

Introduction

The biceps tenodesis is performed to relocate a damaged or partially torn long head of biceps (LHB) tendon, from the glenoid origin to the humerus using screws or anchors. It is often performed in conjunction with a rotator cuff repair.

The physiotherapy programme will need to be **individualised** for each patient, all exercises should be performed without pain. Some restrictions are placed on the use of the biceps for a while to avoid the relocation of the tendon from being pulled away from its fixation before it has a chance to heal. The details of specific restrictions will be in the post-operative instructions. If you have not received these please ring the consultant's secretary.

Emphasise to the patient the importance of protecting the biceps to allow soft-tissue healing in the first two phases. The milestones may be used to assess whether you feel the patient is making good progress or not.

Shoulder rehabilitation is more than strength-training of the shoulder muscles alone. The (neuromuscular) rehabilitation addresses the whole shoulder girdle, upper extremity, core stability and training of the kinetic chain.

Phase 1 (1-21 days)

Goals:

- Maintain integrity of the relocation
 - Sling at all times except while dressing/washing or doing exercises
 - Teach sling, dressing and personal hygiene techniques
- Management of pain, inflammation and muscle inhibition
 - Analgesics, NSAID's, ice, sling, passive movement and posture
- Teach shoulder girdle control/setting and relaxation
 - Retraction and depression
- Gradually increase shoulder active range of movement (AROM) **as tolerated/not into pain/do not force or stretch**
- Gradually increase elbow active range of movement (AROM) **as tolerated/not into pain/do not force or stretch**
- Hand, wrist and neck range of movement (ROM) exercises as required
- Advice on sleeping position
 - Wearing sling, if supine use a pillow beneath the elbow to prevent the shoulder resting in extension
- Prevent muscle atrophy
 - Sub-maximal, pain-free rotator cuff isometrics in neutral (<30% MVC) as tolerated
- Once stitches have been removed begin scar massage

Precautions:

- Sling usually for 3-4 weeks (check post-operative note)
- No resisted biceps or lifting of objects
- No forced biceps stretch
- No excessive stretching or sudden movements
- No supporting of body weight by hands
- Keep wounds clean and dry

Milestones at 3 weeks:

- Pain, inflammation and muscle inhibition well managed
- Return to pre-operative sleep patterns
- Good scapula setting
- AROM: shoulder and elbow 50% of pre-operative range

Phase 2 (day 22-6 weeks)

Goals:

- Allow healing of soft tissue – do not over-load healing tissue
- Continue to manage and reduce pain, inflammation and muscle inhibition
 - As phase 1

- Alternate treatment strategies as appropriate e.g. soft tissue techniques, taping
- Gradually restore full, pre-op shoulder AROM **as tolerated/not into pain/do not force or stretch**
- Gradually restore full, pre-op elbow AROM **as tolerated/not into pain/do not force or stretch**
- Introduce light elbow strengthening (monitor closely) **as tolerated/not into pain**
 - **Refer to post-op note for specific restrictions**
- Re-establish dynamic shoulder stability
 - Good SHR through AROM
- Return to driving at 4 weeks
- Gradually return to light, non-repetitive functional activities
- Gradually introduce light, early-stage sport-specific exercises

Precautions:

- No lifting of objects
- No excessive stretching or sudden movements
- No supporting of body weight by hands
- Usually wean out of the sling after 3-4 weeks (check post-operative note)

Milestones at 6 weeks:

- Pain, inflammation and muscle inhibition well managed
- Full shoulder AROM with good SHR
- Full elbow AROM

Phase 3 (7-14 weeks)**Goals:**

- Full AROM
 - Introduce multi-directional stretching into end of range **as tolerated/not into pain**
- Gradually introduce and progress shoulder strengthening **as tolerated/not into pain**
 - Introduce cuff strengthening, progressing to maximal isometrics then to isotonic strengthening
 - Introduce scapular stabilisation exercises
 - Introduce proprioceptive exercises
 - Gradually progress to shoulder and upper limb strengthening **as long as the patient is able to elevate the arm without shoulder or scapular 'hitching'**
 - Gradually progress to dynamic and rhythmic stabilisation exercises
- Gradually progress biceps strengthening (monitor closely)
- Gradually progress lower limb and core strengthening as required
- Gradually progress functional activities
- Gradually progress sport-specific exercises

Precautions:

- Avoid excessive loading of shoulder
 - No heavy lifting
 - No prolonged, repetitive upper limb activities

Milestones at 14 weeks:

- Resolved pain, inflammation and muscle inhibition
- Full pain-free elbow and shoulder AROM with good SHR throughout range with light resistance/load

Phase 4 (3-6 months)**Goals:**

- Maintain full PROM
 - Continue multi-directional stretching into end of range **as tolerated/not into pain**
 - Capsular stretches (especially posterior capsule if tight)
- Full pre-operative AROM with good SHR **as tolerated/not into pain**
- Progress shoulder strengthening **as tolerated/not into pain**

- Progress cuff strengthening and scapular stabilisation exercises
- Progress proprioceptive exercises
- Progress shoulder and upper limb strengthening ensuring good SHR
- Progress dynamic and rhythmic stabilisation exercises
- Progress biceps strengthening
- Progress lower limb and core strengthening as required
- Progress to heavier functional activities, gradually returning to strenuous work activities as required
- Progress sport-specific exercises, gradually returning to contact sports as required

Milestones at 6 months:

- Full pain-free elbow and shoulder AROM with good SHR throughout range with moderate to heavy resistance/load

Circle Bath Specialist Orthopaedic Shoulder Team

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