



Lisa Kaplin, DO

CLAVICLE FRACTURE OPEN REDUCTION INTERNAL FIXATION REHAB PROTOCOL

This rehabilitation protocol has been developed for the patient following an open reduction and internal fixation of a clavicle fracture. The protocol is divided into phases. Each phase is adaptable based on the individual and special circumstances. These are general guidelines. Some patients may move faster or slower on this progression based on the nature of the fracture and the speed of healing as assessed by follow up radiographs. Clavicle fractures vary in their severity, and the time it takes to heal can vary widely based on factors such as comminution of the fracture (the number of pieces it was in), soft tissue damage, and overall health of the patient.

Immediately post-operatively, exercises must be modified so as not to place unnecessary stress on the clavicle.

Active range of motion of the elbow and wrist without weights or resistance is encouraged.

Passive range of motion of the shoulder is begun week one post-op in the form of pendulum exercises and gradually advanced.

The overall goals of the surgical procedure and rehabilitation are to:

- Control pain and inflammation
- Regain normal upper extremity strength and endurance
- Regain normal shoulder range of motion
- Achieve the level of function based on the orthopedic and patient goals.

The physical therapy should be initiated within the first week and one half to two full weeks post-op.

Many of the early stages can be performed at home after being taught proper form.

Important post-operative signs to monitor include:

- Swelling of the shoulder and surrounding soft tissue
- Abnormal pain response, hypersensitive-an increase in night pain
- Severe range of motion limitations
- Weakness in the upper extremity musculature

Return to activity requires both time and clinical evaluation. To most safely and efficiently return to normal or high level functional activity, the patient requires adequate strength, flexibility, and endurance. Functional evaluation including strength and range of motion testing is one method of evaluating a patient's readiness to return to activity. Return to intense activities following an open reduction and internal fixation of the clavicle requires complete healing of the bone and return of strength and shoulder motion.

Symptoms such as pain, swelling, or instability should be closely monitored by the patient.



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Clavicle Fracture Post Op Protocol

Week 0-2

Sling. Immobilized at all times day and night. Elbow and wrist ROM, and grip strength at home. No shoulder ROM. Sling off for hygiene and gentle exercises.

Goals: Maintain elbow and wrist ROM, control pain and swelling. Protect the repair.

Weeks 2 - 3

Continue sling. Sling may be removed for exercises. May do pendulums, gentle passive ROM including: Codman's, posterior capsule mobilizations; avoid stretch of anterior capsule and extension; closed chain scapula. No lifting anything heavier than a pencil in operative hand. Limit flexion to 90°, external rotation to 45°, extension to 20°

At Week 3 you may wear the sling only during day time.

Goals: Initiate shoulder ROM. Prevent pain. Protect the repair.

Weeks 4 - 5

May begin to wean from sling.

If X-rays show no change in hardware, may begin full active and passive motion.

No lifting anything heavier than a pencil.

Weeks 6 - 8

If radiographs are showing signs of union, may begin to slowly incorporate resistance and strengthening exercises.

May now use arm to lift nothing heavier than a carton of milk.

Goals: Full extension rotation, 135° flexion, 120° abduction

Weeks 8 - 12

Once radiographs show union and 2 weeks of resistance exercises have been performed, then may work on aggressive shoulder rehab to return to sports. Once painless shoulder function has been achieved and strength has returned, and an athlete has completed the return to play rehab, then an athlete may return to play. Continue 0-6 weeks exercises; begin active assisted exercises, deltoid/rotator cuff isometrics at 8 weeks Begin resistive exercises for scapular stabilizers, biceps, triceps and rotator cuff

Gradual return to full AROM at 12-16 weeks

Advance activities in 6-12 weeks protocol; emphasize external rotation and latissimus eccentrics, glenohumeral stabilization Begin muscle endurance activities (upper body ergometer) Aggressive scapular stabilization and eccentric strengthening Begin plyometric and throwing/racquet program, continue with endurance activities Cycling/running okay at 12 weeks or sooner if given specific clearance

At 4-5 months should have full and pain free motion.

STRENGTH Progress strengthening program with increase in resistance and high speed repetition

Progress with eccentric strengthening of posterior cuff and scapular musculature Initiate single arm plyo-toss



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Initiate military press, bench press, and lat pull-downs Initiate sport specific drills and functional activities

Initiate interval throwing program

Initiate light plyometric program

GOALS OF PHASE:

- Full ROM
- Maximize upper extremity strength and endurance
- Maximize neuromuscular control
- Initiate sports specific training/functional training