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REHABILITATION PROTOCOL FOR ANATOMICAL & HEMI-ARTHROPLASTY SHOULDER REPLACEMENTS

Physiotherapy Guidelines

The following is intended to guide the patient through the postoperative rehabilitation process. Each patient may still 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: _____

Surgeon: LeBlanc / Sabo _____

Type of Replacement: TSA HEMI

IMMOBILIZATION/MOVEMENT RESTRICTIONS

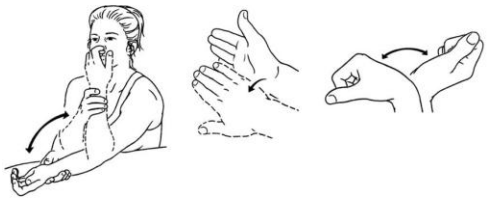
Wear Sling/Immobilizer	_____ weeks
Additional Restriction of Range of Motion Required?	☐ No ☐ Yes: _____

PRECAUTIONS/DOSAGES:

- Wear sling/immobilizer as outlined above & remove only to perform exercises as outlined below
- Do not lift/push/pull any objects with your involved arm
- Do not support your body weight with involved arm for bed mobility
- Range of motion exercises to be performed 3 times per day when allowed ; 10-20 reps as able
- Range of motion and strength exercises should be slowly increased in a manner that is neither forceful or painful
- Use ice x 20 minutes every 2 hours to help control pain and swelling

0 – 2 Weeks

Come out of immobilizer/sling for exercises only.



Manual Therapy:

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

***Elbow, Wrist, Hand*:** full range of motion, keeping arm at your side

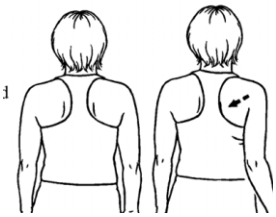
2 – 4 Weeks

Continue with manual therapy (as tolerated) & active movements of the elbow/wrist/hand. <u>Do not perform any glenohumeral isometric exercises.</u>

<u>Pendular Exercises:</u> arm hanging or supported depending on comfort; pain-free range

<u>Scapular Setting & Posture</u>

- Elevation
- Depression
- Protraction
- Retraction

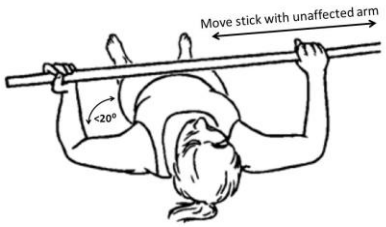


***<u>Hand Strength</u>*:** pain-free gripping/squeezing of ball, foam, or towel.

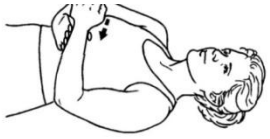
<u>Active-Assisted Shoulder Range of Motion:</u> These are movements performed with the assistance of a stick, your physiotherapist, or your non-operative arm as tolerated. **Do not force any of these movements.**

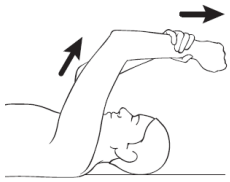
a) Internal Rotation **(limit range of motion 0-20^{o})**
   - Arm supported on towel to avoid extension
   - Arm positioned at 20-30˚ abduction

b) External Rotation **(limit range of motion 0-20˚)**
   - Arm supported on towel to avoid extension
   - Arm Positioned at 20-30˚ abduction



c) Flexion (**with caution to maximum of 90^{o} - do not force!)**
   - Elbow supported on towel to avoid 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 ()
   - **Goal is 60-90^{o} (maximum) flexion by end of 4th week**
   - If too painful, continue with pendulum exercises

1) 

2) 

4 – 6 Weeks

Continue with gradual progressions of active-assisted range of motion. Never force the movement. Continue with exercises 3x/day or as pain allows. Increase up to 20 repetitions as tolerated.

<u>Active-Assisted Shoulder Flexion in Supine:</u>

- Gradually progress range of motion as tolerated to **maximum of 120˚**
- May gently progress from arm cradle technique to using stick or opposite arm with elbow straight; otherwise continue with arm cradle technique as above

<u>Active-Assisted Internal Rotation in Supine:</u>

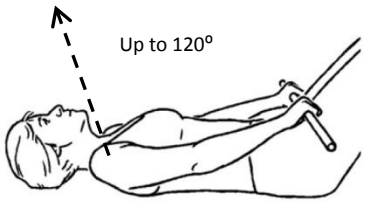
- Continue as above working towards 30˚ maximum rotation

<u>Active-Assisted External Rotation in Supine:</u>

- Continue as above working towards 30˚ maximum rotation

6 – 8 Weeks

Active-assisted range of motion is progressed gradually to active range of motion; never force the motion.



Active-Assisted Shoulder Flexion in Supine:

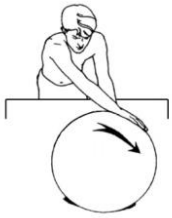
- Gradually progress range of motion to **maximum 120˚**
- If still using arm cradle technique, progress to using stick or opposite arm with elbow straight as tolerated

Active-Assisted Internal Rotation in Supine:

- Arc of motion gradually increases to ¾ range as pain allows

Active-Assisted External Rotation in Supine:

- Arc of motion gradually increases to ¾ range as pain allows

a)  b) 

Proprioceptive Shoulder Exercises

- Start slowly with **emphasis on scapular control**
- Start below 70° flexion (a) & gradually progress into higher ranges of flexion/elevation (b)

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

8 – 12 Weeks

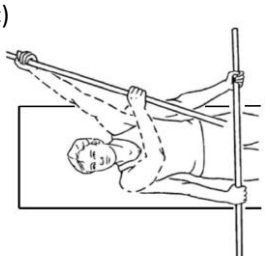
Work towards full active range of motion with good scapular control prior to introducing basic strength exercises described below.

Range of Motion Exercises:

- **Continue gradually transitioning towards full active range of motion with good scapular control; start in lower ranges of elevation without any sustained holds prior to 10 weeks. Monitor for any irritation of biceps pain & delay until 12 weeks if observed.**
- May progress to more advanced stretches with longer duration holds: (a) slide arm forward on table top (b) child's pose stretch
- Gradually progress internal/external rotation into greater degrees of abduction
- May begin supine active-assisted abduction but do not create impingement pain or force the motion (c)
- **Be mindful that all patients may not achieve full range of motion due to limitation of pathology and/or prosthesis. Check with surgeon if uncertain as to what is a realistic expectation for range of motion.**

a) 

b) 

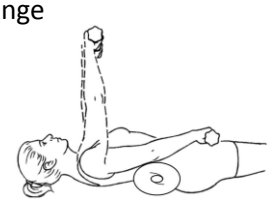
c) 

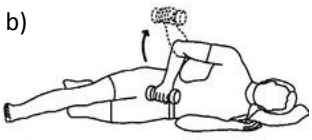
Strengthening Exercises:

- **Start slowly once pain-free range of motion goals are met with good scapular control**
- All resisted exercises are **below shoulder height for the first 8-10 weeks**
- Work within a pain-free range of motion to avoid compression of the rotator cuff
- 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; may progress to maximum of 2x/day.
- First 12 weeks: gradually build endurance repetitions to be in the 1/2 kg to 1kg range

a) Supine Flexion
   - Arm support on towel to prevent dropping into extension

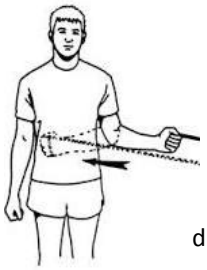
b) Side Lying External Rotation
   - Arm supported on towel in 0˚ abduction
   - May require support of forearm on pillow or books
   - Limit range of motion to neutral initially & progress as tolerated

a) 

b) 

c) Internal Rotation
- Supine: support arm on towel in 0˚ abduction
- Progress to standing with arm at 0˚ abduction to pull from 0-20˚

d) Shoulder Shrugs
- add weight as tolerated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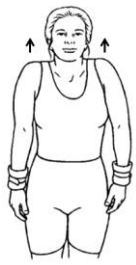
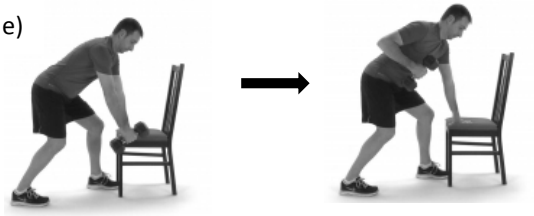

d)

e) Bent over Rows
- Start at neutral & progress to 30^{o} abduction
- Do not go past level of body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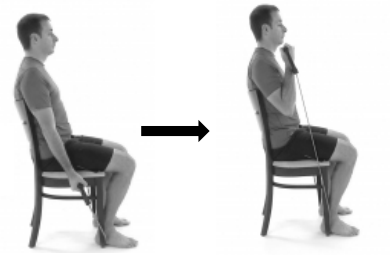
f) Biceps & Triceps
- Start with theraband seated or standing

Bicep Curl



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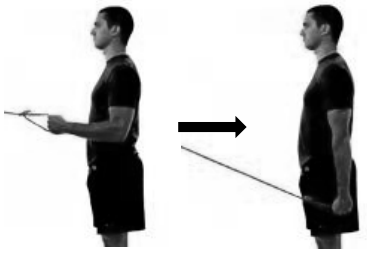


Triceps Extension

12 Weeks Onwards

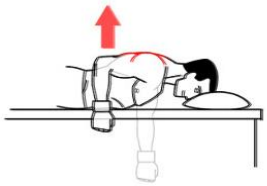
Continue progressive strengthening, or begin early phase strengthening depending on achievement of range of motion goals. Gradually incorporate functional movement patterns & focus on scapular control with all exercises.

Principles of Progression:

- Strengthen further into range as pain and range of motion allow. Never load the tendon into end range if the shoulder is stiff.
- **Be mindful of tendon biology and patient requirements**. Each patient has different functional requirements, tendon quality, and healing potential.

Examples of Advanced Strengthening Exercises:

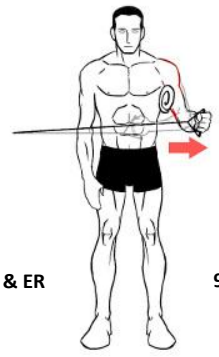
a) Prone Horizontal Extension Drills
- Start in neutral with elbow bent to shorten the lever
- Progress towards 90^{o} abduction as tolerated



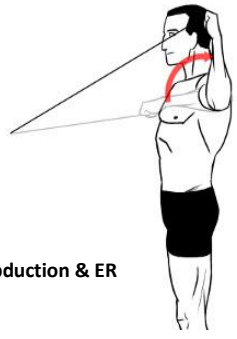
b) Standing External (ER)& Internal Rotation (IR) Strength with theraband
- May gradually progress towards 90^{o} abduction.

Only start if the cuff is strong, patient has adequate range of motion, and the quality of movement is good. Do not progress into end range of abduction & external rotation if there is any compression pain in the cuff – only do a partial arc of movement.

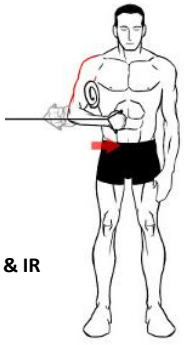
30^{o} abduction & ER



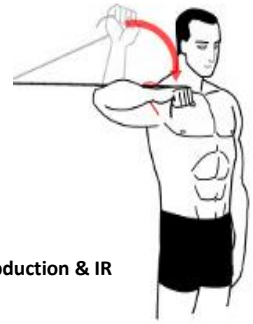
90^{o} abduction & ER



30^{o} abduction & IR



90^{o} abduction & IR



Occupational & Recreational Activity Return

Please only use as a guide as each patient is different.

Activity	Estimated Time	Restrictions/Special Notes
Computer	2-4 weeks	
Exercise Bike	4-6 weeks (in sling); 6+ weeks no sling	Recumbent bike is preferred
Road Bike	6 months	
Gardening	12 weeks below shoulder height	Overhead: minimum 4 months
Running	6-8 weeks	Minimum 2 weeks out of sling
Golfing	4 months (light irons)	Chip/putt as determined by physio/surgeon. Not recommended for reverse total shoulder replacement.
Gym	6-12 months	Check with physiotherapist regarding restrictions.
Heavy Lifting	Discuss with physio/surgeon.	Below shoulder height.
Swimming	6-12 months using kick board.	
Tennis	6-12 months	Discuss with physio/surgeon. May not be realistic due to pathology.
Throwing	6-12 months	Discuss with physio/surgeon.

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.

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.