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Shoulder Arthroscopy Post-Operative Rehabilitation Protocol

This protocol should be used as a guide following shoulder surgery. A physiotherapist should be consulted throughout to teach and individually modify the exercises. This protocol serves as a prescription for physiotherapy.

The timelines for each phase are a general guideline and progression should be based on each individual's presentation. Criteria for progression are at the end of each phase and it may be beneficial to continue previous exercises.

It is recommended that physiotherapy sessions should be spaced at least 1-2 weeks apart to promote an active rehabilitation approach and ensure funding is available for physiotherapy in the strengthening phases.

Patient Name: _____ Surgery Date: _____

Surgeon: ☐ Dr. Berdusco ☐ Dr. Kwong ☐ Dr. LeBlanc ☐ Dr. Lo ☐ Dr. Mackey ☐ Dr. Sabo

Surgery:
- ☐ Shoulder Arthroscopy
- ☐ Subacromial Decompression
- ☐ Glenohumeral Debridement
- ☐ Biceps Tenotomy
- ☐ Biceps Tenodesis – *see restrictions below*
- ☐ Capsular Release – *focus on range of motion initially*

Additional Surgical Procedures: _____

Post-Operative Restrictions

Sling Instructions

- ☐ Sling only for pain, discontinue use as soon as possible
- ☐ 2 weeks
- ☐ 4 weeks
- ☐ 6 weeks

Protection of Biceps?

- ☐ YES, no active elbow flexion for 4-6 weeks, no elbow flexion strengthening for 10 weeks
- ☐ NO, this is not required

Additional Post Operative Restrictions:

Please feel free to contact our office if there are any questions or concerns.

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PHASE 1 – Immediate Post Operative

This phase involves the initial recovery period and generally lasts until as early as 2 weeks or 4-6 weeks for biceps tenodesis.

GOALS

Patient Education
Control Pain and Inflammation
Protect Repaired and Healing Tissue
Early Protected Shoulder Range of Motion
Maintain Mobility of Joints Surrounding Shoulder

PATIENT EDUCATION

ANATOMY OF THE SHOULDER

- The shoulder is a complex and mobile joint that is made up of three bones – the clavicle (collarbone), scapula (shoulder blade) and humerus. It is supported by a number of muscles, tendons, ligaments and other structures. The rotator cuff is made up of 4 muscles (Supraspinatus, Infraspinatus, Subscapularis, and Teres Minor) that help stabilize the shoulder.

SLING USE/DRIVING

- Be careful when lifting the operative arm without assistance or use the muscles in the operative arm (e.g. lifting, carrying, pushing, pulling, driving, moving in bed).
- The sling is for comfort and protection and should be worn for a few weeks after surgery (see front page or booklet). It can be removed when sitting comfortably at home with arm supported, for showering and exercises.
- Patients should not drive until surgeon allows them to stop using their sling and when they are no longer on narcotic medications.
- Sleeping – It is recommended that the sling is worn while sleeping. If they are having difficulty finding a comfortable sleeping position, it may be easier to sleep in a reclining chair or propped up with pillows in bed. The weight of the arm can also be supported on a pillow.

PAIN CONTROL

- Icing: use cryocuff or ice pack/bag of frozen peas. Do not get dressings wet (use plastic bag/wrap between shoulder & ice pack) and a fabric layer between to prevent frostbite. For the first 48 hours following surgery ice for 30 minutes every hour when awake. After this, reduce icing to every 2-3 hours or as needed.
- Medication: follow instructions from surgeon. Family physicians can also be consulted regarding pain control.

RETURN TO WORK

- Timelines depend on the type of work and the surgery performed. Sedentary desk work duties can often be tolerated by 3-6 weeks. Returning to work when it is deemed safe to do so by the surgeon has been shown to be beneficial in overall recovery.

EXERCISES

<u>RANGE OF MOTION</u> (Recommended Parameters = 10 reps, 5 times/day unless specified)

Neck, Wrist and Hand Range of Motion

To maintain range of motion look up/down, turn to each side and bring ear to each shoulder, actively flex and extend wrist, make a fist and extend fingers. Can also do gentle ball squeezes/grip exercises while in ball.

Elbow Range of Motion (*see cover page for any restrictions)

Bend and straighten elbow, maintain good posture. If you had a biceps tenodesis, use other hand to help you move the operative arm.

External Rotation Range of Motion

Sitting or standing, hold a pole with elbows bent to 90° and tucked to your side. With

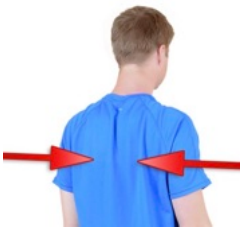
non-operative arm using a pole gently push the operative arm to 0° (straight in front of you), 40° or full external rotation (*see cover page). Stop once a gentle stretch or pain is felt.

(*start at 3-4 weeks as directed by your surgeon, see cover page)
Sitting on a stool or chair, rest operative arm on the table. While keeping operative arm relaxed push chair/stool back until a comfortable stretch is felt in the shoulder. Exercise can also be performed by placing both hands on a ball and using non-operative arm to move the ball forward.

Passive Supine Elevation (*start at 3-4 weeks as directed by your surgeon, see cover page)
Lie on your back, use non-operative arm to slowly lift operative arm through pain-free range. Do not use the muscles in operative arm to move the shoulder. Stop when once a gentle stretch or pain is felt.

STRENGTHENING

Shoulder Blade Squeezes
Gently bring shoulder blades back together towards spine. Hold each repetition for 5-10 seconds, repeat 10 times. Do this 3-5 times per day.



Postural Awareness/Correction
Frequently throughout the day when sitting or standing, make sure to check posture. Imagine a string pulling at the top of the head to ensure a tall erect posture, bring shoulder blades back together gently and tuck chin down gently.

OTHER CONSIDERATIONS

Manual Therapy - for Physiotherapist Consideration

- Soft Tissue Massage (e.g. Lat Dorsi, Pecs, Deltoid; *avoid muscle bellies of repaired muscles)
- Address Cervical/Thoracic Spine Issues (Joint Mobilization and Soft Tissue Massage)
- No glenohumeral joint mobilization in Phase 1

CRITERIA FOR PROGRESSION TO PHASE 2

- Pain adequately controlled at rest
- Good postural awareness and able to properly set scapula with arms at side
- Demonstrates progression of passive/assisted range of motion
- Sling is discharged by surgeon (as listed on front page)

PHASE 2 – Range of Motion

This phase starts at 4-6 weeks (or sling discharge) and lasts until approximately 12 weeks post operatively.

GOALS

Progressive Pain-Free Range of Motion (PROM → AAROM → AROM)
Continued Protection of Repaired and Healing Tissue
Improve Static and Dynamic Scapular Control
Improve Proprioception

PATIENT EDUCATION

MOVEMENT RESTRICTIONS

- Avoid unassisted motion away from the body, overhead and behind the back as well as rapid movements and gestures with operative arm. The operative arm can be used for light activities such as eating, hygiene, reading, computer use and dressing, but should not be used to lift more than the weight of a cup of coffee.
- Avoid range of motion exercises and movements into the abduction plane as it is aggravating to the shoulder. This movement will improve as the rest of the range of motion and strength in the shoulder progresses.

HEAT/ICE

- A heating pad for 15-20 minutes can be used to loosen up the shoulder before working on exercises. Ice can be used for 15-20 minutes after completing exercises and as required for pain relief.

RETURN TO WORK

- It is possible to return to sedentary work that involves no lifting or overhead work in this phase of recovery. Specific restrictions and return to work plan for heavier occupations should be discussed with the surgeon.

GENERAL FITNESS/ACTIVITY

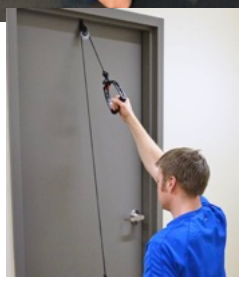
- It is important to keep active despite the post-operative restrictions. Activities such as walking, treadmill or stationary bike are great options to keep active and not stress the shoulder. Using the sling or placing hand of operative arm in a pocket/jacket can reduce the stress on the shoulder.

EXERCISE PARAMETERS

- Exercises should be performed within pain-free range and with proper technique (e.g. proper shoulder blade position, no shoulder hiking). It is best to complete exercises more often throughout the day (3-5 times/day), especially for range of motion exercises, doing 1-2 sets of 10 repetitions.

EXERCISES

Patients should visit their physiotherapist to receive guidance on the progression and technique for the exercises in the protocol for Phases 2-4. Visits should be spaced 1-2 weeks apart to allow for time to work on home exercise program and to reserve available physiotherapy coverage for the strengthening phases.



RANGE OF MOTION

Phase 1 Range Exercises: Continue table slides/external rotation range as outlined in Phase 1.

Press/Elevation Program: use a stick in supine starting in a bent arm position, press up to the ceiling and bring arms overhead. Gradually increase the work the operative arm is doing until it can be done without assistance from the stick. Repeat same steps in inclined positions (i.e. 30° ® 45° Inclined in Recliner Chair) to progress strength through elevation range.

Can also use a stick in standing to provide assistance when elevating the arm. The goal is Phase 2 is to achieve 120-140° of pain free active elevation range of motion.

Pulleys can also be used to increase ROM in flexion and scaption planes. Face the wall and maintain good posture while moving into a gentle stretch overhead.

Internal Rotation Range of Motion

Can begin internal rotation stretch at 8 weeks with gentle cross body stretching using non-operative arm to bring operative arm across the chest. At 10+ weeks can work into gentle pain free assisted stretching with towel/strap behind the back.

STRENGTHENING – EARLY PHASE 2 (sling discharge to 6-8 weeks)

- Isometrics (Shoulder Flexion, Extension, Abduction, IR and ER)
  This exercise is intended to 'wake up' the rotator cuff. Amount of force is low (~30% of max contraction) so ensure gentle pressure – as if pressing into a balloon. Ensure proper scapular positioning and good overall posture. Hold 5 seconds, repeat each direction 5-10 times.

STRENGTHENING – LATE PHASE 2 (>6-8 weeks)

Resisted strengthening of parascapular and distal muscles can begin around 8-10 weeks. All isolated rotator cuff strengthening must be restricted until the timeline listed on the cover page and the Phase 2 criteria have been met. Proper scapular positioning and general posture should be taught and maintained with all exercises.

- Supine Shoulder Press
  Add a light weight (soup can ® 1lb ® 2lb, etc.) with press exercise in supine once able to do 3 sets of 10-15 reps without weight.

- Side Lying External Rotation AROM (*without weight)
  In side lying, arm should be on the side with elbow supported by a towel. Ensure good scapular position. Arm is lifted to neutral, progress into ROM as tolerated. Can gradually add small weight (soup can > 1lb weight)

- PNF AAROM/AROM Patterns
  If full functional AROM has been achieved, can begin PNF patterns below shoulder level with stick. Start in range below shoulder level and progress to overhead range and AROM as tolerated.

- Rows with Light Resistance – use a yellow or red band. Ensure good scapular maintained throughout, avoid drawing elbows back past midline.

- Biceps/Triceps Strengthening – Biceps strengthening should not start until 12 weeks for biceps tenodesis procedures.

OTHER CONSIDERATIONS

Hydrotherapy

- If incisions are adequately healed, performing range of motion exercises in the pool can be helpful. For biceps tenodesis procedures, swimming motions/strokes should not be performed at this time. We also recommend speaking with your physiotherapist about returning to swimming.

OTHER CONSIDERATIONS CONT'D

General Fitness

- Walking, Treadmill and Stationary Bike (without weightbearing through the operative arm)

Manual Therapy - for Physiotherapist Consideration

- Soft Tissue/Scar Massage (As per Phase 1, can begin gentle release of repaired rotator cuff)
- Address Cervical/Thoracic Spine Issues (Joint Mobilization and Soft Tissue Massage)
- No glenohumeral joint mobilization until 10 weeks, then gradually start Grade 1-2 mobilization
- Gentle therapist pain free assisted range of motion and passive scapular mobilization

CRITERIA FOR PROGRESSION TO PHASE 3

- Sufficient passive and active range of motion without pain and compensation
  - No shoulder hiking, scapular winging or trunk side flexion/extension
  - ~75% of passive range of motion
  - Able to actively elevate arm to 120-140° with good control
- Good scapular positioning and postural awareness at rest and dynamic scapular control with range of motion exercises

PHASE 3 – Rotator Cuff Strengthening

This phase involves the start of targeted rotator cuff strengthening at 8-10 weeks and lasts until 3-4 months.

GOALS

Continued Protection of Healing/Repaired Tissues
Achievement of Full Functional Range of Motion
Initiate Targeted Rotator Cuff Strengthening
Improve Scapulohumeral Rhythm

PATIENT EDUCATION

CONTINUED PROTECTION AND GRADUAL RETURN TO ACTIVITY

- It is important to be aware that the shoulder is continuing to heal at this point. Here are some points to keep in mind during this phase:
  - Be careful with overhead lifting and restrict lifting to light objects (< 20lbs)
  - Avoid Long Lever/Outstretched Arm Positions (e.g. reaching for pot at back of stove)
  - Avoid Quick Movements (e.g. reaching to catch a falling object)
- Can begin to return to activities of daily living such as cooking, gardening and light cleaning (no vacuuming or raking, keep laundry baskets light) keeping in mind the considerations listed above. It is important that activities are paced throughout the day to avoid fatiguing the shoulder.

STRENGTHENING EXERCISES

- Strengthening of the rotator cuff can begin at 8-10 weeks if the recovery is progressing well and if meeting the criteria listed at the end of Phase 2.
- All resisted exercises should be performed in pain-free range of motion and below shoulder height initially.
- Strengthening exercises should be performed maximum 1-2 times per day and parameters should focus on gradually building endurance (e.g. begin with 2-3 sets of 10 and work up to 4 sets of 15). Can also consider initially performing strengthening exercises every other day. Start by breaking up your exercises into little sessions throughout the day and then gradually progress to combining them into a single 'workout'.
- Begin with light resistance or light weight initially. It is acceptable to progress to the next level of resistance once the patient can correctly perform exercise with 3-4 sets of 15 reps.
- Progression of Bands (Yellow → Red/Orange/Pink → Green → Blue/Purple)

EXERCISES

RANGE OF MOTION

If full active and passive range of motion have not been achieved it is important to continue to work on range of motion exercises listed in Phase 2. It can be beneficial to focus on range of motion first if patient is stiff and add in strengthening gradually, starting first below shoulder level.

STRENGTHENING – EARLY PHASE 3

Shoulder Press/Elevation Program

Continue to increase weight and incline to improve AROM in flexion

Resisted Shoulder Strengthening (Internal /External Rotation)

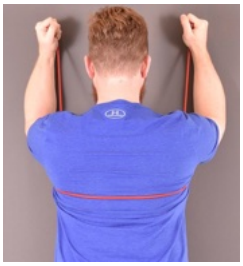
Ensure good scapular positioning, perform resisted ER/IR in standing with small towel roll under elbow. Initially perform to neutral then progress into ROM as tolerated.

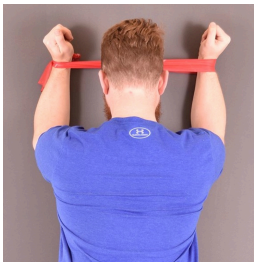
Alphabet with Band or Weight (Supine)

In supine with arm at 90° flexion, add slight scapular protraction and spell 3-5 letters

of alphabet in the air, repeat 10 times. Start with light weight (1lb) or band. Gradually increase size of letters.

STRENGTHENING – LATE PHASE 3





Resisted Flexion with Band on Wall

Standing with good posture and band around back, move arms up into Flexion with ulnar side of hand into the wall and encouraging scapular upward rotation. Can progress to using band in a loop around wrists, keeping forearms parallel while moving up into flexion.

Side Lying External Rotation with Weight

In side lying with elbow supported (same than in Phase 2), externally rotate arm while holding light weight (soup can → 1lb → 2lb).

Resisted Internal/External Rotation at 30-45° Abduction

Progress ER/IR into abduction if cuff is strong in neutral and good scapular control is maintained. Ensure exercise is pain-free, start with partial arc of movement and progress to full ROM as tolerated. Can start in seated position with elbow supported using band or dumbbell and progress into standing.

Resisted PNF Patterns

Progress to light resistance below shoulder height, ensure short lever arm (bent elbow) while arm is moving.

Proprioceptive Exercises

Consider additional proprioceptive exercises such as ball on the wall, weightbearing in four Point kneeling (arm/leg raise, bird dog), balancing ball on an upside down frisbee, tracking tasks with laser pointer taped to finger, etc. Ensure good scapular control and positioning is maintained with all exercises.

OTHER CONSIDERATIONS

General Fitness

- Continue cardiovascular endurance exercise and consider incorporating lower extremity, core and back strength into exercise regime.

Manual Therapy - for Physiotherapist Consideration

- Continue as per Phase 2; can progress Glenohumeral Mobilization to Grade 3-4
- Can begin supine Rhythmic Stabilization for Proprioception

CRITERIA FOR PROGRESSION TO PHASE 4

- Full functional range of motion without compensation
- Demonstrates adequate endurance and correct technique with strengthening exercises (e.g. 4 sets of 15 reps with medium resistance)
- Able to perform activities of daily living and exercises with minimal pain and no compensatory patterns

PHASE 4 – Advanced Strength/Graduated Return to Activity

This phase involves functional and activity specific strengthening and starts at 3-4 months after surgery.

GOALS

The goals of this phase will be specific to each patient and will relate to the specific work and recreational activities that the patient is looking to return to as well as the surgical procedures performed on their shoulder.

PATIENT EDUCATION

WEIGHT BEARING ACTIVITIES

- Activities with weight bearing need to be performed with caution as they can cause compression and aggravate the rotator cuff. When moving into weight bearing exercises, they should be progressed gradually (e.g. push-ups on wall → on knees).

GYM ROUTINES

- Patients should discuss with their surgeon as to when it is appropriate to return to gym routines (~6 months post operatively). It is recommended that heavy weights are not used, especially in overhead positions.
- It is generally not recommended to perform heavy weighted exercises overhead and more specifically incline bench press, military press, triceps dips and chin-ups after rotator cuff repair surgery. Patients should also avoid exercises or movements in which their elbow/arm moves behind the plane of their body.

LONG TERM PROTECTION OF ROTATOR CUFF

- In order to protect the repair and maintain the health of the rotator cuff long term it is recommended to avoid lifting in long lever positions (e.g. arm extended) and avoid heavy lifting overhead. Patients are encouraged to continue to work on strength and range of motion exercises for 6-12 months post-operatively. Also incorporating rotator cuff strengthening exercises into a regular workout regime in the long term is important to maintain the strength that has been developed and keep the muscles and tendons strong and healthy.

EXERCISES

Exercises from Phase 3 can be continued as required to achieve full functional range of motion and strength. Phase 4 exercises focus on specific functional demands required by each patient for their occupation and recreational activities. Be mindful that Phase 4 will be different for every patient depending on their specific functional requirements, tissue quality and expected surgical outcome.

Exercises should be performed as part of a regular workout 3-4 times per week with exercise parameters focusing on developing muscular endurance with adequate recovery between exercise sessions. All exercises should continue to be performed in pain-free range and with proper technique. Physiotherapists will be able to assist patients with appropriate exercise prescription and the surgeon will provide guidance on timelines for return to occupational and recreational activities.

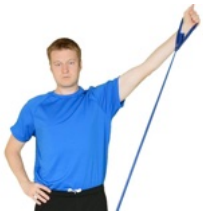
<u>Examples of Exercises for Phase 4 Rehabilitation include:</u>

Internal/External Rotation at 90° Flexion and 90° Abduction

Ensure good scapular position is maintained. Can start with arm supported on table or large physio ball and move to unsupported.

Resisted PNF Patterns

Start with below shoulder ROM and progress into overhead ranges. Can be performed with light resistance and progressed into using pulley machine at gym.



Advanced Weightbearing Exercises

Can begin pushups (progress from wall → table → knees on floor → toes on floor). Other options for weight bearing exercises include planks +/- shoulder taps, on bosu or wobble board, etc. Caution is advised with weightbearing exercises as this can create compression of the rotator cuff and exercises should continue to be pain free.

Functional/Sport Specific Drills/Gym Routines

It is important for patients to practice the specific drills and functional tasks they will need to perform prior to returning to game play, occupational activities, heavier ADL tasks, etc. These will be unique to each patient and can include skills such as throwing, stick/puck handling or lifting mechanics. Patients can also begin to return to the gym with low load exercises with slow progression of weights and with the considerations discussed above in mind.

CRITERIA FOR RETURN TO SPORT/WORK/ACTIVITY

- Timelines for return to sport and recreational activities involving the use of the surgical arm should be discussed with your surgeon or physiotherapist.
- Returning to occupations that involve medium to heavy lifting (30+lbs) and overhead work/lifting should also be discussed with the surgeon.

Please feel free to contact our office if there are any questions or concerns.

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