Elbow Ligament Repair Surgery: What You Need to Know

Elbow ligaments, like the lateral ulnar collateral ligament (LUCL) and medial collateral ligament (MCL), stabilize the joint and allow smooth motion. They can tear due to a sudden injury, such as an elbow dislocation, or from repetitive stress, common in athletes like pitchers. When these injuries cause instability or pain that doesn't improve with rest or therapy, surgery may be needed. Common procedures include **acute repair** of the LUCL or MCL after trauma, or **reconstruction** of the MCL (Tommy John surgery) or LUCL for chronic damage. Below, we explain the surgery, recovery, potential complications, and expected outcomes to help you feel prepared.

Description of the Surgery

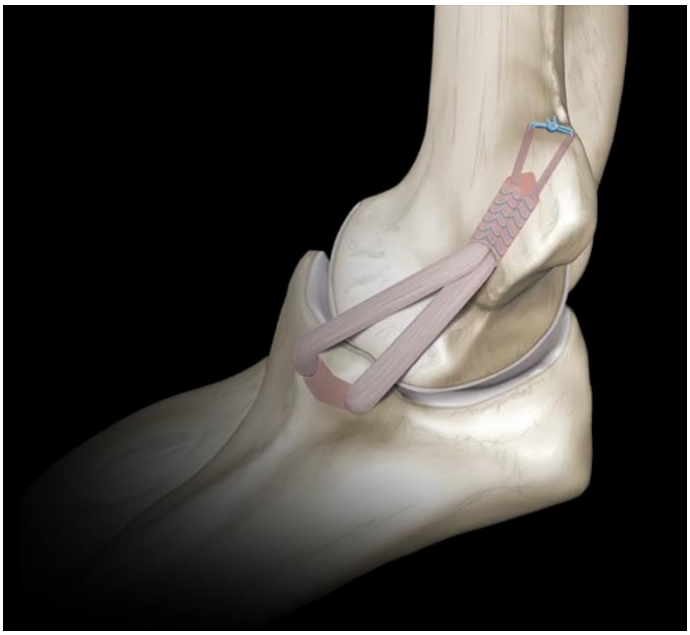
Elbow ligament surgery restores stability, with the approach depending on the injury's timing and severity:

- **Acute Repair of the LUCL or MCL**:
  This is performed soon after a traumatic event, like an elbow dislocation. The surgeon makes an incision (2-4 inches) on the outer elbow (for LUCL) or inner elbow (for MCL). The torn ligament is identified and reattached to the bone using sutures or anchors. If a fracture has occurred within the elbow as a part of the injury, this is usually repaired as well during the surgery. The incision is closed with stitches, and a brace or splint is applied. This repairs the ligament before chronic instability develops.

- **Reconstruction of the MCL (Tommy John Surgery)**:
  For chronic MCL injuries, often in throwers, the damaged ligament is replaced. The surgeon makes an incision (2-3 inches) on the inner elbow and grafts a tendon (usually autograft from the patient's forearm or hamstring, or allograft from a cadaver) to reconstruct the injured MCL. The graft is secured with anchors or tunnels drilled in the bone. The incision is closed, and a brace is applied. This restores stability for repetitive motions.

- **Reconstruction of the LUCL**:
  For chronic LUCL injuries causing ongoing instability, a similar approach is used. The surgeon makes an incision on the outer elbow, replaces the damaged ligament with a tendon graft (autograft or allograft), and secures it with anchors or tunnels drilled in the bone. The incision is closed, and a brace or splint is applied. This prevents th e elbow from giving way sideways.

Source: aaos.org



Source: arthrex.com

These surgeries are typically performed under general anesthesia with regional anesthesia (numbing the arm). They take 1-2 hours and are usually outpatient, meaning you go home the same day.

What to Expect During Recovery

Recovery focuses on protecting the repair while gradually restoring motion and strength. Here's a general timeline:

- **Immediately After Surgery**:
  Your elbow will be in a splint or hinged brace to limit motion. Mild pain, swelling, or stiffness is normal, manageable with prescribed pain medication or over-the-counter options like ibuprofen. Keep your arm elevated to reduce swelling. Work on finger motion exercises (from a tight fist to full extension) to minimize stiffness.

- **First 1-2 Weeks**:
  Stitches are removed within 10-14 days. You will be referred to physical or occupational therapy to begin work on progressive elbow motion exercises for the first phase of your rehabilitation. Gentle finger and shoulder movements are also encouraged.

- **Weeks 3-6**:
  A hinged brace or removable splint (depending on the type of surgery performed) is used to protect the repair and should be worn between exercises under the guidance of your therapist. Light activities, such as writing or typing, may resume with care.

- **Months 2-6**:

    - **Acute Repair**: Most patients return to daily tasks by 3-4 months, with sports or heavy use by 4-6 months.

    - **Reconstruction**: Therapy intensifies to rebuild strength and athletes can begin a progressive throwing program at 4 months following Tommy John surgery. Most normal activities can resume by 4-6 months. Competing in throwing sports (e.g., baseball) will take at least 9-12 months after Tommy John surgery.

- **Full Recovery**:
  Complete healing takes 6-12 months, longer (12-18 months) for reconstructions like Tommy John surgery in throwing athletes.

Follow your surgeon's guidance on bracing, therapy, and activity restrictions.

Potential Complications

Elbow ligament surgery is generally successful, but risks exist. These are rare and often treatable:

- **Infection**: Redness, swelling, or drainage at the incision site may indicate an infection, treatable with antibiotics.

- **Nerve or Blood Vessel Injury**: Rarely, nearby structures (e.g., ulnar nerve for MCL surgery) may be irritated, causing numbness or weakness, usually temporary. Permanent injury or deficit is very rare.

- **Stiffness**: Elbow stiffness is common but improves with therapy; severe cases may persist and require additional treatment, such as aggressive therapy, special splints, or contracture release surgery.

- **Graft Failure (Reconstruction)**: The tendon graft may stretch or tear if stressed too soon or re-injured, requiring caution during recovery.
- **Instability**: Rarely, the elbow may remain unstable if the repair or graft doesn't hold or incorporate fully into bone.

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

Expected Outcomes

Elbow ligament surgery restores stability and function, with excellent results for most patients:

- **Pain Relief**: Pain from instability or the ligament tear decreases significantly within weeks to months.
- **Improved Function**:
    - **Acute Repair**: Restores normal elbow stability, allowing near-full motion and strength in most by 4-6 months.
    - **MCL Reconstruction (Tommy John)**: Enables athletes to return to throwing sports with 80-90% success, though full recovery may take 12-18 months.
    - **LUCL Reconstruction**: Prevents sideways instability, restoring daily use and activities with the arm outstretched or pushing up from a chair.
- **Long-Term Results**: Over 85-90% of patients regain stable, functional elbows. Acute repairs often heal faster than reconstructions, but both will typically provide long-lasting functional improvement.

Success depends on injury severity, surgical timing, patient health conditions, and therapy adherence.

Final Notes

Elbow ligament surgery can stabilize your joint and get you back to your activities, whether after a sudden injury or chronic wear. If you have questions about the procedure or recovery, discuss them with your surgeon. We're here to support you every step of the way!