

Orthopaedic Connection

Fracture Principles

By Thomas J. Haverbush, M.D.
Orthopaedic Surgeon

Transforming patient information into patient understanding.

Some patients mistakenly associate my specialty of Orthopaedic Surgery only with fractures.

Nothing could be further from the truth. Orthopaedic Surgery encompasses almost all musculoskeletal care both operative and non-operative.

That said, I would like to enter the world of Fractures with you and hopefully cover some aspects you didn't know.

A fracture (break) is simply a disruption in the continuity of a bone.

Stress Fracture

Some fractures occur on a microscopic level and are called stress fractures. They may not even show up on regular x-rays. They are usually stable and activity restriction and light immobilization may be all that is needed. This is an over simplification, but I only wanted to explain what a stress fracture is and not go into the treatment of stress fractures in general.

Torus Fracture

Young bone can actually bend producing a buckling of one side of the bone, but no change on the other side. These fractures require only short term immobilization for comfort.

Greenstick Fracture

A young bone fracture that breaks on one side of the bone and bends on the other is termed greenstick. The fracture may be quite deformed and require reduction or "setting", whereas a torus fracture never requires setting.

Mature Bone Fracture

In these injuries the bone is completely interrupted. In this fracture the bone may or may not be displaced or out of position.

Undisplaced

Treatment of undisplaced fractures usually consists of immobilization until full healing is seen on x-ray. Usually surgery is not required, but it depends on the fracture.

Displaced

Most displaced (separated) fractures are unstable and often require surgery. But in some cases a displaced fracture can be reduced and may be maintained in proper position with a splint or a cast.

Many displaced fractures do require surgery to reduce them and then metal fixation is added to hold the fracture in place.

Symptoms

There are many classic symptoms you need to know.

- Swelling in the injured area

- Tenderness
- Pain
- Deformity or angulation
- Undisplaced fractures may have only tenderness and swelling
- Stress fractures have mild swelling, tenderness and pain to bear weight
- Discoloration may be present

X-rays

X-rays usually indicate the presence of an acute fracture. But there are exceptions. Sometimes the fracture is not seen by the physician in the ER or Clinic. The part is splinted (hopefully) and in a day or so the facility calls the patient saying the radiologist has diagnosed a fracture. Also some fractures will not show up on x-ray for 1 – 2 weeks until bone absorbs at the fracture making the fracture visible.

It is always wise to splint or immobilize a suspected fracture to treat symptoms until x-rays can confirm the presence (or absence) of a fracture.

Types of Fractures (Classification)

- Fractures into the joint (intra-articular)
- Displaced (separated)
- Nondisplaced
- Angulated
- Many fragments (comminuted)
- Compressed
- Open (if a fracture is exposed to air through a break in the skin)

This is a good place to finish part one of our mini course in fractures. Please return next week at this same time for part two. See you then.

My patients put their trust in me and what I do improves the quality of their lives.

Gratiot County Herald Archive and Office Website

I sincerely hope all of our loyal readers will take advantage of an endless amount of musculoskeletal information. It is easy! Log onto www.orthopodsurgeon.com.

It gives access to all Website articles, Your Orthopaedic Connection and every GCH article from most recent to the first. Full text! It covers everything I do in the office and hospital.

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

Dr. Haverbush