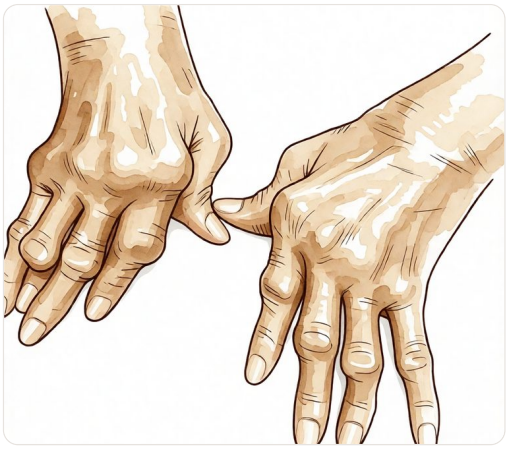
CQ HAND + UPPER LIMB
SPECIALIST ORTHOPAEDIC SURGEON

REHABILITATION PROTOCOL

MCP Joint Replacement



Worn, deformed knuckle (MCP) joints are replaced with flexible spacers to restore a more natural line and useful movement.

Kieran Hirpara 4.0

This protocol guides your recovery after **silicone (Swanson) replacement of the knuckle joints** – the metacarpophalangeal or "MCP" joints – 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.

This is a **hand-therapy-intensive, splint-driven** recovery. The dynamic splint and your daily exercises are not an optional extra – they are how the new joints are shaped into a corrected, straight position. Your result depends heavily on doing the splinting and movement faithfully.

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

The knuckle joints can become worn, painful and badly deformed – most often in **rheumatoid arthritis**, where the fingers drift towards the little-finger side (**ulnar drift**) and the bases of the fingers slip down towards the palm (**volar subluxation**); they can also wear out from **osteoarthritis**. In this operation the worn knuckle joint is removed and replaced with a **flexible silicone spacer** (the classic Swanson implant). The aims are to **relieve pain, correct the drift and the droopy knuckles (extensor lag), and restore a useful arc of bending**.

The implant is not a rigid hinge. It works as a flexible spacer while a new lining (a "capsule") forms around it over the first weeks – and the whole point of the rehabilitation is to make that capsule form with your fingers held **straight and corrected**, not drifted. That is why the splint and the early movement matter so much.

CQ HAND + UPPER LIMB
Dr Kieran Hirpara – Specialist Orthopaedic Surgeon
Suite 2, Level 1, Mater Private Hospital Rockhampton, 31 Ward Street, The Range, QLD 4700
Phone 07 4863 6556 · office@cqupperlimb.com.au · cqupperlimb.com.au

The recovery is therefore built around a **dynamic extension outrigger splint**, usually fitted within the first few days:

- At rest, the splint **holds your knuckles straight and pulled gently towards the thumb side (radial deviation)** – directly opposing the old ulnar drift.
- Within the splint you do **early controlled active bending** of the knuckles against soft elastic loops, which spring the fingers back out straight. Moving early – but only in this protected, corrected position – shapes the new capsule correctly and keeps the joints from stiffening.

You wear the dynamic splint almost continuously for **about six weeks**, then wean to a **resting / night splint**, with graded strengthening added later. Light hand function returns over the first weeks; **most people are back to most everyday activities by around three months**, with the final result continuing to settle over several more months.

Precautions and limitations

- **Wear your dynamic extension splint as directed** – day and night for about the first six weeks. It holds the correction; taking it off too much lets the drift come back.
- Do **NOT** let your fingers drift back towards the little-finger side. Every exercise guides them the *other* way, towards the thumb.
- Do **NOT** do any strong gripping, pinching or heavy lifting early – hard grip pushes the fingers into ulnar drift and stresses the new joints before they are stable. Strengthening waits until your hand therapist clears it.
- Keep your **thumb, wrist and the tips of your fingers moving** from the start, and use the hand for **light** everyday tasks within comfort.
- Watch the wound for signs of infection (increasing redness, heat, swelling or discharge) and contact the rooms if you are concerned – infection around an implant is uncommon but important to catch early.

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

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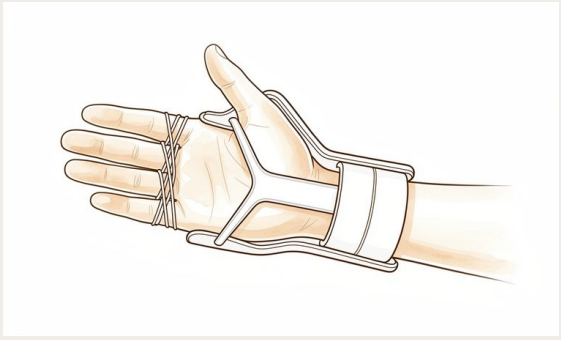
Your exercises



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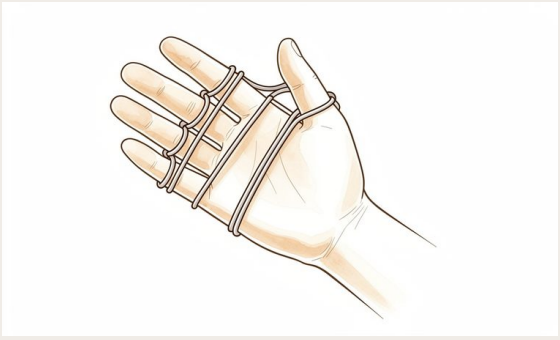
Wearing your dynamic splint

Your dynamic extension splint does the protecting for you: at rest it holds your knuckles straight and pulled gently towards the thumb side (radial), correcting the old drift. Wear it as directed — day and night for about the first six weeks — taking it off only for washing and for the exercises your hand therapist allows out of the splint. The loops on your fingers should sit comfortably; tell your therapist if anything rubs or pinches.

Worn continuously for ~6 weeks, then nights/rest as guided



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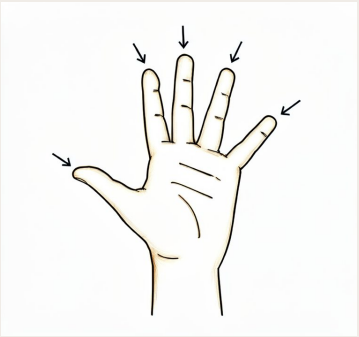
Controlled knuckle bending in the splint

While wearing the splint, gently bend your fingers down at the knuckles, pulling against the elastic loops, then relax and let the splint spring them back out straight. This early controlled movement is what shapes the healing capsule around the new joints in a good position. Move smoothly and stop short of pain — you are guiding the joint, not forcing it.

10 bends each hour you are awake, within the splint, as guided



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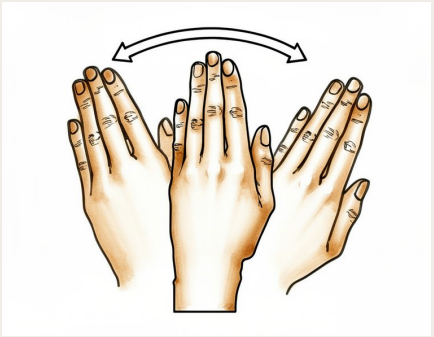
Active straightening (lifting the knuckles)

Work on fully straightening your knuckles under your own power — lift the fingers up level. After surgery the knuckles can tend to droop (an extensor lag), so actively lifting them keeps the straightening tendons gliding and helps hold the correction. Your therapist will start this within the splint, then progress it out of the splint.

10 lifts, several times a day, as guided



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Finger walking towards the thumb (radial)

Gently guide your fingers across towards your thumb (the radial direction) — the opposite way to the old drift. You can help with your other hand or walk the fingertips along a tabletop towards the thumb. This re-trains the fingers to line up straight and is the key correction this whole protocol is built around. Never let them drift back the other way.

10 times, several times a day, as guided

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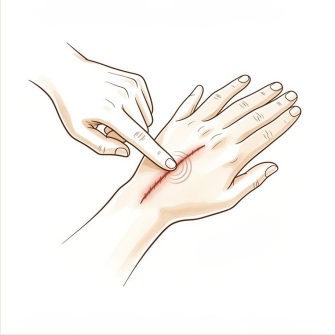

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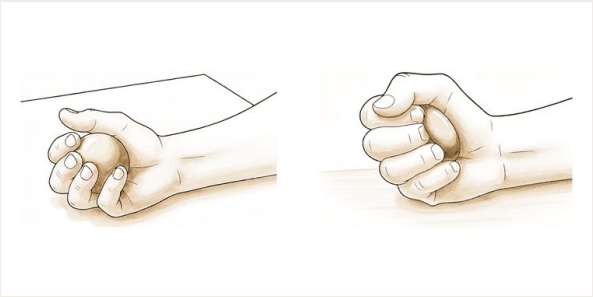
Scar care

Once your wounds are fully healed and your therapist says it is safe, massage the scars over the back of your hand with a little plain cream, using small firm circles for a few minutes. This keeps the scars soft and stops the skin sticking down over the tendons, so the knuckles move more freely.

A few minutes, 2-3 times a day, once healed



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Grip strengthening (later)

A LATER exercise — only once your hand therapist clears strengthening, usually from around eight to twelve weeks. Gently squeeze a soft ball or therapy putty, then release. Build it up slowly. This is held back early because hard gripping pushes the fingers towards ulnar drift and stresses the new joints before the capsule is strong — so it is always the last thing to start.

As guided by your hand therapist (from ~8-12 weeks only)

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 work is all done **with the dynamic splint on** – controlled bending against the loops, active straightening, and gently walking the fingers towards the thumb to hold the correction. Scar care begins once the wounds have healed, and grip strengthening belongs to a **later phase** and should not be started until you are specifically cleared. Stop anything that causes sharp pain in the knuckles.

Your clinical protocol

The rest of this page is the staged clinical protocol for rehabilitation after silicone (Swanson) MCP joint arthroplasty. This section is to be provided to your hand therapist, and each phase opens with a plain-English explanation of what is happening. The defining principle is that **the new MCP capsule remodels around the implant in whatever position you hold it** – so the splint and exercises hold the joints in **extension with slight radial deviation** while permitting **early controlled active flexion**, re-shaping the joints in a corrected position and reversing the ulnar drift.

Prior to treatment, check the patient's operation report and past medical history, and liaise with the treating surgeon regarding the diagnosis (rheumatoid vs osteoarthritis), the soft-tissue reconstruction performed (radial collateral ligament reefing, ulnar intrinsic release, extensor centralisation / crossed-intrinsic transfer), and the achieved intra-operative correction and arc. The rheumatoid hand drifts and recurs more readily than the osteoarthritic hand and warrants particularly diligent radial-deviation splinting. The protocol below assumes the standard dynamic-extension-outrigger regime.

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PHASE I — DYNAMIC EXTENSION SPLINT WITH EARLY CONTROLLED MOTION (WEEKS 0 TO ~6)

The first six weeks are the decisive window: the capsule forms around the implant now, and the dynamic splint dictates the position it forms in. Fit a forearm-based **dynamic MCP extension outrigger splint**, typically within the first 3-5 days. At rest it holds the **MCPs in full extension with the proximal phalanges pulled into slight radial deviation** (correcting the old ulnar drift); the outrigger slings sit on the proximal phalanges and the elastic tension permits controlled active flexion, then returns the digits to extension. The patient performs **early controlled active MCP flexion within the splint** every waking hour. The wrist and IP joints are left free.

For your hand therapist:

Education and precautions - Fit and tension the **dynamic extension outrigger splint**: MCPs held in **extension + slight radial deviation**, slings on the proximal phalanges, radial pull to counter ulnar drift - Worn **continuously (day and night) for ~6 weeks**, off only for hygiene and supervised exercise - **No strong grip, pinch or lateral (ulnar-directed) loading** — these recreate the deforming forces - Protect any soft-tissue reconstruction (radial collateral / intrinsic balancing) — avoid forced ulnar-deviating stress at all times - Keep the thumb, wrist and IP joints mobile; light unloaded hand use only

Management - Wound: surgical dressings as directed; monitor for infection (implant present) - Oedema: elevation, gentle retrograde massage, light compression as tolerated - Exercises: **controlled active MCP flexion within the splint against the loops**, aiming to develop a useful flexion arc (target the surgeon's intra-operative arc, commonly up to ~70 degrees at the index-to-little MCPs) with full passive return to extension via the outrigger; **active MCP extension** (correct extensor lag); **radial-deviation re-education** (guide digits towards the thumb); free IP and wrist ROM

Criteria to progress - Wound healed; settling oedema; emerging active flexion arc with maintained extension and corrected (radial) alignment at around six weeks

PHASE II — WEANING THE SPLINT AND CONSOLIDATING CORRECTION (WEEKS ~6 TO ~12)

From about six weeks the capsule is maturing and the dynamic splint is **weaned to a resting / night extension splint** (often continued to ~12 weeks, and at night longer in rheumatoid hands prone to recurrence). Out-of-splint active motion is progressed, always biased towards **extension and radial alignment**. Light functional use expands; heavy grip and pinch remain withheld.

For your hand therapist:

Assessments - Active and passive MCP flexion/extension arc; **extensor lag**; **ulnar-deviation** (compare with intra-operative correction); pain and swelling; wound/scar review

Education and precautions - Wean the dynamic splint; continue a **night / resting extension splint** to ~12 weeks (longer at night in rheumatoid patients) - Continue to **avoid strong grip/pinch and any ulnar-deviating load** - Vigilantly preserve the radial correction — recurrence of drift is the principal late failure

Management - Exercises: progress **active and gentle active-assisted MCP flexion/extension** out of the splint; ongoing **extensor-lag work** and **radial-deviation re-education**; commence **scar management** once healed; light functional tasks within comfort, kept off the ulnar-deviating patterns

Criteria to progress - Stable correction (minimal recurrent ulnar deviation, acceptable extensor lag) on a maturing capsule; comfortable functional arc; pain settling

PHASE III — STRENGTHENING AND RETURN (WEEKS ~12 AND BEYOND)

Once the capsule is robust and alignment is holding (around twelve weeks), **graded strengthening** is introduced — late and cautiously, because grip drives ulnar drift. Strength and the final functional result continue to improve over several more months.

For your hand therapist:

Assessments - Grip/pinch versus the other side and versus pre-operative; maintained arc, extension and alignment under load; functional and task-specific testing

Education and precautions - Begin **graded grip/strengthening from around 8-12 weeks** only, building load gradually - Coach **grip patterns that do not drive ulnar deviation**; ongoing night splinting as indicated, especially in rheumatoid hands - Set realistic expectations: the aim is **pain relief, a corrected position and a functional arc** rather than a normal or powerful hand

Management - Exercises: progressive **putty/ball grip and pinch**, isometric MCP control, functional strengthening; continue mobility and any residual extensor-lag/alignment work - Consider discharge once correction is stable, a useful arc is achieved and the patient manages daily function; provide a long-term night-splint and joint-protection plan - Refer back to the treating doctor if alignment deteriorates, the arc is lost, or implant problems are suspected

Criteria for discharge - Stable corrected alignment, functional pain-free arc, adequate functional grip, sound joint-protection and night-splint routine

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 avoids strong gripping, pinching and any sideways (ulnar) stress on the fingers. Plan for the dynamic splint to be on almost all the time for the first six weeks, which limits two-handed and heavy tasks; arrange help accordingly. **Driving resumes once you can safely control the car and are out of the dynamic splint for driving — typically around six weeks — as confirmed at your review.**

Strengthening and heavier hand use wait until about **twelve weeks** and are then built up gradually under your hand therapist's guidance. **Most people return to most everyday activities by around three months**, with the final result — comfort, alignment and a useful arc — continuing to settle over several more months. Progression is judged by Dr Hirpara and your hand therapist on how your hand is correcting and functioning, not by the calendar alone. Heavier or repetitive manual work follows the same criterion-based progression, with joint-protection advice to keep the correction long-term.

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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 the long-standing Swanson-style rehabilitation regime after silicone MCP arthroplasty, and your ongoing recovery is guided individually by Dr Hirpara and your hand therapist according to how your hand corrects and progresses.

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