ORTHOPEDICS & SPORTS MEDICINE
BAYCARE CLINIC®

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Shoulder Arthroscopy

The following document is an evidence-based protocol for rotator cuff repair rehabilitation. The protocol is both chronological and criterion based for advancement through four post-op phases:

- Phase 1 – Maximum Protection
- Phase 2 – Active Range of Motion
- Phase 3 – Strength
- Phase 4 – Return-to-Activity

The physician will designate the rate of progression based on the rotator cuff repair performed. If more than one procedure is performed, follow the more conservative protocol and reach out to Dr. Henry's team with questions.

	Precautions	AROM	Sling Use	PROM Recommendations	Physical Therapy Initial Eval Post-Op
Standard Rotator Cuff Repair	Avoid shoulder abduction plane and focus on scapular plane for 12 weeks post-op	No AROM for 6 weeks post-op	Sling abduction pillow 6 weeks day/night	>130° scaption >30° ER, IR to abdomen Can go beyond if pain free/no tissue restriction	~2 weeks, unless otherwise indicated on order
Conservative Rotator Cuff Repair	Avoid shoulder abduction plane and focus on scapular plane for 16 weeks post-op	No AROM for 8 weeks post-op (unless otherwise directed by Dr. Henry)	Sling abduction pillow 8 weeks day/night	4 weeks: 90° scaption, 15° IR/ER 6 weeks: 100° scaption, 45° IR/ER 8 weeks: 120° scaption, 60° IR/ER Can go beyond if pain free/no tissue restriction	~2 weeks, unless otherwise indicated on order
Subscapularis Repair	No shoulder internal rotation strengthening for 12 weeks post-op	No AROM for 6 weeks post-op	Sling abduction pillow 6 weeks day/night	0-2 weeks: 60° scaption, 0° ER, 0-30° IR 2-6 weeks: 130° scaption, 20° ER, 30° IR	~2 weeks, unless otherwise indicated on order
Biceps Tenodesis	No active biceps contraction for 6 weeks post-op	No AROM for 6 weeks post-op	Sling abduction pillow 4 weeks day/night	0-4 weeks: 90° scaption with bent elbow, 0° ER and 35° IR with arm at side 4-6 weeks: 140° flexion, ER 50° arm at side, IR 60° at 45° abduction	~2 weeks, unless otherwise indicated on order

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Phase 1 – Maximum Protection (0-6 weeks)

Goals for Phase 1

- Minimize pain and inflammation
- Protect integrity of the repair
- Initiate shoulder PROM
- Prevent muscular inhibition

Precautions

- Conservative rotator cuff repair remain in Phase 1 for 8 weeks
- No isolated biceps contraction with biceps tenodesis for 6 weeks

Criteria for Progression to Phase 2

- Minimal pain with Phase 1 exercises

Immobilization

- Immobilization in ABD sling for 6 weeks or per physician. Therapist to transition patient out of sling
  - **Exceptions:**
    - Conservative rotator cuff repair will be 8 weeks of immobilization
    - Biceps tenodesis will be 4 weeks of immobilization

Initial Post-Op Exercises

- Elbow, forearm, wrist, hand (grip) AROM exercises; pendulum (Codman's) exercise; scapular squeezes; upper trapezius stretching; postural correction
- Remove sling 3x/day for performance of HEP
  - **Sling off when awake and resting; replace for sleeping**
- Cryotherapy to minimize pain and inflammation

Post-Op Physical Therapy

- First physical therapy visit to occur at 2 weeks unless otherwise indicated
- Ensure appropriate fit in ABD sling and reinforce proper use
- Review initial post-op exercises and reinforce proper performance

Manual Therapy

- Initiate pain dominant glenohumeral joint mobilization (Grade 1-2)
- Initiate scar mobilization, soft tissue mobilization, lymphedema massage
- Initiate other shoulder, scapular, and cervicothoracic manual therapy techniques as needed

Range of Motion

- Initiate manual shoulder PROM with focus on rotation and scaption as pain and tissue restriction allows
- If subscapularis repair PROM limitations:
  - 0-2 weeks: 60° scaption, 0° ER, and 30° IR
  - 2-6 weeks: 130° scaption, 20° ER, and 30° IR
- If biceps tenodesis PROM limitations:
  - 0-4 weeks: 90° scaption with bent elbow, 0° ER and 35° IR with arm at side
  - 4-6 weeks: 140° flexion, ER 50° arm at side, IR 60° at 45° abduction

Modalities

- Utilize cryotherapy, thermotherapy, and electrical modalities as needed

Phase 2 – Active Range of Motion (6-10 weeks)

Goals for Phase 2

- Minimize pain and inflammation
- Restore full shoulder PROM
- Restore full shoulder AROM
- Initiate sub-maximal rotator cuff activation and neurodynamic stabilization exercises
- No shoulder shrug sign with elevation AROM

Precautions

- Conservative rotator cuff repair initiate Phase 2 at 8 weeks
- Avoid resisted bicep activity to protect healing of the bicep anchor until 12 weeks post-op in biceps tenodesis cases

Criteria for Progression to Phase 3

- Minimal pain with Phase 2 exercises
- Full shoulder PROM with minimal pain
- Full shoulder AROM with minimal pain
- Demonstrate neurodynamic stabilization of the shoulder
  - No evidence of shoulder shrug with elevation AROM

Aquatics

- Utilize aquatics for patients who have significant pain, stiff, or guarded
  - Initiate when surgical incisions have healed
  - Consider alternating land- and aquatic-based physical therapy visits

Manual Therapy

- Continue pain dominant glenohumeral joint mobilization (Grade 1-2)
- Initiate stiffness dominant glenohumeral joint mobilization (Grade 3-4)
- Continue scar mobilization, soft tissue mobilization, and lymphedema massage as needed
- Continue other shoulder, scapular, and cervicothoracic manual therapy techniques as needed

PROM

- Continue manual shoulder PROM in all planes of motion as tolerated
- Initiate sustained end range stretching

AAROM

- Shoulder ER AAROM with wand at 45° ABD
  - Progress from 45° to 60° to 90° ABD
- Shoulder FLEX and ABD AAROM
  - Table slides, wall slides, U.E. Ranger, physioball, wand, pulleys, etc.

AROM

- Initiate shoulder AROM in all planes of motion as tolerated
  - Gradually progress from gravity-reduced to gravity-resisted positions
  - Gradually progress from below shoulder height to above shoulder height
  - Consider single-planar and multi-planar movement patterns
- Do **NOT** exercise through shoulder shrug sign

Strengthening

- Sub-maximal shoulder isometrics for FLEX, ABD, EXT, IR, and ER
- Light isotonic scapular strengthening
  - Supine press, serratus press outs, prone row, etc.
- Light isotonic biceps and triceps strengthening
- Sub-body weight closed-chain strengthening exercises
  - Wall press outs, countertop press outs, etc.
- Avoid sub-body weight suspension training exercises (TRX, GTS, assisted chin or dip machine, etc.)

Neuromuscular Control

- Initiate sub-maximal rhythmic stabilization drills with gradual progression
  - Shoulder FLEX/scaption starting at 100°
  - Shoulder IR and ER from 30° to 60° to 90° ABD

NMES

- Utilize NMES to facilitate rotator cuff, scapular activation, and strengthening

Modalities

- Utilize cryotherapy, thermotherapy, and electrical modalities as needed

Phase 3 – Strengthening (10-16 weeks)

Goals for Phase 3

- Minimize pain and inflammation
- Maintain full shoulder PROM and AROM
- Improve shoulder, scapular, and total arm strength
- Improve neurodynamic stabilization of the shoulder
- No shoulder shrug sign with strengthening exercises

Criteria for Progression to Phase 4

- Minimal pain with Phase 3 exercises
- Full, pain free shoulder PROM and AROM
- Shoulder, scapular, and total arm strength ≥80% of the uninvolved side (4/5)

OR

- Shoulder internal and external rotation isokinetic strength ≥80% of the uninvolved side
  - 30°/30°/30° position if NOT overhead athlete or physical laborer
  - 90°/90° position if overhead athlete of physical laborer
- Demonstrate neurodynamic stabilization of the shoulder
  - No shoulder shrug sign with strengthening exercises

Manual Therapy

- Continue stiffness dominant glenohumeral joint mobilization (Grade 3-4) as needed
- Continue other shoulder, scapular, and cervicothoracic manual therapy techniques as needed
- Continue shoulder stretching exercises as needed

PROM

- Continue manual shoulder PROM as needed

Strengthening

- Initiate gradual progression of isotonic rotator cuff strengthening exercises
  - Gradually progress from gravity reduced to full gravity positions
  - Gradually progress from below shoulder height to above shoulder height
  - Gradually progress internal and external rotation from 30° to 60° to 90° abduction and from supported to unsupported conditions
- Progress isotonic scapular strengthening exercises
  - Gradually progress from isolated to functional movement patterns
- Progress isotonic biceps and triceps strengthening exercises
- Progress closed-chain strengthening exercises
  - Gradually progress from sub-body weight to full body weight positions
  - Gradually progress from stable to unstable surfaces
- Initiate gradual progression of sub-body weight suspension training exercises
  - TRX, GTS, assisted chin or dip machine, etc.
- Do **NOT** exercise through shoulder shrug sign

Neuromuscular Control

- Progress rhythmic stabilization exercises to more functional positions and dynamic movement patterns
  - Gradually progress from mid-range to end range positions
  - Gradually progress from open-chain to closed-chain positions
- Initiate gradual progression of other neuromuscular control exercises
  - Body blade, wall dribbles, ball flips, plyoback, etc.

Core Stabilization

- Incorporate core integrated exercises with strengthening and neuromuscular control progression

NMES

- Utilize NMES to facilitate rotator cuff and scapular activation

Modalities

- Utilize cryotherapy, thermotherapy, and electrical modalities as needed

Work Specialty Rehabilitation Program (At 12+ weeks)

- Transition to work re-conditioning if physical laborer or pending specific occupational demands
  - Lifting requirements, overhead tasks, repetitive tasks, tool or machine work, etc.

Phase 4 – Return to Activity (16+ weeks)

Goals for Phase 4

- Minimize pain and inflammation
- Maintain full shoulder PROM and AROM
- Restore shoulder, scapular, and total arm strength, power, and endurance
- Restore neurodynamic stabilization of the shoulder
- Safe and effective return to previous level of function for occupational, sport, or desired activities

Criteria for Return to Activity

- Minimal pain with Phase 4 exercises
- Full, pain free hip PROM and AROM
- Shoulder, scapular, and total arm strength ≥90% of the uninvolved side (4+/5)

OR

- Shoulder internal and external rotation isokinetic strength ≥90% of the uninvolved side
- 30°/30°/30° position if NOT overhead athlete or physical laborer
- 90°/90° position if overhead athlete or physical laborer
- Demonstrate neurodynamic stabilization of the shoulder
- Successful completion of return-to-sport testing if athlete
- Successful completion of functional capacity evaluation if physical laborer
- Disability Arm Shoulder Hand Index score ≤15% disability

Stretching

- Continue shoulder stretching exercises as needed

Manual Therapy

- Continue stiffness dominant glenohumeral joint mobilization (Grade 3-4) as needed
- Continue other shoulder, scapular, and cervicothoracic manual therapy techniques as needed

PROM

- Continue manual shoulder PROM as needed

Strengthening

- Continue Phase 3 strengthening exercises
- Consider specific demands of occupational, sport, or desired activities

Neuromuscular Control

- Continue Phase 3 neuromuscular control exercises
- Consider specific demands of occupational, sport, or desired activities

Core Stabilization

- Continue incorporate core integrated exercises with strengthening and neuromuscular control progression

Sport-Specific Training Program

- Initiate interval sport programs
  - Baseball, softball, football, swimming, volleyball, tennis, golf, etc.
- Transition to Performance Sports Training program if competitive or recreational athlete with specific goals for return-to-sport

Weight Lifting

- Initiate traditional weight lifting exercises
  - Educate patient to strengthen prime movers **AND** secondary stabilizers
  - Educate patient to balance anterior **AND** posterior musculature

Modalities

- Utilize cryotherapy, thermotherapy, and electrical modalities as needed

HEP

- Establish HEP for long-term self-management

This protocol was reviewed and updated by Jon Henry, MD, Rebecca Donnay, PT, DPT and Katelyn Peterson, PT, DPT on January 21, 2026

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