SKYLINE ORTHOPEDICS
Orthopedic Surgery, Sports Medicine & Arthroscopy Specialists

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REHABILITATION PROTOCOL- Shoulder arthroscopic capsular plication for MDI

The rehabilitation guidelines are presented in a criterion based progression program. General time frames are given for reference to the average, but individual patients will progress at different rates depending on their age, associated injuries, pre-injury health status, rehab compliance, tissue quality and injury severity. Specific time frames, restrictions, and precautions may also be given to protect healing tissues and the surgical repair/reconstruction. It should not be a substitute for one's clinical decision making regarding the progression of a patient's post-operative course based on their physical exam findings, individual progress, and/or the presence of post-operative complications. The therapist should consult the referring physician with any questions or concerns.

Special attention must be given to impairments that caused the initial problem. For example, if the patient is s/p partial medial meniscectomy and they have a varus alignment, post-operative rehabilitation should include correcting muscle imbalances or postures that create medial compartment stress.

INDIVIDUAL CONSIDERATIONS: S/p

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PHASE 1- Surgery to 2 weeks

REHAB GOALS	1. Protection of the post-surgical repair 2. Emphasize importance of sling usage 3. Minimize swelling & pain
PRECAUTIONS	1. Sling immobilization for 6 weeks, use at all times except bathing & ROM exercises 2. Cryocuff 3-5 times per day for 20 minutes and ice after every therapy session once splint removed 3. No lifting or carrying objects. No active ROM
RANGE OF MOTION EXERCISES	○ Active & passive elbow, wrist, hand ROM, ball squeeze, gripping ○ No stretching at this time
SUGGESTED THERAPEUTIC EXERCISES	○ As above ○ Week 2- LE and core strengthening with sling on at all times
CARDIOVASCULAR EXERCISE	None
PROGRESSION	○ Minimal/no pain ○ 100% sling compliance

CRITERIA	○ No signs of repair failure ○ Wound healing

PHASE 2- 3-6weeks

REHAB GOALS	1. Protection of the post-surgical repair 2. Prevent contracture of hand/wrist/elbow 3. Minimize pain and swelling
PRECAUTIONS	1. Sling immobilization for 6 weeks, use at all times except bathing & ROM exercises 2. ROM precautions: IR/ER 30 deg (in scapular plane), adduction 0, scapular elevation 120. 3. Cryocuff 3-5 times per day for 20 minutes and ice after every therapy session once splint removed
RANGE OF MOTION EXERCISES	○ Continue phase 1 exercises ○ ROM restrictions: as above ○ Supported Codman's exercises ○ Glenohumeral/scapular mobilizations as needed ○ Passive ROM supine with scapula stabilized within precautions ○ Side lying active, active assist & passive ROM- scapular elevation, depression, retraction, protraction ○ Supine ER with cane/wand in scapular plane ○ Active assist elevation in scapular plane supine. Progress to pulleys as ROM approaches 120.
SUGGESTED THERAPEUTIC EXERCISES	○ Continue phase 1 exercises ○ Core & hip isometrics ○ Higher level athletes may begin single LE balance with head movements, functional 1/3 squats, step ups/downs and stationary lunges ○ Side lying resisted scapula exercises ○ Submax isometrics: ant/mid/post deltoid neutral rotation, elbow 90 deg flexion. Rotator cuff-ER/IR scapular plane once 30 deg passive IR/ER ○ Scapular retraction isometrics, postural exercises ○ Humeral head control exercises IR/ER (supine scapular plane)
CARDIOVASCULAR EXERCISE	Stationary bike at week 3 while wearing sling at all times. Pool therapy
PROGRESSION CRITERIA	○ No swelling or pain. No signs/symptoms of instability ○ Elbow, wrist & hand ROM equal to contralateral ○ PROM per ROM guidelines

PHASE 3- 7-12 weeks postop

REHAB GOALS	○ Protect surgical repair ○ Gradual restoration of ROM ○ Normalize trunk & kinetic chain
PRECAUTIONS	○ ROM limitations- IR 45/ER 60 (scapular plane), adduction 20, scapular elevation 160 ○ Discontinue sling use gradually
RANGE OF MOTION EXERCISES	○ Continue exercises from phase 2. ○ Mobilizations as needed ○ ROM limitations as above ○ Continue passive ROM in scapular plane.
SUGGESTED THERAPEUTIC EXERCISES	○ Continue exercises from phase 2 ○ Rhythmic stabilization of humeral positioners 110 elevation scapular plane, supine, progress to multiangle humeral positioning ○ UE strengthening- scapular retraction on row machine, supine punches, prone horizontal abduction, bilateral ER with therabands, forward elevation in scapular plane, bicep & tricep strengthening ○ Rotator cuff- ER/IR progress to theraband when 60 ER /45 IR obtained, perform with towel in axilla. ○ Closed chain- weight shifts (wide hands, avoid posterior load), progress to physioball stabilization against plyoback (below 90 deg)
CARDIOVASCULAR EXERCISE	Stationary bike increasing resistance Week 9-stairmaster, advance to elliptical (no upper body) UBE as tolerated, aqua therapy as needed
PROGRESSION CRITERIA	○ Passive ROM scapular elevation 160, ER 60, IR 45, adduction 20 ○ No pain or swelling ○ Normal glenohumeral & scapulothoracic mechanics

PHASE 4- 13-20 weeks postop

REHAB GOALS	○ Full ROM in all planes ○ 80% strength of contralateral ○ Improvement of strength, endurance, neuromuscular control
PRECAUTIONS	Post-activity soreness should resolve within 24 hours Avoid post activity swelling
RANGE OF MOTION EXERCISES	○ Continue with flexibility exercises from previous phase ○ Gentle rend range stretching ○ LE and core flexibility ○ Posterior shoulder stretching- sleepers, towel stretch

SUGGESTED THERAPEUTIC EXERCISES	○ Continue phase 3 activities, progress resistance/weight ○ UE strengthening- add chest press, lat pulldown ○ Week 16- thrower's exercises: ER/IR at 0 abduction (progress to IR/ER at 90 if no pain), scaption ER full can, rows into ER at 90 abduction seated on stability ball, lower trap seated on stability ball, elbow flexion, elbow extension/triceps, wrist extension, wrist flexion, supination, pronation, sleeper stretch, supine horizontal adduction stretch into IR, Prone horizontal abduction neutral/full ER at 100, prone row, Diagonal pattern (D2) flexion/extension ○ ER/IR strengthening using isokinetics ○ Closed chain- progress physioball to 90 deg elevation, then unilateral ○ Balance/proprioception- progress to unstable surface, perturbations, etc ○ Plyometrics- LE drills, UE chest pass below 90 at week 16 ○ Sport specific- LE drills in controlled environment at week 12. Ok for light sport specific UE at week 16-baseball fielding/glove work with arms at side, golf-putting, volleyball-bump/set, tennis-ground strokes
CARDIOVASCULAR EXERCISE	Continue from phase 3, add upper body ergometer if needed. Walk/jog progression
PROGRESSION CRITERIA	○ Normal kinematics of GH & ST joints ○ Full painless active & passive ROM ○ Strength 80% contralateral

PHASE 5- 21-30 weeks

REHAB GOALS	○ Continue strengthening ○ Full pain free ROM ○ Good core & LE strength & stability ○ 85% strength of contralateral
PRECAUTIONS	○ Post-activity soreness should resolve within 24 hours ○ Caution with progression if inadequate core stability/scapulothoracic control/rotator cuff strength present
RANGE OF MOTION EXERCISES	○ Continue with flexibility exercises
SUGGESTED THERAPEUTIC EXERCISES	○ Progress strengthening from phase 4 ○ UE- add front raises below 90, lateral raises below 80. Ok to start wide grip bench press ○ Closed chain- Pushup progression ○ PNF with theraband on physioball ○ Overhead athletes- interval throwing program phase 1. If phase 1

	completed during this stage advance to phase 2. ○ Plyometrics- bilateral arm throwing patterns beginning with chest pass, progress to single arm. Overhead b/l medicine ball slams & catches. Rebounder IR/ER at 90 abduction, supine IR/ER ball catch & toss. Progress all to single arm. ○ Limited sport specific overhead work for swimming (start breast stroke, progress to freestyle, then back, then butterfly), tennis (serving), volleyball(serving/spiking), golf (irons). Progress as tolerated when strength/ROM goals achieved. Contact athletes can start sport specific activities at 24 weeks
CARDIOVASCULAR EXERCISE	○ Continue to progress from phase 4. Initiate jog/run progression.
PROGRESSION CRITERIA	○ At least 85% strength of contralateral (at least 70% rotator cuff ratio) ○ No pain or limitation with initiation of throwing (overhead athletes) or other overhead program ○ No instability

PHASE 6- 31+ weeks

REHAB GOALS	Return to sport
PRECAUTIONS	Post-activity soreness should resolve within 24 hours
RANGE OF MOTION EXERCISES	Continue with flexibility exercises
SUGGESTED THERAPEUTIC EXERCISES	○ Progress strengthening from phase 5 ○ Progress pushups to dynamic b/l UE wall pushups & then s ingle arm dynamic pushups on wall. Progress to dynamic floor pushups, can incorporate unstable surfaces, etc ○ Overhead athletes- Interval throwing program- Phase 2 if not started ○ Sport specific- progress drills as tolerated.
CARDIOVASCULAR EXERCISE	○ Progress to baseline
PROGRESSION CRITERIA- RETURN TO SPORT	○ Pain free, full ROM, uncompensated under fast & resisted conditions ○ 90% strength of contralateral side rotator cuff & scapular (at least 70% rotator cuff ratio). ○ Completion of throwing program/sport specific program ○ At least 90% functional closed kinetic chain tests

	○ Overhead athletes with normal mechanics/form and no pain post activity ○ Return to sport likely 8-9 months for overhead athletes