Dublin Shoulder Institute

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Latarjet Procedure (open anterior glenoid reconstruction) Protocol:

This protocol is intended as a guideline to the post-operative rehabilitation pathway for a patient who has undergone a Latarjet procedure. It is not intended as a substitute for a Chartered Physiotherapist's clinical decision-making regarding how the patient is progressing. Clinical exam findings, individual progress, and/or the presence of post-operative complications will determine progress through the pathway. If there are any concerns as to how your patient is progressing, please contact Dublin Shoulder Institute.

Patients are discharged from hospital wearing a shoulder immobiliser (DonJoy Ultrasling III) and with a home exercise programme consisting of AROM for elbow/ wrist / hand. Patients will then attend for 2-week post-op review before attending with their Chartered Physiotherapist.

A video explaining how to correctly wear the shoulder immobiliser can be found here: https://www.dublinshoulder.com/services/shoulder-surgery/

Phase I – Immediate Post Surgical Phase
(Weeks 1- 2)

Goals:

- Minimise shoulder pain and optimize the first phase of bone healing, which involves inflammation (therefore avoid NSAIDS)
- Protect the integrity of the surgical repair
- Begin passive range of motion (PROM) - Forward elevation, scaption, external rotation (ER), internal rotation (IR).
- Enhance/ensure adequate scapular function

Precautions:

- **NO** active range of motion (AROM) of the operative shoulder
- **NO** excessive external rotation range of motion (ROM) / stretching. Stop at first end feel felt and limit overall ER to 30°.
- **NO** lifting of heavy objects with operated side.
- **Remain in sling, only remove for showering or PROM exercises**. Shower with arm held at side, forearm resting on belly.
- Keep incisions clean and dry
- Emphasis on NO active use of operated arm even though patient may not be experiencing any pain or other symptoms.

Activity:

- (PROM)/Active-Assisted Range of Motion (AAROM)/ (AROM) elbow and wrist/hand
- Forward flexion and elevation to tolerance
- Abduction in the plane of the scapula i.e. scaption to tolerance
- Internal rotation (IR) to 45 degrees at 30 degrees of abduction
- External rotation (ER) in the plane of the scapula from 0-25 degrees; begin at 30-40 degrees of abduction; **respect anterior capsule tissue integrity with ER range of motion**
- Scapular clock exercises progressed to scapular isometric exercises
- Ball squeezes
- Shoulder Immobiliser to be worn while sleeping - a comfortable sleep position is where patient is quarter-turned with pillow vertical behind operated shoulder.
- Frequent use of ice for pain and inflammation.
- Patient education regarding posture, sling fit, joint protection, positioning, hygiene, etc.

Criteria for progression to next phase (II):

- Adherence to the precautions and immobilization guidelines
- Achieved at least 100 degrees of passive forward elevation and 30 degrees of passive external rotation at 20 degrees abduction
- Completion of phase I activities without pain or difficulty

Phase II – Intermediate Phase/ROM
(approximately Week 3-8)

Goals:

- Minimize shoulder pain and optimize inflammatory response
- Protect the integrity of the surgical repair
- Achieve gradual restoration of (AROM)
- To be weaned from the sling by the end of week 3.
- Begin light waist-level activities

Precautions:

- **NO** active movement of shoulder until adequate PROM with good mechanics
- **NO** lifting using operated arm
- **NO** excessive external rotation ROM / stretching
- **NO** activities or strengthening exercises that place an excessive load on the anterior capsule of the shoulder joint (i.e. no pushups, pec flys, etc..)
- **DO NOT** perform scaption with internal rotation (empty can) during any stage of rehabilitation due to the possibility of impingement

Early Phase II (approximately week 4):

- Progress shoulder PROM (do not force any painful motion)
- Forward flexion and elevation to tolerance
- Scaption to tolerance
- IR to 45 degrees at 30 degrees of abduction
- ER 0 - 30 degrees; begin at 30-40 degrees of abduction; respect anterior capsule tissue integrity with ER range of motion; seek guidance from intraoperative measurements of external rotation ROM)
- Glenohumeral joint mobilizations as indicated (Grade I, II) – Traction/PA mobilizations should be done in direction of limited ROM.
- Address scapulothoracic and trunk mobility limitations. Scapulothoracic and thoracic spine joint mobilizations as indicated (Grade I, II, III) when ROM is significantly less than expected. Mobilizations should be done in directions of limited movement and only until adequate ROM is gained.
- Begin incorporating posterior capsular stretching as indicated
- Cross body adduction stretch
- Use of ice as needed. Heat can also be used prior to exercises.
- Continued patient education: posture, joint protection, positioning, hygiene, etc.

Exercises for the Kinetic chain should commence by week 4 post-op. Bodyweight lunges (frontal/sagittal plane), hip hinge, single leg stability, bridge/single leg bridge are appropriate. Consideration should also be given to good thoracic spine mobility.

Late Phase II (approximately Week 6):

- Progress shoulder PROM (do not force any painful motion)
- Forward flexion, elevation, and abduction in the plane of the scapula to tolerance
- IR as tolerated at multiple angles of abduction
- ER to tolerance; progress to multiple angles of abduction once >/= 35 degrees at 0-40 degrees of abduction
- GH and scapulothoracic joint mobilizations as indicated (Grade I-IV as appropriate)
- Progress to AA/AROM activities of the shoulder as tolerated with good shoulder

mechanics (i.e. minimal to no scapulothoracic substitution with up to 90-110 degrees of elevation.)
- Begin rhythmic stabilization drills
- ER/IR in the scapular plane
- Flexion/extension and abduction/adduction at various angles of elevation
- Continue AROM elbow, wrist, and hand

- Strengthen scapular retractors and upward rotators
- Initiate balanced AROM / strengthening program
    - Initially in low dynamic positions
    - Gain muscular endurance with high repetition of 30-50, low resistance 1-3 lbs)
    - Exercises should be progressive in terms of muscle demand / intensity, shoulder elevation, and stress on the anterior joint capsule
    - Nearly full elevation in the scapula plane should be achieved before beginning elevation in other planes
    - All activities should be pain free and without substitution patterns
    - Exercises should consist of both open and closed chain activities
    - No heavy lifting or plyometrics should be performed at this time
- Initiate full can scapular plane raises to 90 degrees with good mechanics
- Initiate ER/IR strengthening using exercise tubing at 0° of abduction (use towel roll)
- Initiate sidelying ER with towel roll.
- Initiate manual resistance ER supine in scapular plane (light resistance)
- Stretch IR (hand behind back, use towel).
- Initiate prone rowing at 30/45/90 degrees of abduction to neutral arm position
- Kinetic chain exericses
- Ice/Heat as needed
- Continued patient education: posture, joint protection, positioning, hygiene, etc.

Ensure good thoracic spine mobility

Criteria for progression to next phase (III):

- Passive forward elevation at least 155 degrees
- Passive ER in varying levels of abduction
- Passive ER at least 75 degrees at 90 degrees abduction
- Active forward elevation at least 145 degrees with good mechanics
- Appropriate scapular posture at rest and dynamic scapular control with ROM and functional activities
- Completion of phase II activities without pain or difficulty

Phase III - Strengthening Phase
(approximately Week 8– Week 15)

Goals:

- Normalize strength, endurance, neuromuscular control
- Return to chest level full functional activities
- Gradual and planned build-up of stress to anterior joint capsule

Precautions:

- Do not overstress the anterior capsule with aggressive overhead activities / strengthening
- Avoid contact sports/activities until at least week 16
- Do not perform strengthening or functional activities in a given plane until the patient has near full ROM and strength in that plane of movement
- Patient education regarding a gradual increase to shoulder activities

Activity:

- Continue A/PROM as needed/indicated
- Strength program should include PULL – horizontal rows, row on all fours / incline plank (start with light load)
- Initiate gradually progressed strengthening for pectoralis major and minor (PUSH movements) avoid positions that excessively stress the anterior capsule
- Progress subscapularis strengthening to focus on both upper and lower segments
    - Push up plus (wall, counter, knees on the floor, floor)
    - Cross body diagonals with resistive tubing
    - IR resistive band (0, 45, 90 degrees of abduction)
    - Forward punch
    - Integrate kinetic chain with the above exercises.

Criteria for progression to next phase (IV):

- Passive forward elevation is within normal range
- Passive external rotation at all angles of abduction is within normal range
- Active forward elevation is within normal range with good mechanics
- Appropriate rotator cuff and scapular muscular performance for chest level activities
- Completion of phase III activities without pain or difficulty

Phase IV - Overhead Activities Phase / Return to activity phase (approximately Week 16-20)

Goals:

- Continue stretching and PROM as needed/indicated, focus on IR (hand behind back).
- Maintain full non-painful AROM

• Return to full strenuous work activities where relevant.
• Return to full recreational activities

Precautions:

• Avoid excessive anterior capsule stress
• **AVOID** tricep dips, wide grip bench press; no military press or lat pulls behind the head. Be sure to "always see your elbows"
• Do not begin throwing, or overhead athletic moves until **16 Weeks** post-op or cleared by surgeon.

Activity:

• Continue all exercises listed above
Progress isotonic strengthening if patient demonstrates no compensatory strategies, is not painful, and has no residual soreness
• Strengthening overhead if ROM and strength below 90 degree elevation is good (Cable Rows/ overhead press)

• Progressive return to upper extremity weight lifting program emphasizing the larger, primary upper extremity muscles (deltoid, latissimus dorsi, pectoralis major). Start with relatively light weight and high repetitions (15-25)
• Can do push-ups as long as the elbows do not flex past 90 degrees
• Can do plyometrics/interval sports program if appropriate/cleared by physio and surgeon
• Can begin generalized upper extremity weight lifting with low weight, and high repetitions, being sure to follow weight lifting precautions.
• May initiate pre injury level activities / vigorous sports if appropriate / cleared by surgeon

Criteria to return to overhead work and sport activities:

• Clearance from surgeon
• No complaints of pain or instability
• Adequate ROM for task completion
• Full strength and endurance of rotator cuff and scapular musculature for task completion
• Regular completion of continued home exercise program