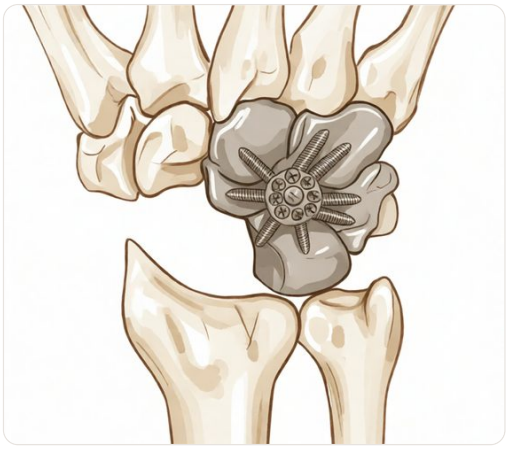
CQ HAND + UPPER LIMB
SPECIALIST ORTHOPAEDIC SURGEON

REHABILITATION PROTOCOL

Partial Wrist Fusion



In a partial wrist fusion the worn scaphoid is removed and the capitate is fused to the lunate (a capitolunate fusion); the joint between the lunate and the radius is deliberately preserved, so the wrist keeps a useful, if reduced, range of movement.

This protocol guides your recovery after a **partial wrist fusion** – an operation that removes the worn-out scaphoid bone and fuses the small bones in the middle of the wrist (most often the **capitate to the lunate**, a *capitolunate fusion*) – with Dr Kieran Hirpara at Mater Private Hospital Rockhampton. It begins with your home exercise program, followed by the structured clinical protocol written **for your hand therapist** – bring this page or its PDF to your first therapy visit so your rehabilitation stays coordinated. Your hand therapist 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.

What to expect

A partial wrist fusion treats a wrist that has worn out (arthritis) along the path that follows an old scaphoid problem – either a **scapholunate ligament injury (a "SLAC" wrist)** or an old **scaphoid fracture that never healed (a "SNAC" wrist)**. The damaged scaphoid is removed, and the bones of the mid-wrist are fused together so they no longer rub. Dr Hirpara most often fuses the **capitate to the lunate** (a capitolunate fusion), sometimes including the neighbouring bones – when the lunate, capitate, triquetrum and hamate are all fused this is called a **four-corner fusion**, and it follows the same recovery principles.

The key idea behind this operation is that **only part of the wrist is fused, not all of it.** The joint between the lunate and the forearm bone (the radius) is **deliberately left alone**. That preserved joint is what allows the wrist to keep moving:

- **Fusing the worn surfaces takes the pain away** – that is the main goal, and it is reliably achieved.
- **Keeping the radius–lunate joint means you keep useful movement.** The trade-off is that the movement is **reduced**: most people end up with roughly **half to two-thirds** of their former bending range, and grip strength of about **three-quarters** of the other side. This is a normal, expected result – not a complication – and for a painful, worn wrist it is usually a very worthwhile exchange.

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The fused bones need time to knit solidly together, just like a fracture. For about the **first six to eight weeks** the wrist is held still in a cast or splint while this happens. During that time the fingers, thumb and forearm are kept moving freely, but the wrist itself is rested. Once the surgeon confirms on X-ray that the bones have **united**, wrist movement and then strengthening are opened up in careful stages. Setting your expectations early — a comfortable, useful wrist rather than a fully mobile one — is an important part of the recovery.

Precautions and limitations

- Keep your wrist **still in its cast or splint** until your surgeon confirms the fusion has healed (usually about six to eight weeks) — the bones must knit before the wrist is moved.
- Keep your **fingers, thumb and forearm moving** from day one, but do **NOT** move the wrist itself until cleared.
- Do **NOT** grip hard, lift, push, pull or bear weight through the wrist until the fusion is confirmed solid — this protects the healing bone and any plate, screws or staples.
- Expect a **reduced final range of movement** — this is the planned result of fusing part of the wrist, not a sign anything has gone wrong.
- Keep the cast or dressing **clean and dry**, and do **NOT** drive while you are in a cast or cannot safely control the wheel.

For wound, swelling and scar management, see the practice's wound care guidance.

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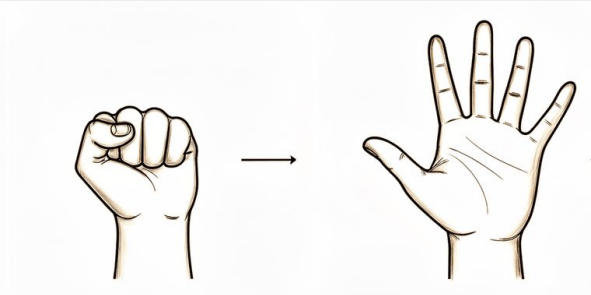
Your exercises



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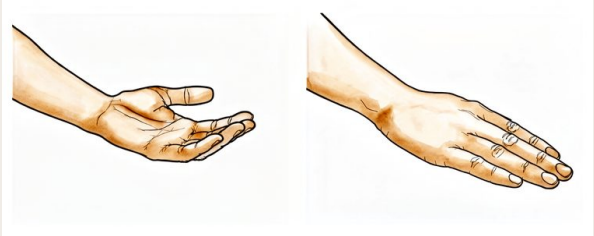
Finger and thumb movement

From the day of surgery, keep your fingers and thumb moving while the wrist itself rests in the cast or splint. Fully straighten all your fingers, then make a complete fist, then touch your thumb to the tip of each finger in turn. This stops the hand stiffening and keeps the tendons gliding while the wrist bones knit together. Do not move the wrist itself.

10 times each, several times a day, every day from the start



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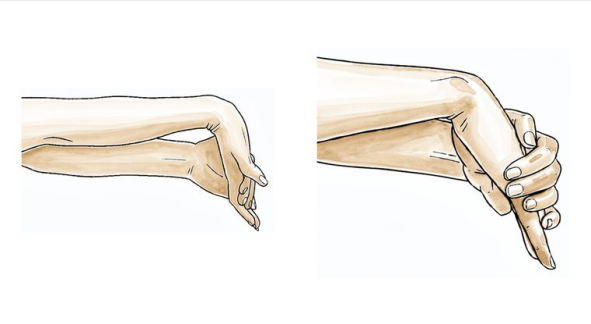
Forearm rotation (palm up / palm down)

With your elbow tucked in at your side and bent to a right angle, gently turn your palm up to face the ceiling, then down to face the floor. Keep the movement coming from the forearm, not the wrist. This keeps the forearm supple and does not disturb the healing fusion, so it can begin straight away.

10 times each direction, 2–3 times a day



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Wrist movement (after union)

A LATER exercise — only once the fusion has healed and your surgeon and hand therapist have cleared wrist movement (usually after about six to eight weeks). Gently bend the wrist up (back) and down (forwards), then tilt it towards the thumb and towards the little finger, moving only as far as is comfortable. Remember the fused part of the wrist will not move — you are restoring the movement that comes from the preserved joint, so the final range will be smaller than before, and that is expected.

10 times in each direction, 2–3 times a day, within comfort (after union)

Scar care

Once the wound is fully healed and dry, massage the scar with a little non-perfumed moisturiser, using small firm circles with the opposite thumb for a couple of minutes. This softens the scar and reduces sensitivity. Do not start until the wound has sealed and your therapist is happy.

2–3 minutes, twice a day, once the wound is healed

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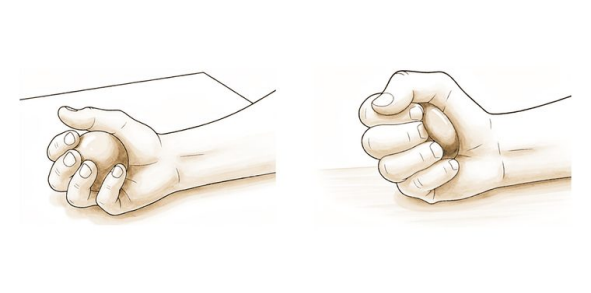

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Grip strengthening

A LATER exercise — begun only once the fusion is solid and strengthening has been cleared (usually from around eight to twelve weeks). Squeeze a soft ball or therapy putty in the palm, hold briefly, then release. Build the effort up gradually over several weeks. Heavy gripping, lifting and weight-bearing through the wrist are held back until your surgeon confirms the bones are fully united.

10–15 squeezes, 2–3 times a day, building gradually (later phase)

These are the exercises from your handout. Start them only as guided by Dr Hirpara and your hand therapist, staying within whatever range and limits you have been given. The early exercises keep the **fingers, thumb and forearm** moving **without disturbing the healing fusion** — the wrist itself stays still in its cast or splint. **Wrist movement and grip strengthening belong to later phases** and should not be started until your surgeon has confirmed the bones have united. Stop anything that causes sharp pain over the wrist.

Your clinical protocol

The rest of this page is the staged clinical protocol for rehabilitation after a partial wrist fusion (capitolunate ± scaphoid excision; the same principles apply to four-corner fusion). This section is to be provided to your hand therapist, and each phase opens with a plain-English explanation of what is happening. Unlike a tendon repair, the construct here is **bony** — progression is **gated by radiographic union of the fusion**, not by a fixed calendar. Until the surgeon confirms union, the wrist is immobilised and only the fingers, thumb and forearm are mobilised; thereafter wrist range and then load are restored, with a realistic ceiling of roughly 50–65% of contralateral flexion–extension and ~70–80% grip.

Prior to treatment, check the patient's operation report and confirm the fixation used (circular/dorsal plate, headless compression screws, staples or K-wires) and whether the scaphoid was excised. Do NOT initiate wrist motion until the treating surgeon confirms radiographic union — typically 6–8 weeks, sometimes longer with screw or staple fixation. Counsel the patient from the first visit that the goal is a pain-free, functional wrist with a deliberately reduced arc, not full mobility.

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PHASE I — PROTECTED IMMOBILISATION UNTIL UNION (WEEKS 0 TO ~6–8)

The fusion is healing like a fracture, so the wrist is held still while the bones knit. The hand and forearm are kept fully mobile to prevent stiffness and tendon adhesion, but the wrist is not moved.

For your hand therapist:

Education and precautions - Wrist **immobilised** in a cast or splint until the surgeon confirms radiographic union (typically 6–8 weeks) - **No active or passive wrist motion** during this phase - **No gripping, lifting, pushing, pulling or weight-bearing** through the operated wrist - Set the expectation early: final motion will be **reduced** (the radiolunate joint is preserved; the midcarpal joint is fused)

Management - Wound: surgical dressings as directed; bulky dressing/splint for ~10–14 days, then short-arm cast or thermoplastic splint; monitor for infection - Oedema: elevation above heart level, gentle hand pumping, ice as needed - Exercises: **full active finger, thumb and MCP/IP ROM**; **forearm pronation/supination**; gentle shoulder and elbow ROM; **no wrist motion**

Criteria to progress - **Radiographic union confirmed by the surgeon** (do not progress on calendar alone); wound healed; swelling controlled

PHASE II — RESTORING WRIST MOTION (FROM UNION, ~WEEKS 6–8 TO 12)

Once the surgeon confirms the fusion is solid, the wrist comes out of the cast and **gentle wrist movement begins**. Progress is gradual; the patient is reminded that the fused portion will not move and the achievable arc is smaller than before.

For your hand therapist:

Assessments - Wrist active and passive ROM (flexion/extension, radial/ulnar deviation), forearm rotation, grip baseline, pain and swelling, wound/scar review

Education and precautions - Begin **active and active-assisted wrist ROM** within comfort; transition to a removable wrist splint for comfort/protection between sessions - **Continue to avoid heavy gripping, loaded lifting and weight-bearing** through the wrist until cleared for strengthening - Reinforce the **reduced-motion expectation** (target ~50–65% of the contralateral flexion–extension arc)

Management - Exercises: active/active-assisted wrist flexion, extension, radial and ulnar deviation; commence **scar massage and desensitisation** once the wound is fully healed; continue full finger/thumb ROM and forearm rotation; oedema management as needed

Criteria to progress - Comfortable, controlled wrist arc within the expected reduced range; pain settling; **surgeon's clearance for strengthening**

PHASE III — STRENGTHENING AND RETURN TO FUNCTION (FROM ~12 WEEKS)

With the fusion solid and motion restored to its useful ceiling, **strengthening and graded loading** begin and are built up over weeks. Return to manual work and sport is criterion-based.

For your hand therapist:

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Assessments - Grip and pinch strength versus the other side; pain/swelling response to loading; task- and job-specific functional testing

Education and precautions - Begin **progressive grip and wrist strengthening** (putty, ball, then graded resistance) once cleared - Introduce **loaded and weight-bearing tasks gradually**; build up over several weeks rather than all at once - Expected end-point: grip recovering toward **~70–80%** of the other side and a **useful, pain-free, reduced arc**

Management - Exercises: progressive gripping and forearm/wrist strengthening; graded functional and work simulation; ongoing scar management and ROM maintenance - Watch for and refer back to the surgeon if there is persistent dorsal wrist pain on extension (possible **dorsal impingement**), suspected **nonunion**, or a recovery plateau - Consider discharge once strength and function are adequate for the patient's daily and occupational needs

Criteria for return to load / work - Solid united fusion, pain-free within the restored arc, grip adequate for task; heavy manual demands deferred until ~4–6 months and graded up

Getting back to work and activity

Light everyday hand use — eating, writing, light self-care — is encouraged from the start, within comfort, as long as it does not load or twist the wrist. Because you must not drive while your wrist is in a cast or unable to safely control the wheel, plan for help with transport in the early weeks; driving resumes once you are out of the cast and can confidently control the car, as confirmed at your review.

Gripping, lifting and weight-bearing through the wrist wait until the fusion is confirmed **solid** (usually after about six to eight weeks) and are then built up gradually. People with **desk-based or light work** often return at around **three months**; **heavier manual work** is usually closer to **four to six months** and is reintroduced in stages. Throughout, remember that the planned result is a **comfortable, useful wrist with a reduced range of movement** — judged by how the wrist feels and functions, with Dr Hirpara and your hand therapist guiding the pace, not the calendar alone.

After your protocol

This protocol works alongside the practice's general recovery advice — see managing post-operative pain, wound care and scar management. The phased plan above reflects published rehabilitation guidance after partial wrist fusion, and your ongoing recovery is guided individually by Dr Hirpara and your hand therapist according to how your wrist heals and progresses.

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