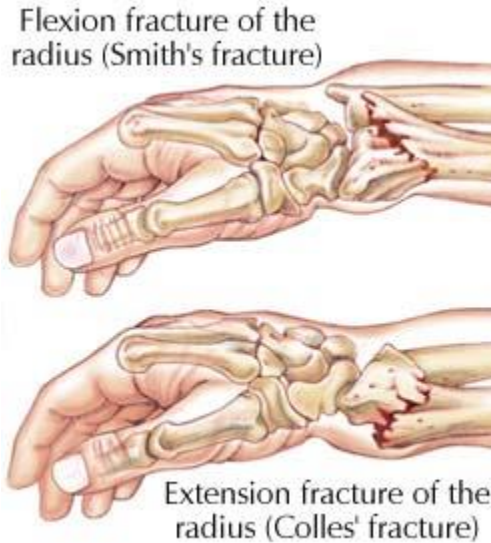


Smith's Fracture

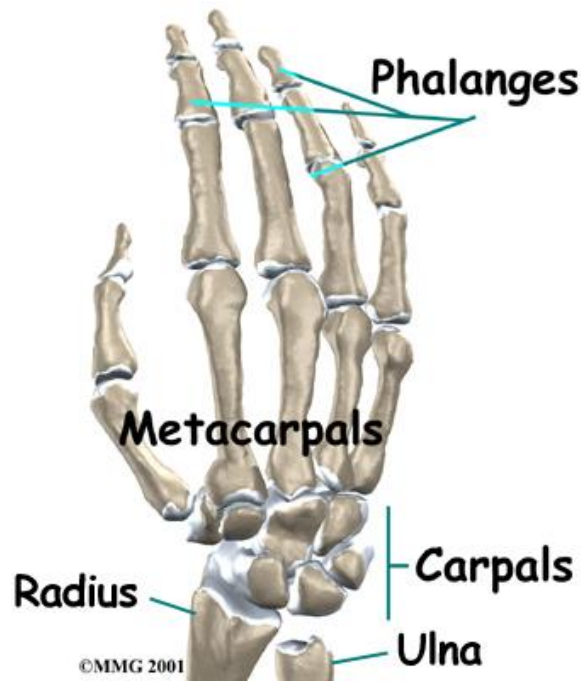


Introduction

A broken wrist is among the most common broken bones. In fact, wrist fractures are the most commonly broken bone in patients under 65 years. A 'wrist fracture' generally means the end of the forearm (radius and/or ulna) bone has been broken. The Smith's fracture is an injury to the forearm bone (the radius) with or without involvement of the ulna. A Smith fracture is relatively uncommon compared with the Colles fracture. A Smith fracture is also at times referred to as a reverse Colles' fracture.

Anatomy

The wrist joint is made up of the two bones in your forearm (the radius and the ulna) and the many tiny bones in the base of your hand (carpal bones). The radius is the bone on the thumb side of the forearm, and the ulna is the outer bone of the forearm located on the side of the pinky.



Injury

Fractures of these bones in the forearm are the most common wrist fractures in all age groups. These fractures generally occur during a fall on an outstretched hand.

Symptoms

These types of fractures are often extremely painful. There may or may not be an obvious deformity of the wrist (deformity - bones do not line up) Children with these fractures may have only a small amount of swelling and deformity (the bone is out of its normal position). In adults, fractures near the wrist can cause a large amount of swelling and deformity.

Diagnosis

The physician's first step in treating anyone with wrist pain after an injury is to obtain and evaluate an x-ray. This will usually be all the testing necessary to tell if a bone is fractured (broken, cracked, chipped, or smashed). Sometimes, however, more testing may be necessary (such as an MRI, CT, or bone scan) to help determine the best form of treatment. Some Smith fractures are obviously deformed fractures, but x-rays will still be taken.

Treatment

Urgent reduction of Smith fractures may be necessary when the bones are displaced and the neurovascular status has been compromised. The treatment of a wrist fracture varies widely and depends on its location, position, and stability, and how many pieces of broken bone have been created by the injury. Many Smith fractures are displaced fractures and need emergency reduction in the ER. If this can not be done in the ER the doctor will need to reduce (put the displaced fracture back in place) the fracture under general anaesthesia (surgery).

Surgery

If reduction is needed to fix the Smith fracture the doctor may or may not need to place pins in the bone(s) to cause them to heal correctly

Most fractures are treated simply with a cast; sometimes the bone fragments must be gently pushed back to a more normal position before casting. Some fractures are unstable enough that a cast cannot hold the pieces of bone in a normal position for healing, and surgery may then be necessary. Patients with wrist fractures usually do very well, although some may have problems with slight stiffness or loss of motion. Arthritis can also develop sometime in the future, particularly if the smooth, shiny joint surfaces were disrupted by the fracture pieces.

Early intervention/rehabilitation is helpful to reduce pain, increase range of motion, and ultimately restore strength and function. Wrist supports and custom splints are helpful to protect the area so optimal healing can occur

- Distal radius fracture
 - Once swelling has subsided, uncomplicated fractures require conversion from a splint to a short-arm cast for 6-8 weeks.
 - An orthopedic specialist should provide follow-up to assess for adequate alignment and the need for operative intervention.
 - Patient may require physical therapy to regain baseline range of motion.

Reduction

- Manipulation of broken bones is very painful; some form of anaesthesia is required.
- General anaesthesia is effective but even a brief anaesthetic has risks, especially in the elderly or those with medical problems. It is also necessary to wait until at least 4 hours after anything was taken by mouth.
- A Cochrane review examined the main methods of anaesthesia: haematoma block, intravenous regional anaesthesia (IVRA), regional nerve blocks, conscious sedation and general anaesthesia. It also looked at associated physical techniques and drug adjuncts used for the management of distal radial fractures in adults. All methods were effective but regional block was probably more effective than haematoma block. However, haematoma block is quicker, easier to perform and less intensive on resources. They concluded that there was inadequate evidence of robust quality to make an adequate comparison of the various techniques.²
- Conscious sedation is increasingly being used.
- The method of reduction varies depending on the fracture.
- If it is not possible to get satisfactory reduction of a fracture, with or without dislocation, then operative treatment is required. This is more likely to be required if there is both a fracture and dislocation.

Immobilisation

- The treatment of a fracture involves immobilisation and the general principle is that the joint above and the joint below the fracture should both be immobilised.
- The trauma of a fracture is usually associated with local swelling and so a full plaster must be avoided initially as the swelling may impede the circulation and can produce ischaemic contractures.
- The usual technique is to apply a back slab, held in place by crepe bandages. A few days later the patient is seen in the fracture clinic, the part is often X-rayed to check that there has been no movement and a full plaster is applied.
- The management of a fractured scaphoid is an exception that will be considered under that heading.
- After a fracture has been reduced and immobilised with a back slab, a repeat X-ray is taken to ascertain that alignment is satisfactory.

* References available upon request