



Sports & Orthopaedic Specialists

REVERSE TOTAL SHOULDER ARTHROPLASTY PROTOCOL

This protocol provides appropriate guidelines for the rehabilitation of patients following a reverse total shoulder arthroplasty. The protocol draws evidence from the current literature and accounts for preferences of the surgeons at Sports & Orthopaedic Specialists. The program may be modified by the referring provider for an individual patient. If questions arise regarding the application of the protocol or the progress of the patient, contact Sports & Orthopaedic Specialists:

Main line: (952) 946-9777

Physical therapy: (952) 914-8631

PRECAUTIONS:

For the reverse total shoulder, two unique precautions should be carefully observed:

- Extension with an axial load (pushing up from a chair) – lifetime restriction
- End range IR & adduction with extension (tucking in a shirt, toilet hygiene) for 12 weeks

Also adhere to subscapularis precautions:

- ER (0 abduction): 0° max for 4 weeks post-op. 20° max for 8 weeks.
Striving toward symmetrical ER ROM at 6-8 months.
- ER (90 abduction): 0° max for 6 weeks post-op.
- IR: No resisted IR for 12 weeks post-op.

If a biceps tenodesis/transplantation was completed, adhere to the additional precautions below:

Biceps Tenodesis/Transplantation

No elbow flexion or supination against resistance for 6 weeks post-op.

LIFETIME RESTRICTIONS

- Extension with an axial load (Example: Pushing out of a chair)
- IR & adduction with extension (use caution)
- Lifting maximum of 25 pounds
- No repetitive overhead reaching. Max of 1-3 pounds for overhead reaching.
- No jarring activities (hammering) or contact sports

PT FREQUENCY & DURATION

- Eight to ten physical therapy visits over 4-5 months
- Begin physical therapy 5+ weeks after surgery as instructed by surgeon

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REHAB PRINCIPLES

-Focus on active engagement of the patient through patient education and therapeutic exercise. Establish a home exercise program that can be progressed gradually throughout the postoperative period.

-Respect tissue healing. The surgeons at Sports & Orthopaedic Specialists uniformly prefer a slow progression of postop patients with minimal postoperative pain.

-Postoperative pain may be experienced. However physical therapy, including the home exercise program, should result in minimal to no symptom exacerbation. The patient should call the PT for recommendations if pain increases during or after exercise.

-The therapeutic exercises listed in this protocol convey the appropriate load for the shoulder given the time elapsed since surgery in regards to tissue healing. It is acceptable for a patient to progress more slowly. However, it is not acceptable for a patient to progress more quickly unless expressly indicated by the surgeon.

-Recommended max of 6 exercises for home exercise program. Select a well-rounded program that targets each area of insufficiency identified during physical exam.

-Patients who are recipients of reverse TSA are rotator cuff deficient. Therefore, rotator cuff strength/conditioning requires minimal focus during the rehab process. Deltoid strength is important for shoulder function after reverse TSA. However, caution must be taken not to overtax the deltoid to avoid stress fractures of the acromion and spine of the scapula, particularly in patients with osteopenia and osteoporosis.

MODALITIES

Cold Therapy / Ice: Instruct patient to use ice daily until pain free or 8 weeks after surgery.

Other Modalities: **DO NOT USE**

MANUAL THERAPY

-**NO** passive range of motion (physiologic/long arc).

-**NO** joint mobilization.

-Soft tissue techniques to upper trapezius/levator scapula/pect minor are permitted

THERAPEUTIC ACTIVITY AND PATIENT EDUCATION

Patient education is very important in getting the patient to take an active role in therapy and recovery. Educate the patient at the appropriate level regarding:

-Anatomy of the shoulder girdle

-Basics of surgical procedure in layman's terms

-Surgical precautions. Teach the patient the lifetime limitation on extension with axial load and end ROM ER.

-Shoulder girdle mechanics: Typical and pathomechanical

-Avoidance of pain provoking activities

-Effect of posture on shoulder girdle mechanics

-Preferred positioning of the shoulder during sleep

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THERAPEUTIC EXERCISE

-Free Weights: Use **only** as directed throughout protocol.

-Exercise Band: **DO NOT USE**

The use of Yellow Theraband®, the least resistive color in the Theraband series, results in 2.9 pounds of resistance when elongated by 100%. In addition, length-tension principles of muscle function do not align with exercise band properties; the muscle is asked to provide maximum force at a shortened and inefficient length. Therefore, exercise band use is not permitted for use during rotator cuff conditioning.

-Pulleys: **DO NOT USE**

REHABILITATION PROGRESSIONS

For the reverse TSA, the surgeon determines the length of time in a sling based on basic principles of tissue healing and tissue quality. Six weeks in a sling is typical after a reverse TSA. However, the surgeon may extend the time in sling to protect the anterior shoulder if tissue quality is poor. If the patient is instructed to wear a sling for more than 6 weeks, the therapist should delay this protocol by the number of weeks in a sling beyond 6.

A PDF file containing instructions and pictures for aa exercises referenced in this protocol can be printed from the Sports & Orthopaedic Specialists website. “Therapeutic Exercise Handout”

www.sportsandortho.com/minneapolis/rehabilitation-center

WEEK 0-6+ (CONTINUOUS USE OF SLING):

- Patient receives postop instructions after surgery that include:
- Wear sling continuously for 6+ weeks as instructed by surgeon. Sling may be removed to shower & dress.
- AROM of the elbow, wrist, and hand beginning the day after surgery (3-4x/day)
- Pendulum/Codman exercise beginning 2 weeks after surgery
- Application of ice with shoulder ice wrap (Bird & Cronin).
- Remove wound dressing 2 days after surgery (or as instructed). Leave steri-strips in place.
- For four weeks, ONLY table top activities with a max of 0 ER.

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WEEK 5:

- Begin physical therapy
- Educate the patient regarding:
 - Surgical precautions and lifetime restrictions (see page 1)
 - Allowable ADL's (writing, typing, self-cares, not to lift anything heavier than a coffee cup).
 - No overhead reaching.
- HEP 5-7x/week (up to two days off per week to allow for good/bad days)
- Ice after PT/HEP
- Appropriate exercises:

IN SUPINE, SUPPORT HUMERUS WITH PILLOW

<u>Page</u>	<u>Exercise</u>	<u>Dose</u>
20	Ceiling punch (active assisted)	2x10 with goal of 2x20
22	Reverse Codman (active assisted)	2x10 with goal of 2x20
17	Seated ER to neutral	2x10 with goal of 2x30
22	Table circles	10 with goal of 20 clockwise and counterclockwise
9	Prayer stretch	5x10" with goal of 10x10"

WEEK 7-12:

- Continue physical therapy
- Educate the patient regarding:
 - Surgical precautions and lifetime restrictions (see page 1)
 - Allowable ADL's, not to lift anything heavier than one pound.
 - Limited overhead reaching – max of one plate/cup
- HEP 5-7x/week (up to two days off per week to allow for good/bad days)
- Ice after PT/HEP
- Appropriate exercises:

IN SUPINE, SUPPORT HUMERUS WITH PILLOW

<u>Page</u>	<u>Exercise</u>	<u>Dose</u>
20	Ceiling punch (active)	2x10 with goal of 2x20
22	Reverse Codman (active)	2x10 with goal of 2x20
12	Supine protraction	2x10 with goal of 2x20
13	Table press	20x3"
11	Anterior deltoid isometric	20x3" Gentle pressure
11	Middle deltoid isometric	20x3" Gentle pressure
9	Prayer stretch	5x10" with goal of 10x10"
20	Isometric adduction	20x3" if compensatory shoulder hiking

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3-5 MONTHS:

- Continue physical therapy
- Educate the patient regarding:
 - Lifetime restrictions (see page 1)
 - Resume activities per physician recommendation
- Limited overhead reaching – max of one plate/cup
- HEP 3-4x/week
- Ice after PT/HEP
- Appropriate exercises:

<u>Page</u>	<u>Exercise</u>	<u>Dose</u>	
20	Ceiling punch (active)	2x20	Max 2#
22	Reverse Codman (active)	2x20	Max 2#
12	Supine protraction	2x20	Max 2#
13	Table press	20x3"	
11	Anterior deltoid isometric	20x3"	Moderate pressure
11	Middle deltoid isometric	20x3"	Moderate pressure
9	Wall slide	10x10"	
20	Isometric adduction	20x3"	if compensatory shoulder hiking

RETURN TO SPORT

GOLF

- Putting and chipping at 3+ months once **cleared by physician**.
- Driving at 4+ months once **cleared by physician**. Work down through irons (9→3) before using woods/driver.

YOGA

- Patient may begin a modified yoga practice consisting of non-weight bearing movement patterns when scapular mechanics are good and AROM is pain free and without compensatory shoulder hiking.
- Limited to no weight bearing postures. Must be **cleared by the physician**.

OTHER SPORTS

When cleared by physician