

Guidelines for the Physiotherapy Rehabilitation of Patients with Massive, Irreparable Rotator Cuff Tears

- The Torbay Programme -

Principles of the programme

The aim of the programme is to improve shoulder function, which is achieved through the following objectives:

- Patient education
- Posture correction
- Re-education of muscle recruitment
- Strengthening
- Stretching
- Improving proprioception
- Adaptation

Patient education

Patients should be given a thorough explanation of what has happened to their shoulder and why their function is impaired. Time should be spent re-assuring the patient that whilst pain in the shoulder does not correlate with harm, there is little to be gained by using the shoulder to the extent that it becomes more irritable. Patients should also be made aware of the goals of the rehabilitation programme because no progress will be made if the patient fails to engage with the process. Realistic and achievable goals should be set.

Posture correction

Posture correction is felt to be important in order to optimise glenoid position and sub-acromial space. Many of these patients have stiff, kyphotic thoracic spines and so expectations must be realistic.

Re-education of muscle recruitment

Spend time trying to adjust and normalise timing of muscle contractions and encouraging recruitment of compensating muscles.

Strengthening

Strengthening of the anterior portion of deltoid and the teres minor muscle are a critical element of the rehabilitation programme.

Stretching

Disuse and degenerative changes frequently lead to stiffness in the shoulder and so gentle stretches within the limits of pain should be encouraged.

Improving proprioception

Activities that encourage weight bearing through the limb are important as there is usually proprioceptive deficit.

Adaptation

Activities which improve function without increasing pain should be taught. These include activities such as using short arm levers to gain elevation and discouraging using long arm levers.

Progression of the Programme

Depending on the level of disability experienced by the patient, the programme usually start with the patient lying in supine. They are taught to flex the humerus to 90 degrees (i.e. vertical position) with the scapula stabilised. The patient always starts and ends the manoeuvre with a bent elbow (i.e. short lever). Particular attention is paid to control on the eccentric (i.e. lowering) phase. Different patients require different angles of abduction and rotation in this position in order to be able to accomplish it with the minimum of discomfort and so finding the optimum arc can be a case of trial and error.

The patients also work in supine with yellow theraband to strengthen lateral rotation.

When the patient has good control going to the vertical and back then they begin to do controlled swaying movements. The sways go through an arc of approximately 20 degrees from cephalad to caudad. When they have achieved this, then they repeat these manoeuvres using weights (about 1kg). After the patient has achieved these exercises in supine the plinth is gradually inclined until they can elevate the arm in a sitting position.

When they can tolerate the exercises with a 45 degree incline, they start wall slides. This is performed by pushing a duster up the wall and then eccentrically controlling the arm on the way down. Some patients need minimal assistance to gain elevation in sitting. There is often a point at about 70 degrees of flexion that they struggle to get through. Using assistance at this point to gain elevation, and then concentrating on overhead control (i.e. raising and lowering in an elevated position down to 90 degrees with control) is a useful technique. Some patients are able to get through this "sticking" point by using momentum - i.e. the elevation phase is done as quickly as possible.

Throughout the programme the patients work as needed to strengthen lateral rotation with yellow theraband, carry out self stretches to improve joint range and work on proprioception and posture. Manual techniques are also used to facilitate timing of co-contraction of muscle groups.

	Position	Activity
1	Supine	Shoulder flexion to 90 degrees (i.e. vertical) starting and ending the exercise with a bent elbow
2	Supine	External rotation with yellow theraband
3	Supine	20 degree sways with arm straight
4	Supine	Flexion with progressive weights
5	Incline	Activities 1 - 4 with progressive inclination of the plinth
6	Standing	Wall slides with eccentric control
7	Sitting	Elevation through flexed elbow
8	Sitting	Raising and lowering hand in elevation
9	Sitting	External rotation with yellow theraband
10	Sitting/standing	Proprioceptive activities