

## Plymouth TSR Rehabilitation Protocol

Phase	<b>1. Protection &amp; Education</b>
Time Frame	0 to 3 weeks post procedure
Key Goals	<ul style="list-style-type: none"> <li>• Protect the prosthesis</li> <li>• Education of patient regarding post-operative precautions and importance of adherence to and compliance with rehabilitation programme</li> <li>• Achieve AAROM <b>up to 90°</b> flexion and 90° elevation in scaption with arm in IR and 0° ER</li> <li>• Reduce pain</li> <li>• Prevent compensatory/ poor movement patterns</li> </ul>
Avoid	<ul style="list-style-type: none"> <li>• Combined abduction and external rotation</li> <li>• Resisted internal rotation</li> <li>• WB through operated arm when getting out of bed or chair and when using walking aids</li> <li>• Lifting with the operated arm</li> <li>• Extension, HBB/ IR</li> <li>• Forcing any movement</li> <li>• Increasing pain</li> </ul>
Interventions	<ul style="list-style-type: none"> <li>• <b>Educate patient</b> in relation to timescales, precautions and sling management</li> <li>• Introduce <b>AROM elbow, wrist, hand exercises from day 1</b></li> <li>• Introduce Shoulder <b>Active Assisted Range of Movement (AAROM) Exercises</b> After check X-ray cleared and once nerve block has worn off start AAROM Flexion up to 90°, elevation in scaption with arm in IR up to 90°, ER to 0°</li> <li>• Introduce <b>gentle isometrics (&lt;30% MVC) except for</b> internal rotation</li> <li>• Introduce simple scapula mobilisation exercises e.g. shoulder shrugs</li> <li>• Ensure good <b>scapular/GHJ dissociation</b></li> <li>• Correct any abnormal movement patterns</li> <li>• Encourage light functional use of hand in sling</li> </ul>
Notes	<p><b>SLING:</b> Sling to be worn for comfort and to protect the subscapularis repair, usually for 3 weeks until post-operative pain starts to settle. If surgery performed post fracture or there is poor cuff function sling may be worn for up to 6 weeks. Make sure patient is aware of restrictions to ROM described above during this time. Sling can be removed for axillary hygiene &amp; to exercise. Use sling when out in crowds for 4-6 weeks post-operatively.</p> <p><b>SLEEP POSITION:</b> Patient to sleep supine with operated arm on pillow to prevent the arm falling into hyperextension. Wear sling at night.</p> <p><b>NERVE BLOCK:</b> Ensure nerve block has worn off before starting AAROM shoulder exercises.</p> <p><b>CRYOTHERAPY:</b> Consider use of cryotherapy as necessary if tolerated.</p>

Phase	<b>2. Control through Range</b>
Time Frame	From 3 weeks post procedure
Criteria to commence stage	<ul style="list-style-type: none"> <li>• Pain controlled</li> <li>• No signs of instability</li> <li>• Integrity of subscapularis</li> <li>• No abnormal movement patterns</li> <li>• Good isometric cuff contraction</li> </ul>
Key Goals	<ul style="list-style-type: none"> <li>• Regain functional active shoulder ROM</li> <li>• Control pain</li> <li>• Optimise dynamic control through range</li> <li>• Prevent poor movement patterns</li> </ul>
Avoid	<ul style="list-style-type: none"> <li>• Stressing the subscapularis repair</li> <li>• External rotation beyond 0°</li> <li>• Resisted internal rotation</li> <li>• WB through the operated arm</li> <li>• Combined abduction/external rotation</li> <li>• HBB</li> <li>• Lifting (limit to weight of cup &amp; essential ADL's such as eating, brushing teeth etc)</li> </ul>
Interventions	<ul style="list-style-type: none"> <li>• Wean out of sling</li> <li>• Continue <b>AAROM exercises</b>, and progress ROM</li> <li>• May commence <b>Active Range of Movement (AROM) exercises</b>: if pain free with good quality movement &amp; no signs of instability</li> <li>• Educate patient and promote <b>appropriate shoulder girdle mechanics</b> with AAROM/AROM exercises</li> <li>• From 4 weeks if pain controlled &amp; good quality movement may begin HBB (do not force)</li> <li>• Encourage functional use of arm at waist height for light tasks</li> <li>• Continue <b>gentle isometrics</b> (&lt;30% MVC) to include gentle isometric IR if pain free from 4 weeks</li> </ul>
Notes	<ul style="list-style-type: none"> <li>• SLING: if pain settled discontinue use of sling indoors but can continue to use outdoors in crowds for up to 6 weeks</li> </ul>

Phase	<b>3. Strengthening &amp; Function</b>
Time Frame	From 6 weeks post procedure
Criteria to commence stage	<ul style="list-style-type: none"> <li>• Pain free, well controlled functional AROM</li> <li>• Good cuff &amp; scapular function through available range</li> <li>• Good shoulder mechanics/ movement quality</li> <li>• No signs of instability</li> <li>• Active external rotation control</li> <li>• Subscapularis function</li> </ul>
Key Goals	<ul style="list-style-type: none"> <li>• Regain functional AROM</li> <li>• Regain function specific strength and endurance</li> <li>• Increase functional use/ independence</li> <li>• Ensure continued good shoulder mechanics/ movement patterns</li> </ul>
Avoid	<ul style="list-style-type: none"> <li>• Heavy lifting</li> <li>• WB through the operated arm</li> <li>• Forced external rotation</li> <li>• Forced internal rotation against resistance</li> <li>• Forced HBB</li> <li>• Combined abduction &amp; external rotation</li> </ul>
Interventions	<ul style="list-style-type: none"> <li>• Introduce <b>rotator cuff resistance exercises</b> through range (including subscapularis from 8 weeks) progress as comfort permits</li> <li>• Consider deltoid rehab if poor cuff function</li> <li>• Increase functional use as able</li> <li>• Regain external rotation ROM (do not force)</li> <li>• Include kinetic chain exercises if appropriate</li> <li>• Functional movement re-education specific to patients demands</li> <li>• Educate patient with regards long term management strategies</li> </ul>
Notes	<ul style="list-style-type: none"> <li>• See treatment progression below</li> </ul>

**A.CONSIDERATIONS:**

<b>Treatment Progression</b>	<ul style="list-style-type: none"><li>• Improvements can continue for up to 2 years</li><li>• Rate of progression and outcome can depend on a number of factors including patient age, their pre-op status and cuff status</li></ul>
<b>Return to functional Activity</b>	<ul style="list-style-type: none"><li>• Patient can consider return to the following activities providing pain has settled and they have good cuff function</li><li>• <b>Swimming:</b> breaststroke from 8 weeks</li><li>• <b>Golf:</b> from 3 months</li><li>• Sedentary work from 8 weeks</li><li>• To avoid manual work for 6 months</li></ul>