



What kind of results can I expect? Perfect alignment of the bone on X-ray is not always necessary to get good function. A bony lump may appear at the fracture site as the bone heals and is known as fracture callus. This functions as a "spot weld." This is a normal healing process and the lump usually gets smaller over time. Problems with fracture healing include stiffness, shift in position, infection, slow healing, or complete failure to heal. Smoking has been shown to slow fracture healing. Fractures in children occasionally affect future growth of that bone. You can lessen the chances of complication by carefully following your hand surgeon's advice during the healing process and before returning to work or sports activities. A hand therapy program with splints and exercises may be recommended by your physician to speed and improve the recovery process.

our mission

The mission of ASSH is to advance the science and practice of hand surgery through education, research and advocacy on behalf of patients and practitioners.

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hand fractures



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What is a fracture? The hand skeleton is made up of many bones that form its supporting framework. This frame acts as a point of attachment for the muscles that make the wrist and fingers move. A fracture occurs when force is applied to a bone that is enough to break it. When this happens, there is pain, swelling, and decreased use of the injured part. Many people think that a fracture is different from a break, but they are the same.

Comminuted fractures (shattered bone) usually occur from a high-energy force and are often unstable. An open (compound) fracture occurs when a bone fragment breaks through the skin. There is some risk of infection with compound fractures. See Figure 1. Fractures may be simple with the bone pieces aligned and stable. Other fractures are unstable and the bone tends to displace or shift.

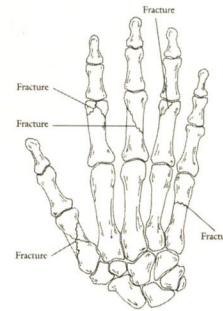


Figure 1

Examples of fractures in fingers.

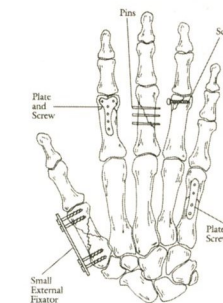


Figure 2

Examples of plates, pins, and screws used to join fractures while they heal.

How does it affect the hand? Fractures (or breaks) often take place in the hand. A fracture can cause pain, stiffness, and loss of movement. Because of the close relationship of bones to ligaments and tendons, the hand may be stiff and weak after the fracture heals. Fractures that involve joint surfaces may lead to early arthritis in those involved joints.

How are they treated? Medical evaluation and X-rays are usually needed so that your doctor can tell if there is a fracture and to help decide treatment. Depending upon the type of fracture to your hand, your hand surgeon may recommend one of several methods of treatment.

A splint or cast may be used to treat a fracture that is not displaced, or to protect a fracture that has been set. Some displaced fractures may be held in place with wires or pins without making an incision. This is called closed reduction and internal fixation. Other fractures may need surgery to set the bone. Once the bone fragments are set, they are held together with pins, plates, or screws (Figure 2).

Occasionally, bone may be missing or be so crushed that it cannot be repaired. In such cases, a bone graft may be necessary. In this procedure, bone is taken from another part of the body to help provide more stability. Fractures that have been set may be held in place by an "external fixator," a set of metal bars outside the body attached to pins which are fixed to the bone above and below the fracture site until the break heals.

Inside Your Hand

Your hand contains a great number of bones, many of which are fragile. If one is fractured and isn't moving as it should, it can affect how your entire hand moves.

How Hand Fractures Can Differ

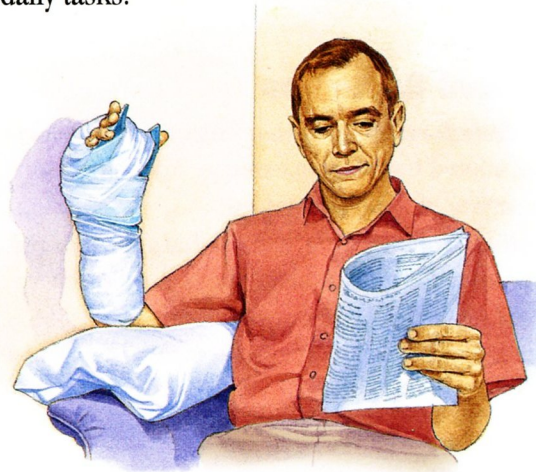
No two hand fractures are alike. Your doctor will decide how to treat yours after answering some questions about your injured hand. Is the bone stable? Is a finger involved? Is a joint affected? Once you heal, could the fracture alter the shape, strength, or range of motion of your hand? Your doctor may ask other questions to help ensure the best treatment for you.



A fracture can occur anywhere in your hand.

Your Role in Healing

Keeping your hand raised just after your fracture can help control pain and swelling. When you're able, you can start the exercises or therapy your doctor suggests. You'll soon regain the hand motion you need to do your daily tasks.



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Hand Fractures

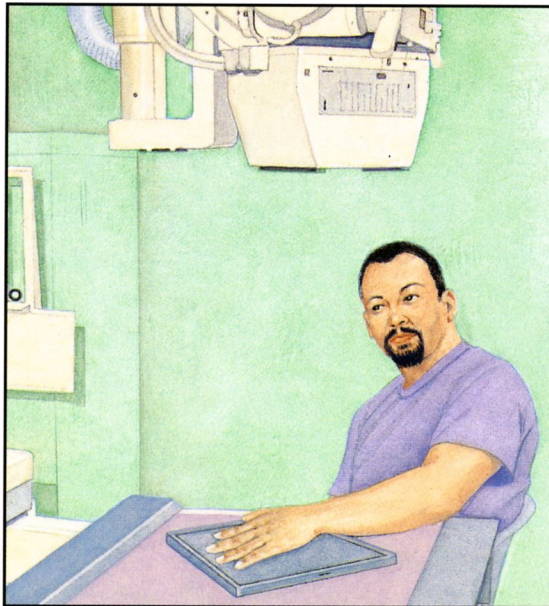


What Is a Fracture?

A fracture is a break in any bone. A fracture can range from a tiny hairline crack in the bone to a bone that has broken through the skin (called an open fracture). In many cases, fractures can cause pain, throbbing, and swelling. You also may notice limited hand and finger motion.

How a Fracture Is Found

Your doctor will check your hand. Your **range of motion** (how well you can move your fingers and hand) also will be tested. An imaging test can then confirm the fractured bone (which is the same as a broken bone). The imaging test done most often for a hand fracture is an **x-ray**. It can show the exact size and placement of the fracture.



An x-ray is the most common imaging test done to confirm a hand fracture.

Treating Hand Fractures

A fractured bone starts to heal on its own right away. But a treatment called **reduction** helps you heal better. Reduction is a process that repositions your bones. The goal is to get them as close as possible to how they were before the fracture. Your doctor will use one or more methods of reduction.

Closed Reduction

In **closed reduction**, your doctor **sets** (positions) the injured bone without surgery. You'll need to wear one of these as you heal:

Splint. A curved, firm support that's secured across the injured region. It keeps the bone in place.

Cast. Hard material that surrounds and protects the fractured region. It also prevents movement to allow for better healing.

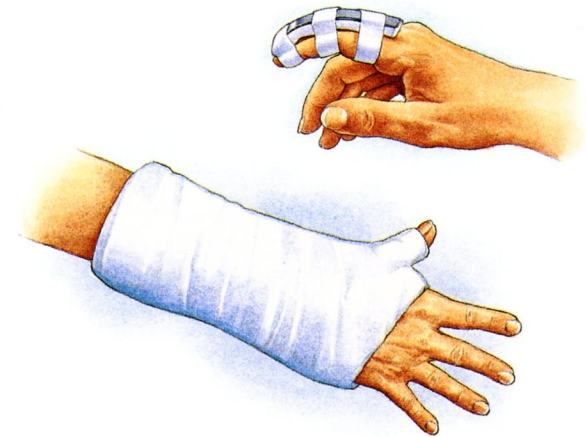
Open Reduction

In **open reduction**, your doctor sets the bone by doing surgery. You also may need internal hardware. You and your doctor will discuss whether it will be removed later. The hardware may include:

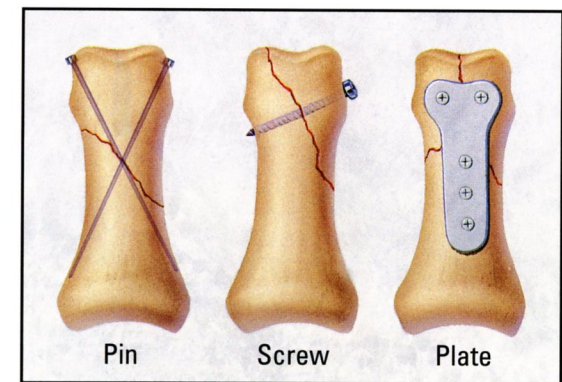
Pin. A thin wire that's drilled across a fracture. It holds the bone together.

Screw. Hardware that looks like a normal screw. It pulls fractured segments together.

Plate. A metal strip that covers the bone, including the fractured region. It's held in place by tiny screws.



A splint and cast both limit movement. They keep your finger or hand in the best position for healing.



A pin, screw, or plate helps keep the bone stable and in place as it heals.

The Road to Healing

Fractures take about 6 weeks to heal. Keeping your hand raised can control swelling, throbbing, and pain. Your doctor may prescribe medicine that can help reduce pain. If you have a cast, keep it wrapped in a plastic bag when you bathe or shower. And don't remove a splint unless your doctor says you can. Call your doctor if your pain gets worse or if you notice any excess swelling or redness.