

Humerus Shaft Fracture

A humerus fracture is a broken bone (fracture) of the arm (humerus) between the shoulder and the elbow. This may be a complete or incomplete break.



X-ray of humeral shaft fracture



Post-surgical X-ray of humeral fracture



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Frequent Signs and Symptoms

- Severe arm pain at the time of injury
- Tenderness, swelling, and (later) bruising of the arm
- Later, swelling and bruising in the elbow and hand
- Visible deformity if the fracture is complete and bone fragments separate enough to distort normal body contours
- Numbness, coldness, or paralysis below the fracture involving the forearm or hand from pressure on or stretching of blood vessels or nerves (uncommon)

Etiology (Causes)

- Direct blow or force to the arm bone
- Indirect stress due to falling on an outstretched hand
- Possibly, throwing hard enough to produce twisting force
- Arm wrestling

Risk Factors

- Contact sports, such as football and rugby
- Sports requiring rotational forces and throwing
- Children younger than 12 years of age; adults older than 60
- History of bone or joint disease; previous immobilization of the arm
- Poor physical conditioning (strength and flexibility)
- Bone cysts of the humerus

Prevention

- Appropriately warm up and stretch before practice or competition
- Maintain appropriate conditioning:
 - Cardiovascular fitness
 - Arm strength
 - Flexibility and endurance
- Wear proper protective equipment and ensure correct fit



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Outcomes

With appropriate treatment and normal alignment of the bones, fracture healing can be expected. Surgery may be necessary to realign fractures that are displaced. Average healing time is six to eight weeks in adults and four to six weeks in children. Complete functional recovery may take four to six months.

Potential Complications

- Nonunion (fracture does not heal)
- Malunion (heals in a bad position)
- Chronic pain, stiffness, loss of motion, or swelling of the shoulder or elbow
- Excessive bleeding in the arm, causing pressure and injury to nerves and blood vessels (uncommon)
- Heterotopic ossification (calcification of the soft tissues)
- Injury to the nerves due to stretching from the injury, causing numbness, weakness, or paralysis, particularly the radial nerve.

Treatment Considerations

If the bones are in acceptable alignment (position), the initial treatment consists of ice and medications to help relieve pain. Immobilization by splinting or bracing in addition to a sling for six or more weeks is recommended to allow the bones to heal. Severe fractures and fractures that are displaced (not in appropriate alignment) require surgery to restore the bones to their proper position and promote healing. Surgery usually includes repositioning the fracture fragments and holding the alignment with plates and screws. After immobilization (with or without surgery), stretching and strengthening of the injured and weakened joints (elbow and shoulder) and surrounding muscles is necessary. This is usually done with the assistance of a physical therapist or athletic trainer.

Possible Medications

- Strong pain relievers may be prescribed post-surgically as necessary. Use only as directed and only as much as you need.



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Modalities (Cold Therapy)

Cold is used to relieve pain and reduce swelling and inflammation from the arthritis. Ice packs or cryotherapy devices can be applied to the joint for 20 minutes, three to four times per day as needed. Be careful not to apply the ice directly on the skin and do not leave the ice on too long as it can cause severe, permanent injury to the skin.

Notify My Office If Symptoms Worsen

This information is provided by Dr. Steven Chudik. It is not to be used for diagnosis and treatment. For a proper evaluation and diagnosis, contact Dr. Chudik at contactus@chudikmd.com, or 630-324-0402.



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