Reverse Total Shoulder Arthroplasty (Replacement) Rehabilitation

The following is a basic framework from which to work during rehabilitation following a reverse total shoulder arthroplasty. Every patient is different, so the time points are just guidelines – the emphasis should be on achieving the goals of each phase prior to advancing to the next phase. Please feel free to communicate with our office with any questions or concerns.

Phase I – 0 to 2 weeks postoperative (initial healing)

Goals

- Maintain integrity of joint replacement and protect soft tissue healing
- Increase PROM for elevation to 120° and ER to 30° (will remain the goal for the first 6 weeks)
- Optimize distal UE circulation and muscle activity (elbow, wrist, and hand)
- Instruct in use of sling for proper fit, ice therapy after HEP, signs and symptoms of infection

Precautions

- Wear sling 24/7 except for hygiene and home exercises (3 to 5 times daily)
- Avoid shoulder extension posterior to the frontal plane of the body
    - When patients recline, a pillow should be placed behind the upper arm and sling should be on
    - Patients should be advised to always be able to see their elbow
- Avoid IR, adduction, and extension such as reaching behind their back to avoid dislocation
- No AROM
- No submersion in pool/water for 4 weeks
- No weight bearing through operative arm (i.e. transfers, walker use, etc.)

Exercises

- Active elbow, wrist, and hand
- Passive forward elevation in scapular plane to 90° to 120° max, ER in scapular plane to 30°
- Active scapular retraction with arms resting in neutral position

Criteria to Progress to Phase II

- Low pain (less than 3/10) with shoulder PROM
- Healing of incision without signs of infection
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Phase II – 2 to 6 weeks postoperative (range of motion)

Goals

- Achieve passive elevation to 120° and ER to 30°
- Low (less than 3/10) to no pain
- Ability to fire all heads of the deltoid

Precautions

- Sling may be removed while at home or in a controlled environment, but should be worn when out in community (without abduction pillow) as a sign of precaution to other people
- May use arm for light activities of daily living (such as feeding, brushing teeth, dressing) with elbow near the side of the body and arm in front of the body
- May submerge in water (tub, pool, jacuzzi, etc.) after 4 weeks
- Continue to avoid weight bearing through the operative arm
- Continue to avoid combined IR, extension, adduction (reaching behind the back) and IR with adduction (reaching across chest) for dislocation precautions

Exercises

- May discontinue elbow, wrist, and hand exercises once the patient is using the arm well for ADLs with sling removed around the home
- Continue passive elevation to 120° and ER to 30° in the scapular plane with arm supported on table top
- Add submaximal isometrics, pain-free effort for all functional heads of deltoid (anterior, middle, posterior)
    - Ensure that with posterior deltoid isometric the shoulder does not move into extension and the arm remains anterior to the frontal plane
- At 4 weeks, begin to place arm in balance position of 90° elevation while supine – when patient can hold this position with ease, may begin reverse pendulums clockwise and counterclockwise

Criteria to Progress to Phase III

- Passive forward elevation in scapular plane to 120°, passive ER in scapular plane to 30°
- Able to fire isometrically all heads of the deltoid muscle with no pain
- Able to place and hold the arm in balanced position (90° elevation while supine) with ease

Phase III – 6 to 12 weeks postoperative (strengthening)

Goals

- Optimize PROM for elevation and ER in scapular plane with realistic expectation that max mobility for elevation is usually around 145° to 160° passively, ER 40° to 50° passively, functional IR to L1
- Recover AROM to approach as close to PROM as much as possible – generally may expect 135° to 150° active elevation, 30° active ER, active functional IR to L1
- Establish dynamic stability of the shoulder with deltoid and periscapular muscle gradual strengthening

Precautions

- Discontinue use of sling
- Avoid forcing end range of motion in any direction to prevent dislocation
- May advance use of the arm actively in ADLs without being restricted to arm by the side of the body, however, avoid any heaving lifting or impact sports
- May initiate functional IR behind the back gently
- No upper body ergometer

Exercises

- Forward elevation in scapular plane active progression – supine to incline to vertical, short to long lever arm
- Balanced position long lever arm AROM
- Active ER/IR with arm at side
- Scapular retraction with light band resistance
- Functional IR with hand slide up back – very gentle and gradual
- Wall walking and/or pulleys
- Supine, inverted pendulums
- No upper body ergometer

Criteria to Progress to Phase IV

- AROM equals/approaches PROM with good mechanics for elevation
- No pain
- Higher level of demand on shoulder than ADL functions

Phase IV – 12+ weeks postoperative

Goals

- Optimize functional use of the operative UE to meet the desired demands
- Gradual increase in deltoid, scapular muscle, and rotator cuff strength
- Pain-free functional activities

Precautions

- No heavy lifting and no overhead sports
- No heavy pushing activity
- Gradually increase strength of deltoid and scapular stabilizers
- No upper body ergometer

Exercises

- Add light hand weights for deltoid up to and not to exceed 3 lbs. for anterior and posterior with long arm lift against gravity, elbow bent to 90° for abduction in the scapular plane
- Theraband progression for extension to hip with scapular depression and retraction
- Theraband progression for serratus anterior punches in supine, but avoid wall, incline, or prone press-ups for serratus anterior
- End range stretching gently without forceful overpressure in all planes (elevation in scapular plane, ER in scapular plane, functional IR) with stretching done for life as part of a daily routine

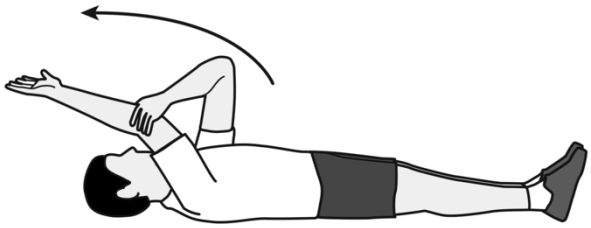
Notes

- With proper rehabilitation, improvements in motion, strength, and function can continue even after 1 year

- Complications after shoulder replacement include infection, fracture, heterotopic bone formation, instability, nerve injury, stiffness, and rotator cuff tear – please look for clinical signs, unusual symptoms, or lack of progress with therapy and report those to our office
- Please call [redacted] if you have any questions or concerns
- Recommended patient home exercise stretching program (critical for the first 12 weeks) attached

Home Range of Motion Exercises

- Perform passive, assisted forward flexion and external rotation (outward turning) exercises with the operative arm. Both exercises should be done with the non-operative arm used as the “therapist arm” while the operated arm remains completely relaxed.
- 10 reps of each exercise should be done 5 times daily, slowly working up to the maximum degrees



Forward Flexion – Maximum 130°

Lay flat on your back, and completely relax your operative arm like a wet noodle. Grasp the wrist of your operative arm with your opposite hand. Using the power of your non-operative arm, bring the operative arm up to the maximum 130°. For reference, your arm pointing straight up towards the ceiling is 90°. Start holding it for ten seconds, and then work up to where you can hold it for a count of 30. Breathe slowly and deeply throughout. Repeat this stretch 10 times and repeat the cycle 5 times per day.

External Rotation – Maximum 30°

External rotation is turning the arm out to the side while your elbow stays close to your body. It is best stretched while you are lying on your back. Hold a cane, yardstick, broom handle, or golf club in both hands. Bend both elbows to a right angle. With your operative arm completely relaxed, use steady, gentle force from your normal arm to rotate the hand of the operative shoulder out away from the body. Continue the rotation only to the maximum 30°. For reference, 0° indicates your hand pointing straight in front of you with your elbow bent at a right angle. Hold it for a count of 10 and repeat this exercise 10 times. Repeat the entire cycle 5 times per day.