CQ HAND + UPPER LIMB
SPECIALIST ORTHOPAEDIC SURGEON

REHABILITATION PROTOCOL

Biceps Tenodesis — Rehabilitation Protocol

This protocol covers the rehabilitation after biceps tenodesis with Dr Kieran Hirpara at Mater Private Hospital Rockhampton — whether the operation was done arthroscopically (keyhole) or through a small open incision near the front of the armpit (open subpectoral technique). Bring this page or its PDF to your first physiotherapy visit so your rehabilitation stays coordinated. Your rehabilitation is progressed individually by your physiotherapist through the phases below, depending on how your shoulder and arm progress.

This protocol is for an *isolated* biceps tenodesis. If your operation also included a rotator cuff repair, follow the rotator cuff repair protocol instead — the repaired tendon sets a slower pace.

If you have any concerns about your wound after surgery, get in touch with the rooms. It is often helpful to take a photo of the wound and email it for review.

What to expect

In a biceps tenodesis, the long head of the biceps tendon is detached from its original anchor point inside the shoulder and fixed to the upper arm bone (humerus) instead, using an anchor or screw. That new attachment needs time to heal securely to the bone, and the early weeks of rehabilitation are organised around protecting it.

The biceps muscle does two jobs: it bends the elbow and it turns the palm upwards (supination). That is why — unusually for a shoulder operation — the early restrictions are mostly about the *elbow*: for the first weeks the elbow is moved passively (the other hand, or your physiotherapist, does the bending) so the healing tendon is not asked to pull. Lifting and carrying with the operated arm are off the menu early for the same reason. A few shoulder positions that put tension on the tendon are also limited at first: rotating the arm outwards past about 40 degrees, and taking the arm behind the line of the body.

You will wear a sling for about three to four weeks, **including while sleeping**, weaning out of it from around week three as comfort allows. **You must not drive while you are wearing the sling.**

The journey at a glance:

- **Phase I — Protecting the tenodesis** — roughly the first four weeks
- **Phase II — Active movement** — week 4–6
- **Phase III — Strengthening** — week 6–12, with resisted biceps work from week 10

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- **Phase IV – Return to full activity** – week 12 onwards

The week ranges are typical rather than fixed – your physiotherapist will progress you on how your arm is healing and moving, not on the calendar. Physiotherapy usually starts within the first week or two after surgery, and your first appointment is detailed in your discharge pack unless you have chosen to arrange your own.

Phase I – Protecting the tenodesis (Week 0–4)

The first weeks are about letting the tendon heal onto the bone while keeping everything around it moving. Your hand, wrist and fingers stay active from the start. Your elbow is moved every day, but passively – let your other hand do the bending and the palm-up/palm-down turning, so the biceps itself stays relaxed. The shoulder is moved gently within the limits below, with pendulum exercises and assisted movements. Use ice for pain relief, take your painkillers before your exercises and physiotherapy sessions, and keep the sling on, including in bed. Do not lift or carry anything with the operated arm, and do not drive while the sling is required. Light tasks with the forearm supported, such as writing or typing, are generally fine as comfort allows.

For your physiotherapist:

Goals

- Protect the tenodesis fixation while it heals to bone
- Settle pain, swelling and the inflammatory response
- Full passive elbow and forearm range of motion; comfortable passive shoulder range within the limits below
- Maintain scapular function and posture

Management

- Sling for about 3–4 weeks including at night, weaning from around week 3
- Passive range of motion of the elbow: flexion/extension and forearm supination/pronation
- Active range of motion of the wrist and hand; ball squeezes
- Shoulder passive and gentle active-assisted range of motion within limits: pendulums, flexion and scaption to about 90 degrees initially, progressing as comfort allows; external rotation to 40 degrees; internal rotation to about 45 degrees
- Scapular setting and retraction (arm supported), progressing to scapular isometrics; cervical range of motion and posture work
- Cryotherapy for pain and swelling; analgesia before exercises and sessions
- A towel roll or small pillow under the elbow when lying on the back, to avoid shoulder extension

Precautions

- No active elbow flexion and no resisted forearm supination – the biceps stays unloaded

- No active shoulder range of motion; no external rotation beyond 40 degrees; no shoulder extension or horizontal abduction past neutral
- No lifting or carrying with the operated arm
- No friction massage over the proximal biceps / tenodesis site
- No driving while the sling is required

Criteria to progress

- Wound healed and pain well controlled
- Full passive elbow flexion/extension and forearm rotation
- Comfortable passive shoulder range of motion within the prescribed limits

Phase II – Active movement (Week 4–6)

With the sling gone, the arm starts moving under its own power. The shoulder progresses from assisted movements to active movement in all directions, and the elbow now bends and turns actively – but still without load. The biceps is moving, not yet working: keep lifting to a minimum (nothing heavier than a cup of tea with that arm) and leave pushing, pulling and carrying to the other side. Light desk-based work is typically comfortable in this phase. Once you are out of the sling, you can return to driving when you can control the car comfortably and safely.

For your physiotherapist:

Goals

- Gradual restoration of full active shoulder and elbow range of motion
- Normal scapular mechanics with movement
- Begin submaximal shoulder isometrics
- Light waist-level functional use of the arm

Management

- Shoulder active-assisted progressing to active range of motion in all planes (for example lawn-chair progression, wall and rail slides, supine flexion to standing scaption)
- Active elbow flexion/extension and forearm supination/pronation, unresisted
- Submaximal shoulder isometrics: internal rotation, external rotation, abduction, adduction
- Continue scapular stabilisation and posture work
- Scar massage as the wound matures – no cross-friction over the tenodesis site
- Posterior capsule stretching (cross-body, sleeper stretch) as indicated
- Walking or stationary bike for fitness – no weight bearing through the affected arm

Precautions

- No resisted biceps work — no loading of the elbow flexors or supinators
- No lifting with the operated arm; no running yet
- Avoid overstressing the healing tendon with aggressive stretching or manual therapy

Criteria to progress

- Full, pain-free active range of motion of the shoulder, elbow and forearm
- Proper scapular mechanics with movement and light function
- Pain well controlled

Phase III — Strengthening (Week 6–12)

Strengthening starts gently and works from the shoulder blade outwards: rotator cuff and scapular muscles first, with elastic bands and light weights at low load and high repetitions. Resisted biceps work — curls and resisted palm-up rotation — waits until **week 10**, then starts light and progresses slowly. Published protocols introduce it anywhere between week 6 and week 10; this protocol follows the more protective end of that range to give the tenodesis fixation the longest run before it is loaded. Normal daily activities should be largely back to usual through this phase, and from around week 8 you can typically return to running, cycling and golf, as guided by your physiotherapist.

For your physiotherapist:

Goals

- Normalise strength, endurance and neuromuscular control
- Restore function from waist level through chest level towards overhead

Management

- Maintain full shoulder and elbow range of motion throughout
- Isotonic rotator cuff strengthening: internal and external rotation with light resistance, from neutral progressing towards 90 degrees of abduction
- Scapular program: prone series progressing through the phase; resisted serratus punch, low row, push-up plus progression (wall, counter, knees, floor)
- Resisted biceps curls, supination and pronation from week 10 — short lever first, low load, high repetitions, progressed cautiously
- Rhythmic stabilisation and diagonal (D1/D2) patterns; closed-chain stabilisation work
- Return to running, cycling and golf from around week 8, with proper mechanics

Precautions

- Avoid long-lever resisted elbow flexion and supination early in the phase
- No heavy lifting or carrying until strength has recovered
- No swimming or throwing in this phase
- Strengthening waits until range of motion is close to full, and stays pain-free

Criteria to progress

- Full, pain-free active range of motion with normal scapulohumeral rhythm
- 5/5 rotator cuff strength at 90 degrees of abduction in the scapular plane, and 5/5 scapulothoracic strength
- Strengthening tolerated without flare-up of symptoms

Phase IV – Return to full activity (Week 12 onwards)

The final phase is a graduated return to heavier work, overhead activity and sport. Most people are cleared for the gym, manual work and recreational sport between three and four months, building loads progressively; overhead and contact athletes – throwing, swimming, racquet sports – are staged back over a longer run, often four to five months or more. The biceps keeps gaining strength and confidence for months after that, so progress in this phase is judged on what the arm can do, not the date.

For your physiotherapist:

Goals

- Full strength and power without compensatory movement patterns
- Stability and control with higher-velocity and sport-specific movements
- Return to normal sport and work activities

Management

- Multi-joint and compound strengthening, progressing load steadily
- Plyometric training starting below shoulder height with both arms, progressing to single-arm and overhead
- Interval return-to-sport programs for throwing, swimming or racquet sports as relevant
- Address core and hip strength and control so the shoulder is not compensating

Precautions

- Progress exercises that stress the anterior shoulder (for example bench press, upright row) slowly
- Return to sport follows clearance, with roughly 90% strength compared with the other arm and pain-free control of high-velocity, sport-specific movements

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After your protocol

The phases above are adapted from published rehabilitation protocols for isolated biceps tenodesis — Massachusetts General Brigham Sports Medicine, the University of Virginia Department of Orthopaedic Surgery, The Ohio State University Wexner Medical Center and UW Health (University of Wisconsin). The week ranges are typical rather than fixed, and your ongoing rehabilitation is guided individually by your physiotherapist, working with the practice, based on how your arm recovers. This page works alongside the practice's general recovery advice — see managing post-operative pain and wound care. For the operation itself, see biceps tenodesis.

REFERENCES

1. Massachusetts General Brigham Sports Medicine. Rehabilitation Guidelines for Biceps Tenodesis.
2. UVA Sports Medicine, Department of Orthopaedic Surgery, University of Virginia. Biceps Tenodesis Post-operative Rehabilitation Protocol.
3. The Ohio State University Wexner Medical Center Sports Medicine. Biceps Tenodesis Clinical Practice Guideline.
4. UW Health Sports Medicine, University of Wisconsin. Rehabilitation Guidelines for Biceps Tenodesis.

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