

Elbow Fracture Surgery: What You Need to Know

An elbow fracture occurs when one or more of the bones in the elbow joint—the humerus, ulna, or radius—break, often due to a fall, accident, or direct impact. Common fractures include the distal humerus (lower end of the upper arm bone), olecranon (tip of the ulna), and radial head (top of the radius). When these fractures are displaced, unstable, or involve the joint, surgery may be needed to realign and stabilize the bones. The most common procedures are **open reduction internal fixation (ORIF)** or, for some radial head fractures, **arthroplasty** (joint replacement). For some patients with distal humerus fractures, total elbow arthroplasty may be recommended (see page on elbow arthritis surgery for more details on this treatment). Below, we explain the surgery, recovery, potential complications, and expected outcomes to help you feel informed.

Description of the Surgery

Elbow fracture surgery varies depending on the location and severity of the break. Here's how the most common procedures are performed:

- **Distal Humerus Fracture ORIF:**

This surgery repairs a break in the lower humerus near the elbow. The surgeon makes an incision along the back or side of the elbow, realigns the bone fragments, and secures them with plates and screws. The incision is closed with stitches, and a splint or brace is applied.

- **Olecranon Fracture ORIF:**

This procedure fixes a break in the olecranon, the bony tip of the elbow. The surgeon makes an incision along the back of the elbow, repositions the fragments, and uses pins and wires or a plate with screws to hold them in place. The incision is closed, and a splint is applied. This restores the elbow's extension mechanism.



- **Radial Head Fracture ORIF or Arthroplasty:**

This addresses a break in the radial head within the elbow joint. For ORIF, the surgeon makes an incision along the outer elbow, realigns the fragments, and fixes them with screws or a small plate. If the fracture is

too severe to repair, arthroplasty may be performed: the damaged radial head is removed and replaced with a metal implant. Sometimes patients have a torn ligament within the elbow joint in addition to the fracture – these ligaments are typically also repaired as needed to restore elbow joint stability. The incision is closed, and a splint or sling is applied.



These surgeries are typically performed under general anesthesia with regional anesthesia (numbing the arm). They take 1-3 hours, depending on complexity, and are usually outpatient, though some cases require an overnight stay.

What to Expect During Recovery

Recovery depends on the fracture and procedure, but all involve a brief period of immobilization followed by rehabilitation. Here's a general timeline:

- **Immediately After Surgery:**
Your elbow will be in a splint, brace, or sling. Mild to moderate pain, swelling, or bruising is normal, manageable with prescribed pain medication or over-the-counter options like ibuprofen. Keep your arm elevated to reduce swelling. It is also important to work on finger motion exercises (from a tight fist to full extension) to prevent finger stiffness.
- **First 1-2 Weeks:**
The splint or brace stays on, and stitches are typically removed within 10-14 days. You'll avoid lifting or moving the elbow, though gentle finger and shoulder movements may be encouraged to prevent stiffness. Typically physical or occupational therapy is started within this time period with progressive work on elbow motion during the initial phase.
- **Weeks 3-6:**
Patients typically work on a progressive rehabilitation program, beginning with motion exercises under guidance of a physical or occupational therapist. For some severe or unstable fracture patterns, a removable brace or sling may be required to be worn between exercises. Light activities like writing may resume with care.
- **Months 2-6:**
Strength and motion improve with therapy. Most patients return to full activities by 3-6 months, though

heavy lifting or some sports may take longer. Stiffness is best prevented with diligent work through physical and occupation therapy, however some degree of stiffness is expected (depending on the type of injury) and can take up to 6 months to resolve.

- **Full Recovery:**

Complete healing can 6-12 months, especially for distal humerus fractures and complex injury patterns – however most patients can return to full activities, including sports and heavy lifting, well before they reach their recovery plateau.

Follow your surgeon's instructions on immobilization, therapy, and activity restrictions.

Potential Complications

Elbow fracture surgery is generally effective, but risks exist. These are uncommon and often treatable:

- **Infection:** Redness, swelling, or drainage at the incision site may indicate an infection, treatable with antibiotics.
- **Nerve or Blood Vessel Damage:** Rarely, nearby structures may be affected, causing numbness, tingling, or weakness, which may resolve over time. Permanent injury or deficits are uncommon.
- **Hardware Issues:** Plates, screws, or implants may irritate tissues, occasionally requiring removal after healing.
- **Stiffness / Heterotopic Ossification:** Elbow stiffness is common but usually improves with therapy within the first 3-6 months after surgery; severe cases may persist and may require additional treatment, such as aggressive physical therapy, specialized splinting, or additional surgery (contracture release with removal of scar tissue). Heterotopic ossification is occasionally seen with elbow fractures, and refers to excessive bone growth around the injury, which can be another cause of stiffness.
- **Nonunion:** The bones may not heal together, potentially needing further treatment (more common in distal humerus fractures).

Contact your doctor if you experience severe pain, fever, or signs of infection after surgery.

Expected Outcomes

Elbow fracture surgery aims to restore stability and function, with good results for most patients:

- **Pain Relief:** Pain from the fracture decreases significantly within weeks, with full relief as healing progresses.
- **Improved Function:**
 - **Distal Humerus Fracture ORIF:** Restores elbow joint alignment, though motion may be limited even after full healing with very severe cases.
 - **Olecranon Fracture ORIF:** Regains elbow extension, with near-normal motion in most cases.
 - **Radial Head Fracture ORIF/Arthroplasty:** Preserves forearm rotation and elbow joint motion through the radius; arthroplasty may offer better motion if the fracture was severe.

- **Long-Term Results:** At least 80-90% of patients regain functional use of the elbow. Full recovery depends on fracture complexity and therapy adherence.

Success varies by injury severity, age, underlying health issues, and rehabilitation commitment.

Final Notes

Elbow fracture surgery can stabilize your joint and get you back to your daily life. If you have questions about which procedure is right for you or what to expect, discuss them with your surgeon. We're here to support your recovery every step of the way!