

Shoulder Replacement for Fracture – Rehabilitation Protocol

This protocol guides your recovery after a shoulder replacement performed for a broken shoulder (a proximal humerus fracture) with Dr Kieran Hirpara at Mater Private Hospital Rockhampton. Depending on the fracture, the replacement may be a reverse shoulder replacement or a hemiarthroplasty (replacing the ball of the joint only) – the rehabilitation journey has the same shape for both, because what sets the pace is the healing of the bone fragments, not the type of implant. Each phase below opens with a plain-English explanation of what is happening and what matters most, followed by the structured protocol written **for your physiotherapist** – bring this page or its PDF to your first physiotherapy visit so your rehabilitation stays coordinated. Your physiotherapist may adjust the plan depending on how your recovery progresses.

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.

Why recovery is slower after a fracture

When a shoulder is replaced electively for arthritis or a worn rotator cuff, the bone around the new joint is intact, and rehabilitation can move at the pace of soft-tissue healing. After a fracture it is different. The two bony knobs at the top of the arm bone – the greater and lesser tuberosities, where the rotator cuff muscles attach – have usually broken free, and during your operation they are stitched back into position around the new prosthesis. Those fragments must now heal onto the bone and the implant, just like any other fracture, and that typically takes a number of weeks to months.

Published rehabilitation protocols for shoulder replacement performed for fracture are consistent on this point: how well the shoulder works afterwards depends heavily on whether the tuberosities heal in position, and early or forceful movement – even passive movement – can pull on the repair and put that healing at risk. The protocol therefore follows the same path as the elective [reverse shoulder replacement protocol](#) – after a fracture, the same journey runs more slowly because the bone fragments must heal first. Each step up in your rehabilitation is gated on two things together: enough time passing, and X-rays showing that the bone is healing, as confirmed at your review with Dr Hirpara.

What to expect

You will have a numb arm when you wake up, and the feeling should start to return after about 24 hours. There may be some numbness or weakness for up to a week.

When you wake up from your operation, you will be in a sling, with a big pad over your shoulder. This pad will be removed before discharge. Underneath will be a waterproof dressing covering a surgical glue strip, which can be left alone for 2 weeks. Your stitches are dissolvable and do not need removing, but there may be some tails of stitch at each end of the wound that can be cut flush with the skin after 2 weeks. You will be booked to see our nurse for a wound check 1–2 weeks after your surgery. If you are unable to attend the dressing check, you can remove your dressing yourself after 2 weeks.

Approximate timeframes for return to activities – slower than after an elective replacement, and always subject to how your bone is healing:

- **Driving** – not while you are wearing the sling. Most people return somewhere between 6 and 12 weeks, once movement and control are back; discuss this at your review.
- **Swimming** – breaststroke from about 4 months; freestyle later, as guided at your review.
- **Lifting** – nothing heavier than a cup of coffee until about 12 weeks; light lifting builds gradually from 12 weeks; avoid lifting heavy items for 6 months.
- **Work** – sedentary job: from about 6 weeks, as comfort allows; manual job: guided by Dr Hirpara.

It is also worth setting expectations early: after a replacement for fracture, the shoulder typically does not regain the full range of an uninjured shoulder. Published results describe comfortable, pain-controlled use of the arm at waist and shoulder height – and often overhead – as the usual outcome, with movement and strength continuing to improve for 12–24 months after surgery.

Wearing your sling

Your sling (shoulder immobiliser) supports your shoulder while the bone fragments heal. The rules are simple:

- Wear it for **6 weeks**, including while sleeping.
- Take it off only for showers and for your exercises, once you have been shown how – and whenever the sling is off, keep your arm by your side.
- Resting at home, it can come off if you are sensible about it: arm supported on a pillow while sitting.
- Do not drive while you are wearing a sling.
- Use ice if the shoulder is swollen or sore, especially after exercise.

Your physiotherapist will help you put the sling on at first, and will teach you to manage it independently before you go home. Fitting it correctly matters – a loose sling does not support you properly:

1. Always ensure that when fitting the sling, your elbow is positioned in the corner of the sling and well supported.

2. The end of a well-fitted sling should rest comfortably at the knuckle of your little finger. If your hand extends too far out of the sling, it will not provide you with adequate support.
3. Your sling has two Velcro straps – one which attaches around your neck and one around your waist.
4. Once you have positioned your elbow and forearm correctly, use your non-operated arm to swing the upper strap around your neck to the front and attach it through the upper loop on the sling.
5. Use the same method to attach the lower strap around your waist, securing through the lower loop on the sling.

During your time in the sling, be conscious of your posture at all times and avoid allowing your shoulders to adopt a slumped position. To achieve a good postural position, try to keep your ears, shoulders and hips in line – maintaining good posture is important for your back and will help prevent stiffness in your shoulder joint. A rolled-up towel placed in the small of your back when sitting can serve as a friendly reminder.

Your first days in hospital

Before you go home, the hospital physiotherapists will start you on a simple program. It helps to understand three terms they will use. *Active* range of motion means movement you do yourself, without aid or help. *Active-assisted* range of motion means using your other arm (or an object, such as a cane) to help move the arm. *Passive* range of motion means the arm stays completely relaxed while your other arm – or someone else – does 100% of the work. After a replacement for fracture, the operated shoulder is moved only passively, and only within gentle limits, for the first six weeks; the joints you move actively are your elbow, wrist and hand.

A few practical points for these first days:

- You need to sleep in the sling.
- Use ice for pain relief if needed.
- When wearing your sling, relax your shoulder and let the sling take the weight of your arm.
- Take your painkillers before you do your exercises, and before your physiotherapy appointments.
- You are allowed to take your arm out of the sling for your exercises and showering.
- You need to wear your sling for 6 weeks, especially when out of the house.
- Keep your hand on the operated side gently busy – writing, eating and using a phone while the arm rests in the sling are all encouraged.
- Unless you have chosen to arrange your own physiotherapy, an appointment has been made for you and is detailed in your discharge pack.
- If you have any problems, contact the office or let your physiotherapist know.

Phase I – Protection while the bone heals (Weeks 0–6)

The first six weeks are about one thing: letting the tuberosity fragments heal onto the bone and the prosthesis, undisturbed. You stay in the sling day and night, keep your elbow, wrist and hand moving, and let the shoulder itself be moved only passively – gently, by your physiotherapist or with the arm completely relaxed – within the limits below. The rules that matter most: do not move the shoulder actively, do not rotate the arm outwards past the limits, do not reach behind your back, do not lift anything, and do not push up through your hands. If you have a reverse replacement, these rules also protect the new joint against dislocation while the soft tissues heal. When lying on your back, keep a small pillow or rolled towel under your elbow so the shoulder does not stretch backwards.

For your physiotherapist:

Goals

- Protect the tuberosity repair and prosthesis
- Reduce swelling, minimise pain
- Maintain active range of motion (ROM) in the elbow, wrist and hand
- Gentle protective shoulder passive range of motion (PROM) within the safe zone
- Maintain scapular and postural awareness
- Patient education

Sling

- 6 weeks, including while sleeping
- Removed only for washing and exercises; arm stays by the side when out of the sling

Management

- Swelling management: ice, compression
- Range of motion / mobility:
 - PROM only, within the safe zone: elevation in the scapular plane ≤ 90 degrees; external rotation (ER) to neutral (0 degrees) for the first 4 weeks, then ≤ 30 degrees; no internal rotation (IR) behind the back
 - Pendulums, performed fully relaxed as a passive exercise
 - Active-assisted range of motion (AAROM): none for the shoulder
 - Active range of motion (AROM): elbow, wrist, hand and fingers; cervical spine
- Scapular setting, shoulder shrugs and postural correction
- Encourage light use of the hand while in the sling (writing, eating, phone)
- Analgesia before exercises and physiotherapy sessions

Precautions

- No shoulder AROM or AAROM
- No passive or active ER past the limits above – the greater tuberosity repair is loaded by external rotation
- No resisted internal rotation – the lesser tuberosity (subscapularis) repair is loaded by internal rotation
- No reaching behind the back; no combined adduction, internal rotation and extension (reverse replacement dislocation position)
- No lifting of objects; no supporting of body weight through the hands (for example pushing up from a chair or bed)
- Place a small pillow or towel roll under the elbow while lying on the back, so the shoulder does not fall into extension
- Do not force any movement into pain

Criteria to progress

- 6 weeks have passed AND X-rays show the tuberosities healing in position, as confirmed at your review with Dr Hirpara
- Pain controlled with oral analgesia
- No wound concerns and no signs of instability

Phase II – Restoring movement (Weeks 6–12)

At your six-week review, X-rays check that the bone fragments are healing in position. If they are, the sling comes off and the shoulder begins to move for itself – assisted at first, using your other arm, a cane or a pulley, then actively. Passive range progresses towards full over these weeks, and the rotation limits ease. The first gentle muscle-activation work starts for the deltoid and the shoulder-blade (periscapular) muscles. What does not start yet is strengthening: the repair is still consolidating, so the lifting rule stays at nothing heavier than a cup of coffee, and there is still no pushing up through the hands.

For your physiotherapist:

Goals

- Wean from the sling following the six-week review
- Progress shoulder PROM towards full range as comfort allows
- Initiate shoulder AAROM, progressing to AROM
- Initiate gentle deltoid and periscapular activation
- Restore use of the arm for light activities of daily living at waist and chest height
- Patient education

Sling

- Discontinue after the six-week review; may be worn out of the house for protection in crowds during the first week or two of weaning

Management

- Continue Phase I interventions as needed
- Range of motion / mobility:
 - PROM: progress towards full range in all planes by about weeks 8–10, respecting pain
 - AAROM: table slides, wall climbs, pulleys, cane-assisted flexion and external rotation, supine progressing to sitting
 - AROM: begin once AAROM is comfortable and movement quality is good – supine flexion progressing to upright flexion and scaption
 - ER: progress beyond 30 degrees as comfort allows once healing is confirmed
 - Gentle functional hand-behind-back and extension introduced late in this phase, as cleared – do not stretch into these positions
- Strengthening:
 - Pain-free sub-maximal isometrics only: deltoid in the scapular plane, periscapular setting, low row, scapular retraction
 - Gentle pain-free rotator cuff isometrics late in this phase; introduce resisted internal rotation only once cleared at review
- Motor control: emphasise scapular control and avoid hitching or other compensatory patterns

Precautions

- No lifting of objects heavier than a cup of coffee
- No supporting of body weight through the hands
- No resistance or strengthening work beyond gentle isometrics
- Avoid forcing range – stretch to firm discomfort only, never sharp pain

Criteria to progress

- Comfortable active movement below shoulder height with good scapular control and minimal compensation
- Continued healing of the tuberosities on X-ray, as confirmed at your review with Dr Hirpara
- Pain settled enough to begin resistance work

Phase III – Strengthening (Weeks 12–24)

By about twelve weeks the tuberosities are usually well on the way to union, and your review with Dr Hirpara confirms whether the shoulder is ready to be loaded. Strengthening then begins – gently, starting with elastic bands and light weights, and concentrating on the deltoid and shoulder-blade muscles that drive the shoulder (after a reverse replacement, the deltoid does much of the work the rotator cuff used to do). The rotator cuff itself is strengthened as the healed tuberosities allow. Light lifting builds gradually through this phase, daily activities should feel close to normal at waist and shoulder height, and driving is usually back during this phase if it has not resumed already.

For your physiotherapist:

Goals

- Maintain pain-free PROM and progress AROM in all planes
- Graduated restoration of strength and endurance: deltoid, periscapular muscles, then rotator cuff
- Improve dynamic stability, motor control and proprioception
- Return to most daily activities, including light lifting

Management

- Continue range-of-motion and mobility work in all planes
- Strengthening, progressing from isometrics to elastic bands and then light weights – low load, higher repetitions:
 - Periscapular: rows, serratus punches, scapular retraction with resistance
 - Deltoid: resisted flexion and scaption in functional positions, with controlled eccentric lowering
 - Rotator cuff: ER and IR with elastic resistance, side-lying ER, progressing as the healed tuberosities allow
- Motor control: rhythmic stabilisation, proprioceptive neuromuscular facilitation (PNF) diagonal patterns, ball stabilisation work
- Graduated lifting: from about 2 kg early in the phase towards about 5 kg by the end, as control allows
- Gradual reintroduction of weight bearing through the arm (for example pushing up from a chair) during this phase, as cleared

Precautions

- No heavy lifting – keep loads under about 5 kg during this phase
- Avoid forceful end-range stretching, and avoid loaded combined abduction and external rotation
- Progression remains symptom-guided – if pain or swelling flares, step back a level

Criteria to progress

- Tuberosity union confirmed at review with Dr Hirpara

- Pain-free activities of daily living, with strengthening tolerated without flare-up
- Good movement quality through available range

Phase IV – Return to full activity (6 months onwards)

The final phase is a graduated return to heavier tasks, manual work and recreation, guided by your strength and control rather than the calendar. Heavier household and garden tasks come back progressively; manual work is guided by Dr Hirpara; swimming and golf typically resume around the four- to six-month mark. Very heavy lifting is best avoided long term after a shoulder replacement – published protocols suggest keeping regular lifting under about 10 kg. The shoulder keeps improving well beyond this phase: most people continue to gain movement, strength and confidence for 12–24 months after surgery, so it is worth keeping up your home exercise program well after formal physiotherapy finishes.

For your physiotherapist:

Goals

- Optimise functional strength and endurance for the patient’s daily demands
- Graduated return to work, recreation and sport
- Long-term joint-protection education and an independent home exercise program

Management

- Continue progressive resistance work at light weight and higher repetitions, emphasising rotator cuff and periscapular strengthening
- Neuromuscular and proprioceptive training; functional and work-specific tasks as needed
- Stage the return to swimming, golf and other recreation around the four- to six-month mark, as cleared at review
- Customised home exercise program to continue once formal physiotherapy is completed

Precautions

- Avoid heavy lifting for 6 months from surgery; keep regular lifting under about 10 kg long term
- Manual work and contact or load-bearing sport only as cleared by Dr Hirpara

Criteria to complete the protocol

- Clearance at review with Dr Hirpara, with tuberosity union confirmed
- Pain-controlled, functional range of motion that meets the patient’s daily demands
- Independent with the long-term home exercise program

After your protocol

The phases above are adapted from published rehabilitation protocols for shoulder replacement performed for proximal humerus fracture – Texas Health Orthopedic Specialists, North Tees and Hartlepool NHS Foundation Trust (hemiarthroplasty for trauma and reverse shoulder arthroplasty) and the Robert Jones and Agnes Hunt Orthopaedic Hospital – with the emphasis on tuberosity healing drawn from the surgical literature. The week ranges are typical rather than fixed, and your rehabilitation is progressed individually by your physiotherapist, working with the practice, gated on your reviews with Dr Hirpara. This page works alongside the practice’s general recovery advice – see [managing post-operative pain](#) and [wound care](#). For the operation itself, see [shoulder replacement for fracture](#); for the elective version of this journey, see the [reverse shoulder replacement protocol](#).

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