

## Triceps tendon rupture: repair and rehabilitation

### Postoperative rehabilitation

We have devised a postoperative rehabilitation program for patients undergoing triceps tendon repair. This comprises five different phases of rehabilitation exercises, over the course of 12 weeks, designed to gradually increase strength and range of movement, while protecting the integrity of the repair. At all times, patients are advised to perform the specified exercises as pain allows and to stop if the pain increases.

#### Phase 1 (0–2 weeks)

The patient is placed postoperatively in a post mold/long arm splint, at 45° of flexion. Patients are advised not to use the arm for any weight bearing activities (e.g. pushing open a door or pushing up from a chair).

Patients are advised wrist extension and flexion exercises using a light dumbbell and shoulder pendulum and isometric range of movement exercises. The aim of this phase is to establish a pain free range of movement and minimize the effects of immobilization.

#### Phase 2 (2–4 weeks)

Patients are converted into a range of movement brace, locked at 0° to 90°, which prevents early hyperflexion to protect the tendon repair. Patients are advised to avoid passive flexion beyond 90° when out of the brace and to avoid resisted elbow extension.

Exercises in the brace include active supination and pronation and active elbow flexion, as well as light isometric elbow flexion. Anconeus strengthening exercises are commenced, as well as theraband shoulder rotation exercises. Full active elbow extension is allowed, as well as active assisted elbow extension with the shoulders at 90° of abduction. This is then progressed to active elbow extension with the shoulders at 90° of abduction.

### Phase 3 (4–6 weeks)

The range of movement of the elbow brace is increased to 0° to 120°. Patients are advised to avoid resisted elbow extension and not to passively flex beyond 120° out of the brace.

Exercises are performed as per phase 2 and progressed to include open chain shoulder exercises (flexion and abduction) and loaded supination and pronation exercises.

### Phase 4 (6–12 weeks)

The elbow brace is removed and patients are allowed a full range of movement. They are advised to avoid heavy lifting and any activities that cause them pain. The aim of this phase is to commence strengthening and kinetic chain exercises, at the same time as being aware of reduced vascularity of the tendon repair at week 6.

Exercises include isometric elbow extension in varying angles (30°, 60°, 90° and 120°) in both open and closed chain. Supine resisted elbow flexion and extension is performed with the shoulder at 90° with a 0.5-kg weight. This is progressed to wall press ups and proprioceptive exercises using a gym ball against a wall. Gentle overhead throwing is performed, as well as bouncing a ball on the floor. Finally sport specific kinetic exercises are introduced.

### Phase 5 (12 weeks)

The aim of this phase is to gradually return the patient to sporting activity. Supine elbow exercises are performed with increasing loads, progressing to plyometrics and throwing exercises in different positions. Floor press ups are then introduced, as well as bench presses and shoulder presses. Finally, tricep dips, crawling on hands and feet and sports specific exercises are performed.

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