



What is a distal radius fracture?

Distal radius fracture is the medical term for a “broken wrist.” To fracture a bone means it is broken. A distal radius fracture occurs when a sudden force causes the radius bone, located on the thumb side of the wrist, to break. The wrist joint includes many bones and joints. The most commonly broken bone in the wrist is the radius bone.

Fractures may be closed or open (compound). An open fracture means a bone fragment has broken through the skin. There is a risk of infection with an open fracture.

What causes a distal radius fracture?

The most common cause of distal radius fracture is a fall onto an outstretched hand, from either slipping or tripping. You may fall forward or backward. Severe injuries may occur from a more forceful impact such as falling off a roof or ladder.

Osteoporosis, a common condition where bones become brittle, increases the risk of a wrist fracture if you fall.

How are distal radius fractures diagnosed?

Your provider will take a detailed health history and perform a physical evaluation. X-rays will be taken to confirm a fracture and help determine a treatment plan. Sometimes an MRI or CT scan is needed to get better detail of the fracture or to look for associated injuries to soft tissues such as ligaments or tendons.

What is the treatment for distal radius fracture?

Treatment depends on the severity of your fracture. Many factors influence treatment – whether the fracture is displaced or non-displaced, stable or unstable. Other considerations include age, overall health, hand dominance, work and leisure activities, prior injuries, arthritis, and any other injuries associated with the fracture. Your provider will help determine the best treatment plan for your specific injury.

Signs and Symptoms

- Swelling and/or bruising at the wrist
- Pain at the wrist
- Difficulty or inability to move or use the wrist or hand
- Visible deformity at the wrist

- **Splinting or Casting** – if the fracture is not displaced, or has been set and needs immobilization, a splint or cast is used. Splints may be pre-fabricated or custom-made and can usually be removed for hygiene purposes. Casts cannot be removed, may or may not be waterproof, and if not waterproof need to be covered with a plastic bag when showering or bathing.
- **Surgery** – fractures that are displaced or unstable may require surgery to properly set and/or stabilize the bone. Surgery may include using plates, screws, and/or pins. Your hand surgeon will determine the most appropriate form of fixation for your individual case.

Most distal radius fractures heal without complication. However, some people may have lingering stiffness or aching in the wrist. If the fracture affected the joint surface (intra-articular), arthritis may develop down the road. Children heal very quickly, but if the growth plate is affected, immediate diagnosis and treatment is necessary to prevent stunted growth of the bone. Risks of treatment should be discussed with your provider or hand surgeon.

What happens after cast or splint removal?

Once your provider determines the bone is clinically healed, the splint or cast is taken off and you can begin to move your wrist and forearm. You may be referred to Hand Therapy for instruction in exercises to regain motion and strength.

Your provider will let you know if there are any activities you should avoid and for how long – for instance, returning to contact sports or lifting weights.

What happens after surgery?

Immediately after surgery you will be placed in a bulky post-operative dressing. This dressing must stay clean and dry until your first post-op appointment to minimize the risk of infection.

If you have pins, you will usually be put into a cast for 4-6 weeks. Once the cast is removed, the pins are pulled by your doctor either in the office or operating room (your hand surgeon will let you know which method will be used). You then will be referred to Hand Therapy for a removable splint, swelling and scar management, and exercises to regain motion and strength.

If a plate is used, you will typically be referred to Hand Therapy 3-5 days after surgery. Your hand therapist will remove the post-operative dressing, instruct you in swelling management and incision care, make a removable splint, and instruct you in range of motion exercises for your fingers, wrist, and forearm. Because the plate is holding your fracture in place from the inside, it is very safe to move your wrist and forearm early.

How long will it take to heal and what kind of results can I expect?

Fractures of the distal radius usually need about 4-6 weeks for clinical bone healing, though sometimes it can take longer. It may take another 6-12 months to regain motion, strength, and function. Many people find they are resuming most of their daily activities about 3-4 months after a broken wrist.

Will I need hand therapy?

Not all distal radius fractures require hand therapy to regain motion and function. However, many people can benefit from an appointment with a hand therapist for instruction in exercises to regain range of motion, strength, and function. Most people who have had surgery to repair the distal radius will see a hand therapist as part their recovery.

The number of hand therapy appointments you need will depend on how quickly you regain range of motion and function of your hand. Your hand therapist can give you a better idea of how much therapy you may need during your first appointment. Consistent follow-through with your home exercise program is a vital part of the recovery process.

Managing pain and swelling:

It is not unusual to have pain and swelling while recovering from a distal radius fracture. Here are some suggestions to help you manage symptoms:

- **Elevation** – keep your hand and arm elevated above your heart as much as you can for the first several days after injury and/or surgery, then as needed, to minimize swelling (edema). This will also help to decrease pain.
- **Ice** – can be used 3-4x/day to help manage pain and swelling. Use a cold pack or a bag of crushed ice for 15-20 minutes at a time. It can be difficult to ice over bulky dressings or casts, but you can try putting the ice over your hand or just above the cast/dressing on your forearm. Do not use ice until your hand has “woken up”, if you had any anesthesia.
- **Medication** – such as acetaminophen (Tylenol), ibuprofen (Advil), or naproxen (Aleve) may help alleviate pain. In some cases, your doctor may prescribe other pain medication. Take medication as instructed to help minimize your pain.
- **Vitamin C** – 500 mg, 1x/day, taken for 50 days significantly reduces the risk of a complication called complex regional pain syndrome.
- **Resume your daily routine as tolerated** – this includes light exercise, such as walking, or riding a stationary bike. We also encourage you to try to use your injured hand for light activity such as dressing, eating, and computer use. Increase your activity as tolerated, avoiding things that cause increased pain at your fracture site.
- **Nutrition** – Drink plenty of water and eat healthy meals to give you energy and boost your body’s healing power.

- **Move unaffected joints** – Joints that are not included in your splint or cast should be moved through their full range of motion several times per day. This includes your fingers, thumb, elbow, and shoulder. It is especially important to keep your fingers flexible to prevent excessive stiffness, which can slow recovery of function once the cast or splint is removed. Feeling tightness, stiffness, pulling, stretching, and/or discomfort as you start to move is normal.

Additional recommendations

Following a distal radius fracture, performing your daily activities can be difficult and frustrating. It is okay to ask for help when you need it. Here are some suggestions to help you manage as you recover.

- **Showering and bathing** – if you had surgery or are in a non-waterproof cast, put a plastic bag over your arm to keep the dressings or cast dry. Your doctor or therapist will instruct you when it is safe to get your arm wet in the shower or bath.
- **Driving** – you must be off all prescription pain medication before driving.

In general, you may resume driving when you feel safe and comfortable with the mobility of your arm and have stopped taking any prescription pain medications.

- **Grooming and hygiene** – use pump containers for soap, lotion and shampoo/conditioners, spray shaving cream on the side of the sink and scoop to use, use pre-strung “flossers” to floss your teeth, keep caps loose on bottles and tubes to make them easier to open.
- **Dressing** – dress your injured arm first, avoid tight sleeves, slip your belt through belt loops before putting on pants, use slip-on shoes or keep them tied loosely so you can slide your feet in easily, hook bras in front and slide them around or use a camisole. In the winter, use a thick sock or hat to keep your hand warm when you’re outside.
- **Cooking** – keep meals simple. Buy pre-chopped or pre-packaged ingredients, use a pizza cutter or serrated knife to cut food, avoid using heavy pans that require use of both hands. Have family, friends, neighbors, or the supermarket cashier open tight or new jars and reseal them loosely to make it easier for you to open them at home.

Additional resource for information on distal radius fracture

- American Society for Surgery of the Hand – assh.org
- American Academy of Orthopaedic Surgeons – aaos.org or orthoinfo.org

The content provided here is not intended to be a substitute for professional medical advice, diagnosis or treatment. Always seek the advice of your physician or another qualified health provider with any questions you may have regarding a medical condition.