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REHABILITATION PROTOCOL FOR SHOULDER JOINT REPLACEMENT

PHYSIOTHERAPY GUIDELINES

This is a guideline for your physiotherapist to help you progress your shoulder rehabilitation over the next 12 weeks so that you can achieve a functional shoulder. A *physiotherapist* who is experienced in shoulder rehabilitation should be consulted throughout the programme to teach and individually modify your programme.

Immobilisation/Movement Restrictions

Wear sling/immobiliser	During the day _____ weeks At night _____ weeks
Additional restriction of range of motion required	YES Motion: _____ Restriction: _____ NO

Consulting At:

- Melbourne Orthopaedic Group, 33 The Avenue, Windsor 3181
- Glenferrie Private Hospital, 29 Hilda Crescent, Hawthorn 3122
- Level 4, 250 Collins Street, Melbourne 3000

EXERCISES/TREATMENT FOR EACH STAGE OF REHABILITATION

1-14 DAYS

Manual Physiotherapy

Heat may be utilized prior to exercise.

Ice may be applied post exercise.

Gentle massage around the shoulder girdle, trigger points; supraspinatus, infraspinatus and biceps belly.

Range of Motion Exercises

Pendular exercises:

- Flexion/extension, circular, horizontal flexion/extension respecting pain.
- Arm supported not hanging.
- * (Arm may need to be in neutral rotation if internal rotation compresses the biceps)

2-4 WEEKS

Range of Motion Exercises

Active assisted ROM exercises:

- ER/IR still performed supine with arm supported in slight flexion (so that arm doesn't fall into extension), in 20 degrees to 30 degrees abduction.
- Flexion to 90 degrees, initially therapist provides assistance by supporting arm, especially with arm lowering.
- May commence in supine but if too painful, continue with pendular exercises only.
- Patient eventually should be able to cradle their arm with the other side, set shoulder blade back and assist arm up. Re-set shoulder blade prior to commencing lowering. May need to keep the arm in neutral rotation to avoid biceps compression.
- Aim is for 60 degree to 90 degree (maximum) flexion by the end of the fourth week. Do not force.

Elbow ROM:

- Flexion / extension exercises.
- Pronation / supination.

Wrist ROM:

- Flexion / extension.

Strengthening Exercises

Isometric scapula setting drills only:

- Scapula elevation, retraction, depression.

Hand strength:

- Gripping

Precautions/Dosages

No isometric glenohumeral exercises.

Exercises performed three times per day or as pain determines.

Usually stretches are held for a count of 5 and repeated ten times dependent on pain. Do not hold if any pain.

EXERCISES/TREATMENT FOR EACH STAGE OF REHABILITATION

4-6 WEEKS

Range of Motion Exercises

Active assisted exercises are performed with the assistance of the other arm or with the assistance of a stick.

Active assisted ROM exercises progressed:

- ER/IR still performed in supine with arm supported. Performed in 20 degrees to 30 degrees abduction.
- 30 degrees of motion of external and internal or as tolerated. Never force.
- Flexion of 90 degrees to 120 degrees (maximum) as tolerated. Do not force.

6-8 WEEKS

Range of Motion Exercises

- ER/IR range progressed to 45 degrees if tolerated or able (some patients will not achieve full range of motion), arm supported on towel, progress arc of motion to full as tolerated.
- Supine flexion commenced with a stick as tolerated but may still need to be performed cradling arm.
- Range of flexion overhead progressed as tolerated to 120 degrees (often elbow is required to be bent slightly).

8 WEEKS

Strengthening Exercises

Submaximal pain free isometric exercises:

- Extension with elbow bent (take care that arm doesn't go back past body).
- ER/IR may need to perform in plane of the scapula (only performed on non-repaired rotator cuff).
- Only perform submaximal glenohumeral isometric exercises if no night pain present. If night pain is present, leave until six weeks post surgery or until night pain settles.
- Perform all exercises with elbow bent, submaximal resistance <30% MVC.

Dosage

- Perform twice daily.
- Most exercises are held for a count of 5 and repeated to a maximum of twenty repetitions.
- Stretches may be held for longer durations as required up to a count of 15 seconds with usually ten repetitions.
- Whilst the assisted active EROM exercises are progressed here, expect that the range may come out gradually over the next twelve weeks and never should be forced.

EXERCISES/TREATMENT FOR EACH STAGE OF REHABILITATION

8-12 WEEKS

Range of Motion Exercises

- Continue with all exercises outlined in weeks 4-6.
- May utilize more advanced stretches such as longer duration holds, sidelying stretching overhead with a stick, sliding arm out along the bed or preacher stretches (patient kneeling on ground, arms supported on chair or table while patient leans back onto their haunches) as tolerated.
- ER/IR may gradually be progressed into higher ranges of abduction.
- Supine assisted active abduction may gradually be commenced but care not to force the motion or create any impingement pain by pushing the motion too far.
- Be aware not all patients achieve full range of motion due to limitation of pathology +/- prosthesis.
- Check with surgeon for realistic range limits.

Strengthening Exercises

- Supine flexion – arm supported on towel to prevent arm dropping into extension – lift up only 30 degrees (may initially require assistance).
- Sidelying external rotation – arm supported on towel, 0 degree abduction. May initially require support of forearm on pillow or books. Limit arc of motion initially.
- Shoulder shrugs – add weight as tolerated.
- Supine internal rotation (arm supported by a rolled up towel to prevent arm dropping into extension) 0 degree abduction – Theraband or standing – internal rotation at 0 degrees of abduction – Theraband pull from position or external rotation into internal rotation of 0 degrees to 10 degrees.
- Bent over rows in neutral to 30 degrees abduction (do not go past the level of the body).
- Biceps / triceps.
- All resisted exercises are performed below shoulder height for the first eight to ten weeks post operation.
- Usually only partial arc of motion may be initially performed to avoid compression of the rotator cuff.
- Resistance is applied either through Theraband or light weights. Commence with light resistance (yellow or red) or ½kg and then increase as tolerated. Resistance drills should only be performed initially once a day until it is clear that no aggravation of the tendon or joint is going to occur. May progress to performing twice a day.
- For most exercises, endurance repetitions are recommended and rarely are any drills progressed past 1 ½kg to 2kg maximum in the first twelve weeks. Most people are 1/2kg to 1kg.

EXERCISES/TREATMENT FOR EACH STAGE OF REHABILITATION

12 WEEKS ONWARDS

Range of Motion Exercises

- Full range of assisted active motion is allowed apart from horizontal flexion and HBB. These motions may be able to be initiated in lower ranges of elevation without any sustained holding by ten weeks. On others, may not be able to commence until twelve weeks or longer due to the presence of biceps pain. Always watch for any aggravation of biceps pain and cease if biceps pain increases.
- Strengthening further into range as pain and range of motion allows. Never load the tendon into end of range if shoulder stiffness is present.
- Keep in mind tendon biology and patient requirement. Obviously different functional requirements for younger patients than older patients.

Strengthening Exercises

- Prone horizontal extension drills are commenced into higher ranges of abduction until 90 degrees is reached, elbow bent, short lever.
- Internal and external rotation strength may gradually progress into above 90 degrees, usually in standing against Theraband. Only commence if the rotator cuff is strong, there is good tissue quality and there is adequate range of motion. Do not progress into end of range of abd/ER if there is any compression pain in the cuff. May only do partial arc.

Training for Life

Occupational & Recreation Activity Return

Computer	2-4 weeks
Exercise Bike	4-6 weeks (in sling); 6 weeks onwards out of sling
Road Bike	6 months
Gardening	12 weeks below shoulder height. 4 months or longer overhead
Running	6-8 weeks or 2 week after out of sling
Golf	4 months (lighter irons). Chip/put as determined by physio/surgeon
Gym	6-12 months. Some weight/exercise restrictions apply. Check with physio
Heavy lifting	(below shoulder height) to be discussed with physio/surgeon
Swimming	6-12 months (with a kickboard)
Tennis	6-12 months. Discuss with physio/surgeon. May not be realistic due to pathology
Throwing	6-12 months. Discuss with physio/surgeon