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REHABILITATION PROTOCOL FOR REVERSE SHOULDER ARTHROPLASTY (RSA)

Physiotherapy Guidelines

The following is intended to guide the patient through the postoperative rehabilitation process. Each patient will require individual modification of their program depending on the extent of the original injury, type of surgery performed, pain level, degree of stiffness and strength. Please use this as a prescription for Physiotherapy.

Patient Name: ______________________________ **Date:** ________________

Date of Surgery: ____________________ **Surgical Arm:** Left Right

Surgeon: LeBlanc / Sabo ____________________

IMMOBILIZATION/MOVEMENT RESTRICTIONS

Wear Sling/Immobilizer	________ weeks
Additional Restriction of Range of Motion Required?	☐ No ☐ Yes: ____________________
Soft Tissue or Bony Repairs	______________________________
Weight Bearing Status for Arm	☐ Full ☐ Partial ☐ Non x _________ weeks

PRECAUTIONS:

- **Wear sling/immobilizer as outlined above**; remove only to perform exercises outlined below
- **Do not perform the following movements:** lift/push/pull objects with your involved arm or use it to support your body weight with bed mobility. Avoid any *glenohumeral joint (GH) extension beyond neutral x 12/52.*
- **Dislocation Risk with Activities of Daily Living: avoid hand-behind-back activities for 12 weeks** (i.e. tucking in shirts). **Dislocation risk is increased with combined movements of adduction, internal rotation, & extension.** When dressing, always put operative arm into sleeve first.
- **Dislocation Risk with Rehabilitation:** *always* avoid aggressive mobilization & assisted stretching at end range of motion.

REHABILITATION GOALS & SPECIAL CONSIDERATIONS:

- **Therapeutic Outcomes/Goals:** every patient is different & realistic expectations for range of motion, strength, and function should be discussed with surgeon. **Do not progress beyond 12/52 phase until patient is cleared by surgeon.**
- **Maximize Deltoid Recruitment & Function**: the deltoid is now the main driver of the shoulder as the integrity of the rotator cuff is typically compromised; progress slowly to minimize risk of developing acromial stress fractures. If any rotator cuff repair is completed in conjunction with the arthroplasty, avoid strengthening the rotator cuff until, at minimum, 12 weeks.
- **Optimize Trunk & Scapular Mechanics**: crucial for optimizing range of motion & function.

EXERCISE DOSAGES:

- When permitted, sling may be removed for range of motion exercises: 3 times daily for 10-20 reps as tolerated.
- Slowly increase range of motion & strength exercises in a manner that is neither forceful nor painful.
- Use ice x 20 minutes every 2 hours to help control pain and swelling.
- When performing exercises, **always ensure that patient is able to visualize his/her elbow to avoid extension beyond neutral**.

0 – 2 Weeks

Come out of immobilizer/sling for exercises only.

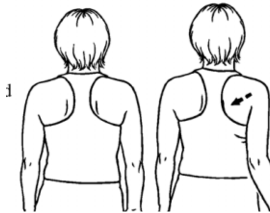
Manual Therapy:

- Apply ice to shoulder after exercise
- Gentle massage around the shoulder girdle: trigger points to supraspinatus, infraspinatus, & biceps belly

***Elbow, Wrist, Hand*:** full range of motion; keep arm at your side with elbow visible to avoid extension of the glenohumeral joint.

Scapular Setting & Posture

- Elevation
- Depression
- Protraction
- Retraction



2 – 6 Weeks

Introduce gentle pendular exercises. Continue manual therapy techniques as tolerated & basic scapular re-training exercises described above.

Pendular Exercises: arm hanging or supported depending on comfort; pain-free range

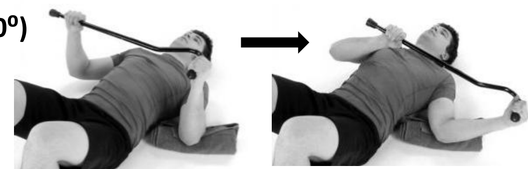
***Hand Strength*:** pain-free gripping/squeezing of ball, foam, or towel.

6 – 8 Weeks

Introduce gentle active-assisted shoulder range of motion. Be mindful of patient-specific range of motion restrictions given & soft tissue repairs that may impact this phase. Continue to avoid glenohumeral extension & perform movements in scapular plane.

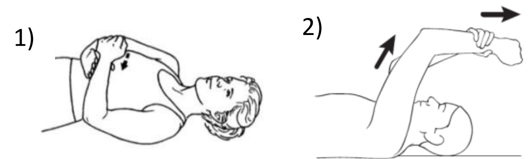
Active-Assisted Shoulder Range of Motion: These are movements performed with the assistance of a stick, your physiotherapist, or your non-operative arm as tolerated. **Do not force any of these movements. Begin movements in supine & progress to sitting/standing once patient is able to control scapula.**

a) **Internal Rotation & External Rotation (limit range of motion 0-20°)**
   - Use towels to support humerus to avoid GH extension
   - Arm positioned at 20-30˚ abduction



External Rotation

b) Supine Flexion (maximum of 90⁰ - do not force!)



- Humerus supported on towel to avoid GH extension
- Start with elbow flexed to shorten the lever arm
- Patient can use arm cradle technique (1) but if experiencing any biceps compression keep arm in neutral (2)
- If too painful, continue with pendulum exercises

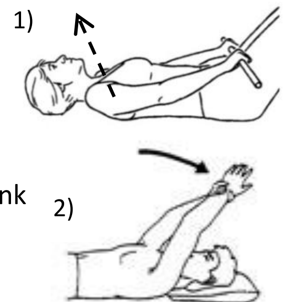
8 – 10 Weeks

Active-assisted range of motion is *gradually progressed* as pain and patient-specific restrictions allow; never force movements. Continue to avoid glenohumeral extension & perform movements in scapular plane.

a) Internal & External Rotation

- May progress to sitting & standing positions as tolerated
- Refer to patient specific post-operative restrictions for range of motion guidelines

b) Flexion



- Progress to long lever arm as tolerated using cane (1) or use of non-operative arm (2)
- Refer to patient-specific restrictions & discuss realistic goals with surgeon
- As tolerated, progress from supine -> sit -> stand to increase inclination of trunk
- ***Integrate scapular re-training with movements of the glenohumeral joint***

Consider hydrotherapy in pool to improve shoulder range of motion if incision is adequately healed. <u>Do not perform any swimming motions at this stage!</u>

<u>Proprioceptive Shoulder Exercises</u>

- Start slowly with **emphasis on scapular control**
- Start below 70⁰ flexion (i.e. ball rolling on table top)

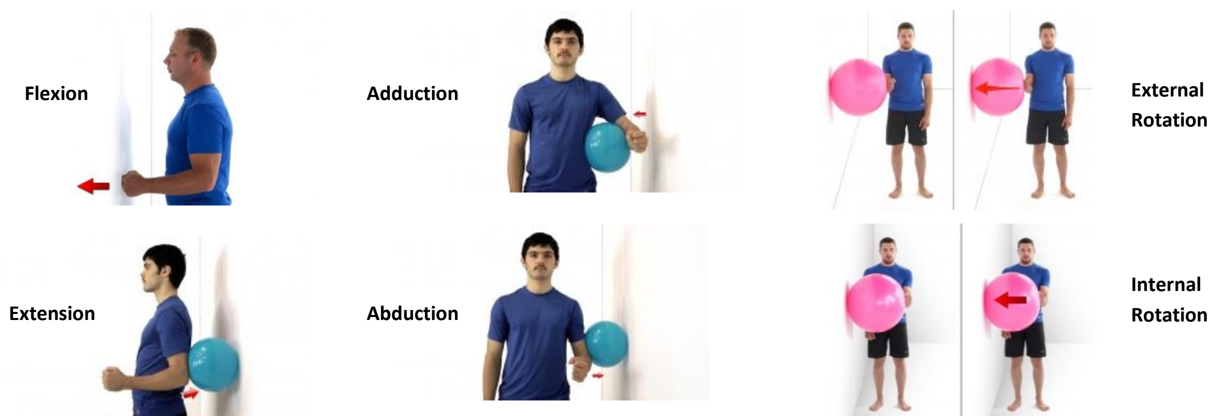
10 – 12 Weeks

Continue progressing active-assisted range of motion & transition towards active range of motion by 12 weeks. *<u>Never force movement & avoid aggressive joint mobilization & stretching at end range.</u>* Discuss realistic range of motion goals with surgeon.

<u>Range of Motion Exercises:</u>

- Gradually **transition towards realistic active range of motion goals with focus on scapular re-training**. Start in lower ranges of elevation without any sustained holds prior to 12 weeks (i.e. wall walks). Avoid any irritation of biceps & monitor for symptoms of impingement.
- Must be **very cautious to avoid development of acromial stress fractures** due to reliance upon deltoid as the main driver of the shoulder to accommodate for rotator cuff deficiencies.
- Provide manual therapy intervention as appropriate to maximize patient's functional ability, keeping in mind there is increased reliance on thoracic & scapular mobility following RSA.

<u>Deltoid Recruitment</u>: introduce ***sub-maximal isometrics*** in scapular plane. Avoid any GH extension & be mindful of any soft tissue restrictions that may delay onset of isometrics. Start slowly: 1x/day.



Proprioceptive Shoulder Exercises

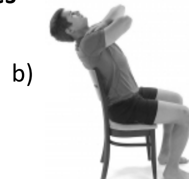
1)

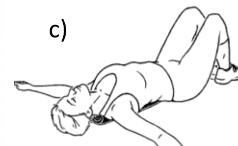
- Gradually progress to inclined surfaces & higher ranges of flexion/elevation
- Example: ball on wall (1)

Thoracic Mechanics & Mobility:

- Large dependence upon deltoid function, thoracic mobility, and periscapular musculature to augment residual deficits in rotator cuff function
- Always **be mindful of co-morbidities & past medical history that may impact your patient's ability to safely participate in thoracic extension & rotation exercises**
- Examples include, but are not limited to:
    a) Supine Thoracic Extension
    b) Seated Thoracic Extension
    c) Snow Angel Stretch
    d) Seated Thoracic Rotation
    e) Stabilization Superman

a)

b) 

c) 

d)

e)

12+ Weeks

Do not progress into this phase unless patient has been cleared by surgeon. **Patient may be delayed given tendon repairs & bone grafts.**

Range of Motion Exercises:

- Continue transitioning towards pain-free active range of motion.
- **Be mindful that RSA patients are not expected to achieve full range of motion due to rotator cuff deficiencies, prior pathology, and limited function at baseline. Collaborate with surgeon to determine realistic expectations for range of motion. & strength. Always focus on function!**

Functional Activities:

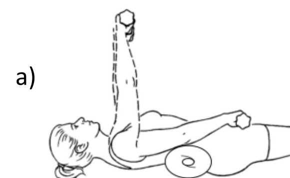
- Gradually introduce functional weight bearing positions (i.e. bed mobility, sit <-> stand, use of walker/gait aide) if patient's weight bearing on surgical arm has been restricted
- Avoid sudden pushing/pulling and any overhead lifting
- Slowly introduce light house work as tolerated
- **Lifelong Lifting Restriction: maximum of approximately 6lbs with operative extremity**

Strengthening Exercises:

- **Start slowly once pain-free range of motion goals are met with good scapular control**
- **Delay as required depending on patient-specific restrictions noted by surgeon**
- All resisted exercises should be performed below shoulder height
- **Work within a pain-free range of motion & monitor for symptoms of acromial stress fractures** due to increased deltoid recruitment
- Resistance should be applied with a light weight or Theraband (yellow or red/orange)
- Perform 1x/day until it is clear there is no aggravation to the tendon or joint then may progress up to maximum of 2x/day.
- Focus on initially building endurance repetitions to be in the 1/2 kg to 1kg range

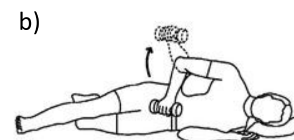
a) Supine Flexion

- Arm support on towel to prevent dropping into extension
- Gradually progress to higher ranges of trunk elevation (i.e. supine -> reclined seat -> seated -> standing)

a) 

b) Side Lying External Rotation: **outcomes will largely depend on integrity of posterior cuff!**

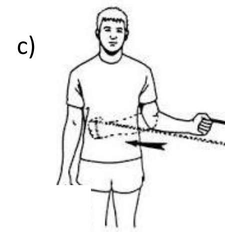
- Arm supported on towel in 0˚ abduction
- May require support of forearm on pillow or books

b) 

c) Standing Internal Rotation

- Use towel support to avoid combined adduction & extension
- Be mindful of any soft tissue repairs of subscapularis

c)



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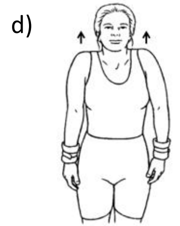


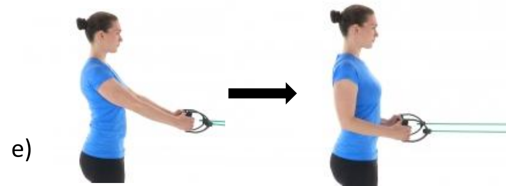
d) Shoulder Shrugs

- add weight as tolerated

e) Standing Row

- **To neutral only!**

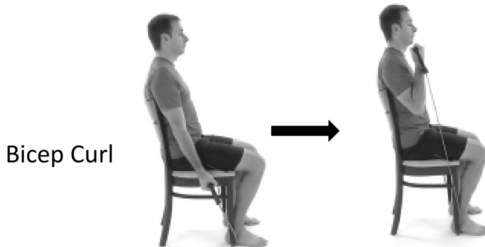
e)

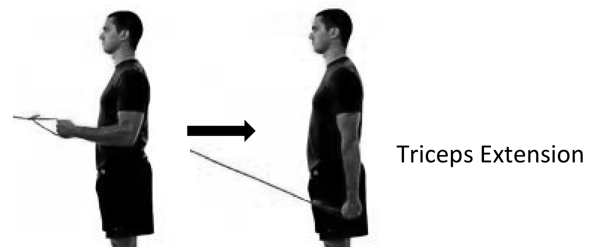


f) Biceps & Triceps

- Start with theraband or small weight seated or standing

Bicep Curl





Triceps Extension

g) Retraction

- Squeeze shoulder blades together
- Maintain good posture

g)

Other Topics

Driving: Minimum 6 weeks no driving. Patients should be discouraged from driving until they are weaned from any prescription medications and they are comfortable in active motion below shoulder height. Initial efforts to restart driving should be performed in low risk settings (i.e. empty parking lot, residential side streets, etc.)

Return to Work: Patients should discuss this with their surgeon as each person has specific needs and will progress through the protocol differently.

Golfing: Strongly discouraged following RSA. Please speak with your surgeon if you have specific questions/concerns.

Feedback/Concerns: If the patient is struggling to progress along the protocol, has an injury or there are other concerns, please do not hesitate to send a report or have the patient contact their surgeon.

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