CQ HAND + UPPER LIMB
SPECIALIST ORTHOPAEDIC SURGEON

REHABILITATION PROTOCOL

Distal Radius Fracture (ORIF) — Rehabilitation Protocol

This protocol guides your recovery after surgical fixation of a distal radius (wrist) fracture — open reduction and internal fixation (ORIF) — 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 physiotherapist or hand therapist** — bring this page or its PDF to your first therapy visit so your rehabilitation stays coordinated. Your 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

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

Following your surgery, you may be referred to a hand therapist for fabrication of a thermoplastic splint. In this situation, the splint will be worn temporarily for comfort and protection, and you will still be required to remove the splint for your home exercise program. If you are referred for a splint, you will receive more information regarding wear and care.

The exercises below are essential for regaining range of motion of your fingers, wrist and forearm. Heat and ice are good modalities often used for regaining movement, restoring function and improving comfort. Once the wound is healed, you may apply heat prior to exercises; an ice pack may be used afterwards to prevent or settle inflammation.

Scar management — particularly massage — is very important following distal radius surgery, to ensure the tendons underlying the incision are gliding and not becoming adherent.

A volar locking plate is designed to hold the fracture firmly enough to allow movement to begin early, and this protocol takes advantage of that. Research comparing early wrist movement with several weeks of immobilisation after volar plate fixation shows that starting motion early can improve short-term movement, grip and comfort, without compromising the position of the fracture [1][2]. At the same time, trials that compared starting wrist motion at about two weeks with starting at about six weeks found the two groups were similar by three to six months [3] — so there is no need to rush, and the safe, steady progression set out below is well supported. Bone healing follows its own timeline regardless of how the wrist feels, which is why the later

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

precautions (no weight-bearing, heavy lifting or contact sport until 12 weeks after the fracture) are kept even once movement is comfortable.

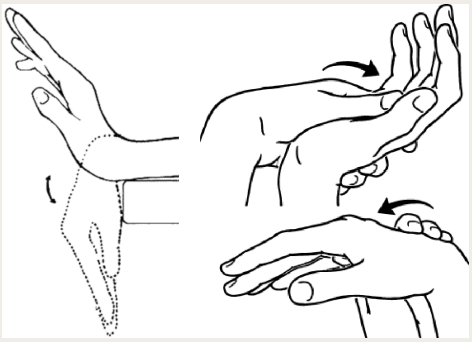
Precautions and limitations

Light functional use of your hand is encouraged for daily living tasks such as self-care, feeding, dressing, writing and typing.

It is important that you avoid lifting, gripping, weight-bearing and impact for up to 8 weeks after your operation. You will be guided through a gradual strengthening program from about week 5–6.

These are the exercises from your handout, for regaining movement of your fingers, wrist and forearm. If you have a splint, remove it for your exercises. Start them as guided by Dr Hirpara and your therapist.

Your exercises

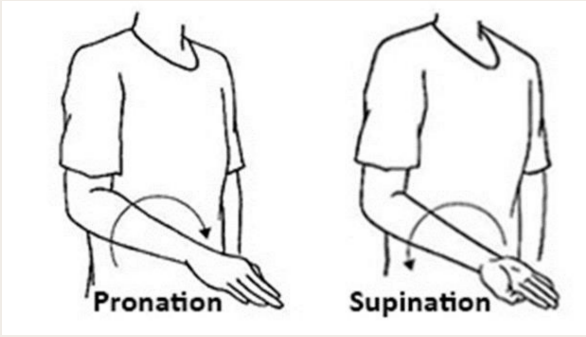


Wrist flexion / extension

Rest your elbow on a table and gently rock your wrist back and forth (or rest it over the edge of a table or armchair, as pictured). Once more comfortable, use your other hand on the palm to push the wrist backwards (fingers pointing to the ceiling), then the other way (fingers pointing to the floor), keeping the fingers loose. Hold each stretch for 15 seconds.

10 times each direction, 4 times daily

Kieran Hirpara CC BY NC SA 4.0



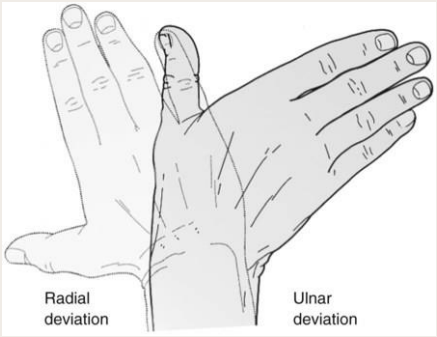
Forearm rotation (pronation / supination)

With your elbow by your side and your forearm in a neutral position (thumb up), gently rotate your palm up towards the ceiling (supination), hold for 3–5 seconds, then return to neutral. Repeat palm down towards the floor (pronation). Don't let your elbow come away from your body. You may assist the movement with your other hand, held at wrist level.

10 times each direction, 4 times daily

Kieran Hirpara CC BY NC SA 4.0

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

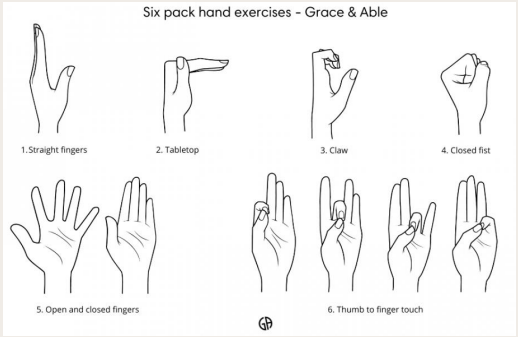


Ulnar / radial deviation

Place your hand and forearm on a flat surface. Keeping your forearm still, gently move your wrist and hand from side to side (as pictured).

10 times, 4 times daily

Kieran Hirpara CC BY NC SA 4.0



Six pack hand exercises

With your hand in front of you and your wrist straight, work through the six positions shown: straight fingers; "tabletop" (bend at the bottom knuckles, fingers straight); "hook" (bend the fingertips, knuckles up); tight fist with the thumb over the fingers; fingers spread then back together; and thumb to each fingertip, from index to little finger.

5–10 of each, 2–3 times a day; progress as tolerated

Kieran Hirpara CC BY NC SA 4.0

Your clinical protocol

The rest of this page is the accelerated clinical protocol for a distal radius fracture treated with open reduction and internal fixation with a volar plate. This section is to be provided to your physiotherapist or hand therapist, and each phase below opens with a plain-English explanation of what is happening.

Days 1–4 after your operation

In the first days the focus is on protecting the fixation, settling swelling, and keeping your fingers, wrist, forearm, elbow and shoulder moving. Your surgical bandage stays in place until day 3, when it is reduced and the wound redressed. Keep the hand elevated when resting, use it for light everyday tasks (under 1–2 kg) within pain limits, and avoid weight-bearing through the arm, tight gripping or lifting. A splint is not routinely needed, but one can be arranged if you are returning to work or the wrist is more painful.

For your physiotherapist:

Prior to treatment, check the patient's x-ray, operation report and past medical history (PMHx), and liaise with the treating surgeon regarding the stability of the fixation of the fracture and the likely prognosis.

Education and precautions

- Avoid weight-bearing through the arm, tight gripping or lifting
- Encourage use of the affected hand for light (less than 1–2 kg) activities of daily living (ADL) tasks within pain limits and normal movement patterns

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

Management

- Splint: nil required, but may be utilised if the patient is returning to work or in the presence of increased pain – consider a thermoplastic splint or off-the-shelf support
- Wound: surgical dressings/bandage to be left intact until day 3; debulk bandage and redress wound from day 3 post-operation; education regarding wound management
- Oedema: provide education regarding elevation; provide compression therapy and retrograde massage as required
- Exercises: provide active six pack exercises to maintain finger range of motion (ROM); provide active wrist, forearm and finger range of motion exercises; encourage regular active elbow and shoulder ROM

Week 2–4 after your operation

Your sutures come out at day 10–14, and scar massage starts once the wound has healed enough. The exercise program continues – the six pack exercises stop once your fingers have full movement – and gentle muscle-activation (isometric) wrist strengthening begins. Your wrist should still only be moved by its own muscles: no one (including you) should push or stretch it passively during this phase. Keep avoiding weight-bearing, tight gripping and lifting; light everyday tasks under 1–2 kg are encouraged. You must not drive while your wrist is in a splint – driving resumes once you are out of the splint, as confirmed at your review.

For your physiotherapist:

Assessments

- Self-reported assessments: Patient-Rated Wrist Evaluation (PRWE), Disabilities of the Arm, Shoulder and Hand (DASH)
- Oedema circumferential measurements
- Visual analogue pain scale (VAS) or numerical rating scale
- Active range of motion (AROM) goniometry measurements – hand, wrist
- Subjective review, including the patient's compliance with the regime, functional use of the hand in ADL tasks, and problems/concerns

Education and precautions

- Avoid weight-bearing through the arm, tight gripping or lifting
- No passive wrist movement
- Encourage use of the affected hand for light (less than 1–2 kg) ADL tasks within pain limits and normal movement patterns
- No driving while in a splint; driving resumes once out of the splint, confirmed at review

Management

- Wound/scar: removal of sutures at day 10–14; commence scar management as appropriate, dependent on healing progress
- Oedema: consider use of compression bandaging, retrograde massage, manual oedema mobilisation (MEM), contrast bathing and/or elevation if required
- Exercises: cease active six pack exercises once full finger range achieved; consider passive finger and thumb exercises, including place/hold, if active ROM not full in the hand; continue active wrist ROM exercises; encourage regular active elbow and shoulder ROM; commence wrist isometric strengthening

Troubleshooting

- Monitor for signs of wound infection, sensory changes in the hand, or early signs of complex regional pain syndrome (CRPS)
- Identify aberrant movement patterns and intervene as required

Week 4–6 after your operation

Strengthening starts gently in this phase: finger strengthening against low resistance from week 4, and the isometric wrist work continues and is gradually upgraded. If your x-ray is satisfactory and the fixation stable, gentle passive wrist stretches (where the wrist is moved with help from your other hand or your therapist) can begin at 4–6 weeks. Movement still takes priority over strength. Keep avoiding weight-bearing through the arm and heavy lifting, while using the hand for light everyday tasks.

For your physiotherapist:

Assessments

- Oedema circumferential measurements
- Visual analogue pain scale or numerical rating scale
- AROM goniometry measurements and quality of movement patterns
- Subjective review, including the patient's compliance with the regime, functional use of the hand in ADL tasks, and problems/concerns
- Grip strength using dynamometer (3 each limb)

Education and precautions

- Avoid weight-bearing through the arm, or heavy lifting
- Encourage use of the affected hand for light (less than 1–2 kg) ADL tasks within pain limits and normal movement patterns

Management

- Scar: continue scar management as required

- Oedema: continue compression therapy, retrograde massage, MEM and elevation as required; discontinue contrast bathing
- Exercises: continue passive finger and thumb exercises if ROM not full; continue active wrist ROM exercises; commence finger strengthening exercises against low resistance at 4 weeks; commence gentle passive wrist exercises at 4–6 weeks if the ORIF is stable and the x-ray satisfactory; encourage regular active elbow and shoulder ROM; continue/upgrade isometric wrist strengthening exercises

Troubleshooting

- Review for signs of CRPS and shoulder pain
- Consider the volume of exercises in the home programme and prioritise ROM over strength
- If wrist ROM is significantly limited, consider commencing gentle passive range of motion (PROM) wrist exercises within 4/10 VAS, with the surgeon's approval

Week 6–8 after your operation

This phase begins a graded return to full activity over the next 3 weeks. Wrist strengthening steps up to light weights (0.5–1.0 kg) or low-resistance theraband, and finger strengthening resistance increases. The remaining hard limits: no weight-bearing, heavy lifting or contact sport until 12 weeks after the fracture. Your therapist will consider discharging you once you have full movement and a suitable return of function.

For your physiotherapist:

Assessments

- Oedema circumferential measurements as required
- Visual analogue pain scale or numerical rating scale
- AROM goniometry measurements
- Grip strength
- Subjective review

Education and precautions

- Graded return to full activity over the next 3 weeks
- Avoid weight-bearing, heavy lifting and contact sport until 12 weeks post fracture

Management

- Scar: continue scar management as required
- Oedema: continue oedema management as required
- Exercises: continue passive finger and thumb exercises if ROM not full; continue active and passive wrist ROM exercises if required; increase resistance in finger strengthening exercises; commence wrist

strengthening exercises with use of 0.5–1.0 kg weights or low-resistance theraband; upgrade weights and resistance used in the wrist strengthening programme as tolerated

Troubleshooting

- Consider/commence night serial progressive splinting, boxing glove or dynamic splinting if slow improvement of ROM
- Monitor any signs of wrist instability and treat as appropriate
- Consider discharge when full ROM and suitable return of function
- Consider referral back to the treating doctor if the condition plateaus and/or there is a poor outcome

This protocol was written in association with Sarah Farrell, BOccThy AHT, and Kristy Gerlach, BOccThy AHT.

After your protocol

This protocol works alongside the practice's general recovery advice — see managing post-operative pain, wound care and hand therapy basics. For the operation itself and the injury it treats, see distal radius fixation (ORIF) and distal radius fracture. The phased plan above is consistent with published evidence on rehabilitation after volar locking plate fixation, and your ongoing rehabilitation is guided individually by your physiotherapist or hand therapist based on how your wrist recovers.

REFERENCES

1. Quadlbauer S, Pezzei C, Jurkowitsch J, et al. Immediate mobilization of distal radius fractures stabilized by volar locking plate results in a better short-term outcome than a five week immobilization: a prospective randomized trial. Arch Orthop Trauma Surg. 2022;142(5):1–11.
2. Gutiérrez-Espinoza H, Araya-Quintanilla F, Olguín-Huerta C, et al. Effectiveness of early versus delayed motion in patients with distal radius fracture treated with volar locking plate: a systematic review and meta-analysis. Hand Surg Rehabil. 2020;39(4):261–271.
3. Lozano-Calderón SA, Souer S, Mudgal C, Jupiter JB, Ring D. Wrist mobilization following volar plate fixation of fractures of the distal part of the radius. J Bone Joint Surg Am. 2008;90(6):1297–1304.
4. Miller LK, Jerosch-Herold C, Shepstone L. Effectiveness of edema management techniques for subacute hand edema: a systematic review. J Hand Ther. 2017;30(4):432–446.

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