

Rehabilitation Protocol for Sternoclavicular Joint Reconstruction

This protocol is intended to guide clinicians through the post-operative course for sternoclavicular joint reconstruction. This protocol is time based (dependent on tissue healing) as well as criterion based. Specific intervention should be based on the needs of the individual and should consider exam findings and clinical decision making. The timeframes for expected outcomes contained within this guideline may vary based on surgeon's preference, additional procedures performed, and/or complications. If a clinician requires assistance in the progression of a post-operative patient, they should consult with the referring surgeon.

The interventions included within this protocol are not intended to be an inclusive list of exercises. Therapeutic interventions should be included and modified based on the progress of the patient and under the discretion of the clinician.

Considerations for the Post-operative sternoclavicular joint reconstruction

Many different factors influence the post-operative rehabilitation outcome, including surgical technique (ie. tendon autograft harvest for repair), degree of SC joint instability, concomitant soft tissue or bone injury/repair, and individual patient factors including co-morbidities. It is recommended that patients meet all rehabilitation criteria in order to progress to the next phase and clinicians collaborate closely with the referring physician throughout the rehabilitation process.

Post-operative Complications

If you develop a fever, unresolving numbness/tingling, excessive drainage from the incision, uncontrolled pain or any other symptoms you have concerns about you should contact the referring physician.

PHASE I: EARLY POST-OP (0-6 WEEKS AFTER SURGERY)

Rehabilitation Goals	• Reduce pain and swelling of the operative shoulder • Maintain elbow, wrist and hand AROM • Patient education
Sling/precautions	• Sling to be worn for 6 weeks (or as directed by surgeon) • Avoid PROM of the glenohumeral joint • Avoid scapular AROM (protraction, retraction, depression and elevation) as it may disrupt the repair and healing tissues • Avoid bearing weight through involved extremity • Avoid lifting any lifting with involved extremity • Avoid running and jumping due to impact forces upon landing that may aggravate healing tissues and bone
Intervention	• Cryotherapy as needed • AROM: cervical spine, elbow, wrist, hand • Hand gripping: ball squeeze • Cardiovascular exercise as tolerated: walking, stationary bike
Criteria to Progress	• Well controlled pain and swelling • Protect reconstruction site and autograft site (if applicable) • Maintain elbow, wrist and hand AROM

PHASE II: INTERMEDIATE POST-OP (6-12 WEEKS AFTER SURGERY)

Rehabilitation Goals	- Activation of muscles responsible for stabilizing the scapulothoracic and glenohumeral joint Gradually restore PROM, AAROM of the GH joint at 6-8 weeks Gradually restore AROM of the scapulothoracic joint and glenohumeral joint at 8 weeks - Wean from sling (if still wearing) - Begin shoulder and scapular strengthening at 8 weeks - Begin proprioception and neuromuscular control training - Identify and correct postural dysfunction as indicated
Sling/precautions	- Avoid repetitive overhead activities - No lifting > 5 pounds with involved extremity until 9 weeks post-op - Post-rehabilitation soreness should resolve within 12-24 hours
Additional Interventions <i>*Continue with Phase I interventions</i>	- AROM in all cardinal plane assessing scapular rhythm - Gentle glenohumeral mobilization as indicated <i>Strengthening:</i> - Rotator cuff strengthening in non-provocative positions (generally 0-45 degrees Scaption/abduction): scaption raises against gravity, Sidelying ER, lightly resisted ER/IR with theraband, isometrics - Scapular strengthening and dynamic neuromuscular control: low row, straight arm pulldowns, serratus punch, resisted T's <i>Stretching:</i> Gentle corner or doorway pec stretch - Postural endurance exercises: scapular retractions, chin tucks - Walking, stationary bike, Stairmaster
Criteria to Progress	- Full AROM of the operative shoulder - Normal (5/5) strength for glenohumeral flexion/abduction/IR/ER degrees abduction

PHASE III: LATE POST-OP AND GRADUAL RETURN TO SPORT(13+ WEEKS AFTER SURGERY)

Rehabilitation Goals	- Restore normal (5/5) rotator cuff strength at 90 degrees abduction including supraspinatus - Full multi-planar AROM with minimal to no substitution patterns - Advance proprioceptive and dynamic neuromuscular control training - Identify and correct postural dysfunction with sport/work specific tasks as indicated - Develop strength and control movements required for sport/work
Sling/precautions	- Post-rehabilitation soreness should resolve within 12 hours - No lifting restrictions at ~4 months
Additional Interventions <i>*Continue with Phase I-II Interventions</i>	- Glenohumeral mobilizations as indicated - Multiplane AROM with gradual increase in velocity of movement <i>Strengthening:</i> - Rotator cuff strengthening at 45 degrees progressing to 90 degrees abduction and sport/work specific positions as well as other provocative positions: resisted IR/ER, elevation with ER, resisted scaption raises, facepulls/resisted W's - Scapular strengthening and dynamic neuromuscular control in overhead or sport/work positions: prone or resisted I's, T's and Y's, lower trap setting at wall, manual perturbations in varying degrees in elevation, serratus wall slides/roll ups, wall pushups, quadruped shoulder taps - Core strengthening <i>Stretching:</i>

	Corner or doorway pec stretch, Gentle posterior capsule stretch (across body) • Walking, stationary bike, Stairmaster, return to running/jumping as tolerated • Begin education in sport specific biomechanics with initial program for throwing, swimming, or overhead racquet sports
Criteria to Return to Sport	• Clearance from MD and ALL milestone criteria have been met • Maintains pain-free PROM and AROM • Performs all exercises demonstrating symmetric scapular mechanics • QuickDASH • PENN • For the recreational or competitive athlete, return-to-sport decision making should be individualized and based upon factors including level of demand on the upper extremity, contact vs non-contact sport, frequency of participation, etc. We encourage close discussion with the referring surgeon prior to advancing to a return-to-sport rehabilitation program.

Contact	Please email MGHSportsPhysicalTherapy@partners.org with questions specific to this protocol
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References:

1. Logan C, Shahien A, Altintas B, Millett PJ. Rehabilitation following sternoclavicular joint reconstruction for persistent instability. *International Journal of Sports Physical Therapy*. 2018;13(4):752-762. doi:10.26603/ijspst20180752
2. Petri, M., Greenspoon, J. A., Horan, M. P., Martetschläger, F., Warth, R. J., & Millett, P. J. (2016). Clinical outcomes after autograft reconstruction for sternoclavicular joint instability. *Journal of Shoulder and Elbow Surgery*, 25(3), 435–441. <https://doi.org/10.1016/j.jse.2015.08.004>
3. Garcia JA, Arguello AM, Momaya AM, Ponce BA. Sternoclavicular Joint Instability: Symptoms, Diagnosis And Management. *Orthop Res Rev*. 2020 Jul 28;12:75-87. doi: 10.2147/ORR.S170964. PMID: 32801951; PMCID: PMC7395708.