

Plymouth Rotator Cuff Repair Rehabilitation Protocol

Phase	1. Protection & Education
Time Frame	0 to 6 weeks post procedure
Key Goals	<ul style="list-style-type: none"> • Maintain integrity of repair • Education of patient regarding post-operative precautions and importance of adherence to and compliance with rehabilitation programme • Achieve a PROM (Passive Range of Movement) equal to or greater than ½ that of elevation and ½ that of external rotation when compared to the contralateral side (see concomitant surgery)
Avoid	<ul style="list-style-type: none"> • Active range of movement with the affected shoulder • Lifting or resisted activities using the affected upper limb • Stretching or sudden movements with the affected shoulder • Painful ROM (Range of Movement) exercises • Passive internal rotation of the shoulder beyond the position of the sling • Using pulleys, scapular retraction and isometric external rotation as these exercises elicit muscle activity beyond that appropriate for this stage
Interventions	<ul style="list-style-type: none"> • Educate the patient in relation to healing timescales, precautions and the importance of appropriate exercises and sling compliance • Introduce Shoulder Passive Range of Movement (PROM) Exercises Include: Elevation in the scapular plane External rotation with the shoulder resting in 20°/30° of scaption • Educate the patient with regard to avoiding inappropriate scapular activity • Consider Joint Mobilisation (Grade I/II for pain relief/relaxation, this must be pain free) after 3/52 post surgery • Introduce AROM (Active Range of Movement) exercises for elbow, wrist and hand of affected side • Introduce AROM exercises for the neck
Notes	<ul style="list-style-type: none"> • SLING: Patient to remain in sling/abduction brace throughout the period of phase 1, except when undertaking physiotherapy directed exercises, dressing and hygiene • CRYOTHERAPY: Consider use of cryotherapy during the first 10 days post procedure to help manage swelling, pain and exercise tolerance • HYDROTHERAPY: Consider commencing hydrotherapy after 3/52 post surgery • See CONCOMITANT SURGERY/ACCELERATED REHABILITATION NOTES

Phase	2. Control through Range
Time Frame	From 6 weeks post procedure
Criteria to commence stage	<ul style="list-style-type: none"> • PROM equal to or greater than ½ that of elevation and ½ that of external rotation when compared to the contralateral side (see concomitant surgery) • Absence of compensatory shoulder girdle activity with PROM
Key Goals	<ul style="list-style-type: none"> • Promote healing of soft tissue • Achieve an AROM equal to that of the PROM. Active shoulder elevation equal to or greater than ¾ of contralateral side and external rotation equal to or greater than ½ contralateral side. • Active movement of the affected upper limb without compensatory shoulder girdle activity
Avoid	<ul style="list-style-type: none"> • Lifting using the affected upper limb • Supporting the body weight through the affected upper limb • Sudden or painful motion/positions with the affected shoulder
Interventions	<ul style="list-style-type: none"> • Continue with PROM exercises • Consider pain free grade III & IV joint mobilisations if the patient demonstrates capsular stiffness • Commence Active Assisted Range of Movement (AAROM) exercises: these must be pain free with appropriate shoulder girdle mechanics • Progress to Active Range of Movement (AROM) exercises: these must be pain free with appropriate shoulder girdle mechanics. Consider starting with short lever exercises and or with the patient in a supine position. • Educate patient and promote appropriate shoulder girdle mechanics during exercises and activities of daily living (ADLs) • Commence Neuromuscular control/Proprioceptive exercises, these should be non-weight bearing during this stage. • Commence Cervical Spine and Thoracic Spine mobility exercises • Commence Scapular setting exercises and progress with dynamic scapular exercises as comfortable • Commence Isometric Inferior Cuff exercises (internal/external rotation) at sub-maximal, pain free levels
Notes	<ul style="list-style-type: none"> • SLING: Patient should wean from sling/abduction brace from 6 weeks post-surgical repair. • The patient may commence light, pain free, non-repetitive activities of daily living (ADL) at chest level and below with the affected upper limb

Phase	3. Strength & Endurance
Time Frame	From 10 weeks post procedure
Criteria to commence stage	<ul style="list-style-type: none"> • Minimal/no pain (NPRS 0-2/10) • Appropriate scapular mechanics without compensatory shoulder girdle activity with AROM activities and usual activities of daily living (ADL) • AROM equal to that of the PROM. Active shoulder elevation equal or greater than $\frac{3}{4}$ of contralateral side and external rotation equal or greater than $\frac{1}{2}$ contralateral side.
Key Goals	<ul style="list-style-type: none"> • Full passive and active range of movement (equal to that of the contralateral side) • Gradual restoration of shoulder strength, power and endurance • Return to ADL's and work that does not require heavy lifting, powerful movements or repetitive overhead activities.
Avoid	<ul style="list-style-type: none"> • Lifting or resistance activities that cause pain • Quick/sudden movements involving the affected shoulder
Interventions	<ul style="list-style-type: none"> • Continue with any challenging exercises from phase 1 & 2 • Commence gentle/pain free shoulder stretches if patient demonstrates capsular stiffness • Introduce isotonic strengthening of the shoulder. Commence with comfortable resistance work with the shoulder in neutral or <u>supported</u> (at the elbow) in scaption/abduction. Progress to unsupported resistance work Progress from short lever to long lever activities Progress through range into elevation. • Commence Weight Bearing Exercises through the affected upper limb • Progress neuromuscular control/proprioceptive exercises • Integrate Scapula, Kinetic Chain and Core work into exercises
Notes	<ul style="list-style-type: none"> • Low to moderate resistance/pain free activities (up to 50% MVC) are permitted at this stage of healing • Patient may undertake gentle swimming (no freestyle) upon commencement of phase 3. Golf may be introduced upon commencement of late phase 3 exercises at 16 weeks • For most patients following a rotator cuff repair completion of phase 3 concludes their supervised rehabilitation

Phase	4. Return to Function/Sport
Time Frame	From 5 months post procedure
Criteria to commence stage	<ul style="list-style-type: none"> • Where work or hobby demands are not met at completion of phase 3 • In preparation for return to sport • AROM must be comparable to the contralateral side • All phase 3 exercises/stretchches must be pain free with appropriate scapular mechanics
Key Goals	<ul style="list-style-type: none"> • Normalize muscular strength, power and endurance • Return to demanding functional activities • Return to sport training
Avoid	<ul style="list-style-type: none"> • Painful activities • Large increases in load or endurance with progression of exercises
Interventions	<ul style="list-style-type: none"> • Continue with any challenging exercises from previous stage(s) • Continue with stretching where capsular stiffness persists • Continue a Progressive Graded Resistance Programme (greater than 50% MVC is permitted) <ul style="list-style-type: none"> ○ Integrate activity specific functional movement patterns ○ Increase speed of movement ○ Decrease rest time to improve endurance
Notes	<ul style="list-style-type: none"> • Patient may commence overhead sports during stage 4 including tennis, squash, badminton and freestyle swimming. Activities must be pain free. • Criteria to return to sport and pre-repair activities <ul style="list-style-type: none"> ○ Symmetrical range of movement and strength ○ Normal scapular mechanics/kinematics ○ No pain at rest or when undertaking exercises/activities

A. CONCOMITANT SURGERY

<p>Sub-Scapularis Repair</p>	<p>Phase 1:</p> <ul style="list-style-type: none"> • Avoid external rotation beyond neutral unless otherwise advised by the operating surgeon • Avoid forward scaption/flexion beyond 90° <p>Phase 2:</p> <ul style="list-style-type: none"> • Avoid painful active internal/external rotation • Avoid painful isometric internal rotation <p>Phase 3:</p> <ul style="list-style-type: none"> • Care with any external rotation stretches, must be pain free
<p>Long Head of Biceps Tenodesis</p>	<p>Phase 1</p> <ul style="list-style-type: none"> • Avoid active or resisted elbow flexion or resisted supination of the wrist of the affected side

B. ACCELERATED REHABILITATION PROGRAMME: Where an accelerated rehabilitation programme is requested by the Orthopaedic Team the timescales should be amended as follows:

Phase	Time Frame
1. Protection & Education	0 to 3 weeks post procedure
2. Control through Range	From 3 weeks post procedure
3. Strength & Endurance	From 6 weeks post procedure
4. Return to Function/Sport	From 12 weeks post procedure