particularly important for individuals with the third type of stress fracture. If you don't begin to meet your body's needs for energy, protein and calcium, your healing will be delayed. You may also continue to lose bone and experience repeated stress fractures.

4. If you are a woman and have not yet experienced menopause, you should have a regular monthly cycle. An irregular or absent menstrual period means that your estrogen levels are low and believe it or not, this affects the strength of your bones. Estrogen maintains and builds strong bones. You should talk with your doctor about how to get your menstrual period back on track.

5. Think about replacing your athletic shoes. Most athletic shoes lose 50% of their cushioning after about 250 miles of wear. Even if your shoes don't look too bad, remember that the midsole will break down twice as fast as the outer sole. If you're a runner, a good rule of thumb is to replace your shoes after about 200-300 or (250 to 500?) miles of wear. Remember that your shoes will wear out faster (1) the more you work out (2) the heavier you are and (3) the rougher the terrain on which you exercise.

6. Contact Dana Klein, Women's Sports Medicine Center research assistant, for information about our stress fracture study. Study participants receive a free bone density test and nutrition consultation! Call 212.606.1345.