



HAND INJURY PATIENT EDUCATION

Hand and Upper Extremity Anatomy

Your hand is made up of 27 bones. There are 14 small bones in your fingers (or digits) called the phalanges - 3 for each finger and 2 for your thumb. Your wrist is made up of 8 bones known as carpals. Your palm contains 5 bones called the metacarpals.

The two bones of your lower arm - your ulna and your radius - meet at the hand to form your wrist.

There are 2 major nerves in your hand, known as the median and the ulnar nerves. They run the length of your arm to transmit electrical impulses to and from the brain to create movement and sensation in your hand.

Each finger and thumb also has tendons. Tendons are strong fibers that attach your muscles to your bones and allow movement, such as flexion (bending) or extension (straightening) of your digits. These tendons are accompanied by small blood vessels and nerves also important to digit function.

Injuries and Disorders

Injuries and disorders of the hand and upper extremity - those that impact the hand, wrist, and arm - are not only painful, they can disrupt the movement and function that is vital to your daily activities, from eating to dressing to earning a living.

A broken finger, for example, is no minor injury. The bones in a normal hand line up precisely, enabling you to perform specialized functions such as grasping a pen or manipulating small objects in your palm. When you fracture a finger bone, it can cause your whole hand to be out of alignment.

Deep cuts are the main cause of tendon injuries. The outward injury often appears simple, but is usually complex when involving the tendons and possibly the nerves.

Hand surgeons are specially trained to care for these problems with both nonsurgical and surgical treatment, to help ease your pain and get you back to your normal routine.

Nonsurgical Treatment

Your doctor will put your broken bone back into place. You'll get a splint or cast to hold your broken bone in place and protect it from further injury while it heals. Your doctor will tell you how long to wear the splint. You may need more X-rays as you heal so your doctor can check the progress of your broken bone as it heals.

Surgical Treatment

Depending on the type and severity of the fracture, you may need surgery to have pins, screws, or wire put in place to hold your fractured bones together. Tendon and nerve injuries can require surgical repair and rehabilitation by a certified hand therapist to minimize disability.

Caring for your hand after an injury or surgery

Keep your hand elevated above your heart level for the first several days. This helps reduce swelling and pain. If you were instructed to use ice to reduce swelling and pain, take some ice cubes in a plastic bag and rest the bag on top of your bandage. Leave the ice on your hand for as long as it's comfortable. Do this several times a day for the first few days and then as instructed.

Call your hand surgeon if you have...

- A temperature above 102°.
- Side effects from your medication, such as prolonged nausea.
- A wet or loose dressing, or a dressing that is too tight.
- Excessive bleeding.
- Increased, ongoing pain or numbness.
- Signs of infection (such as warmth or redness) at the incision site.