

Postoperative Protocol For ORIF of Olecranon Fractures-- Dr. Trueblood

Indications: The triceps mechanism inserts into the proximal ulna in the zone of expanded, periarticular bone commonly called the “olecranon”. Falls onto a flexed elbow can cause tension-failure of this region. Higher energy impacts can also shatter this bone. In any case, displacement of the joint surface can lead to a painful, stiff elbow that develops early osteoarthritis and loss of attachment of the elbow extensors to the forearm can result in permanent weakness without surgical treatment. Saving the very low-demand or medically unfit for surgery, almost all displaced olecranon fractures benefit from surgical treatment.

Technique: A posterior approach to the elbow is performed and full-thickness flaps are elevated off of the subcutaneous ulna. The ulnar nerve is identified on the medial border of the triceps and is decompressed from the arcade of Struthers to the FCU Aponeurosis. The olecranon fracture is mobilized and the articular surface inspected. Intra-articular comminution is addressed with buried fixation as needed and bone graft substitute impacted to provide additional support for the reduction. The proximal fragment is then reduced to the distal fragment and pinned provisionally. Simple, transverse patterns may be secured definitively with a tension band wire construct. Length unstable fractures require plate and screw fixation for optimal stability. The FCU/ Anconeus interval is closed over the fixation and the wounds are copiously irrigated, then closed in layers. The patient is placed into a sterile dressing with a well-padded, well-molded, posterior mold splint in 90 degrees of elbow flexion. Patients with isolated olecranon fractures are typically discharged to home on the day of surgery with plans to start therapy in 3-5 days.

Immediate postoperative period:

- Full time splinting.
- Full hand extension to tight fist 10x/ hour while awake.
- Non-weight bearing to operative extremity. No resisted extension exercises.

1st therapy visit at 3-5 days postop--

- *Therapy 1-2x/week x 6 weeks.*
- Dressing down. Instruct in non-adherent dressing changes to be done daily.
- May shower if incisions are dry. Water runs off skin and patient pats incisions dry with clean towel (not to be used for the rest of the patient’s body).
- Splint: off-the-shelf cubital tunnel brace in 90 degrees of flexion. This is to be worn at all times except during ROM exercises.
- AROM/ AAROM of elbow with gravity assisted extension of elbow. AROM/ PROM of shoulder, wrist, and hand.
- Limit elbow flexion to 90 degrees for first 4 weeks.

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- Light putty exercises for grip once full ROM of digits is restored.
- Edema control.
- Modalities prn.
- Review postoperative precautions.

1st postoperative visit at 2 weeks postop--

- Pain Assessment/ Rx adjustments or refills as needed.
- Stitches out. Steri-strips applied.
- Review postoperative limitations/ precautions.
- Therapy Rx
- Work Note: No lifting, pushing, pulling. Must wear splint at all times. No driving/ operating machinery. No contact sports.
- Expected Return to Work:
 - Sedentary: 2 weeks
 - Light Manual: 8 weeks
 - Heavy Manual: 3 months.

Therapy 2-6 weeks

- Continue splint.
- AROM/ AAROM with gravity assisted extension of elbow. AROM/ PROM of shoulder, wrist, and hand.
- May advance elbow flexion *ad lib* after 4 weeks.
- modalities prn
- HEP

2nd postoperative visit at 6 weeks--

- X-ray (3 views of elbow): advance activity when nontender at fracture site and bridging bone at 3+/4 cortices
- Pain Assessment/ Rx adjustments or refills as needed.
- Review postoperative limitations/ precautions.
- Follow-up in 6 weeks
- Therapy Rx
- Work Note: 20# lifting. No contact sports.
- Expected Return to Work:
 - Sedentary: 2 weeks
 - Light Manual: 8 weeks
 - Heavy Manual: 3 months.

Therapy 6-12 weeks

- 1-2x/week x 6 weeks
- AROM/ PROM of elbow, wrist, and hand.
- If >20degree lack of extension or elbow flexion <130 at 8 weeks, add a static progressive splint to address this deficit.

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- Start progressive general strengthening of shoulder, elbow, wrist, and hand.
- When is at least 10-130 degrees of flexion and elbow flexion/ extension strength = 80% of contralateral, may advance patients with heavy manual laboring jobs to work hardening. Other patients may advance to HEP.
- modalities prn
- HEP

3rd postoperative visit--

- x-rays: 3-views of elbow.
- pain assessment, VAS
- DASH score
- Work note: no restrictions. Patients with very high demand, manual laboring jobs may require further work hardening.
- MMI at one year from surgery