

Post-operative rehabilitation protocol

Wrist fusion (total and partial)

Joining of the wrist bones to relieve arthritic pain. For patients, hand therapists, and GPs.

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The plan at a glance

The phases below are for total wrist fusion with a plate. The wrist will no longer bend, but the forearm still turns and the fingers move fully. Partial fusion keeps some wrist movement and needs a cast for longer. See the section on changes to the protocol.

	Phase 1 Weeks 0 to 2	Phase 2 Weeks 2 to 6	Phase 3 Weeks 6 to 12	Phase 4 After 12 weeks
Splint	Plaster backslab and bandage, full time	Cast or removable splint, full time	Splint for protection, weaned as fusion progresses	None
Movement	Fingers, thumb, elbow, and shoulder	Fingers, thumb, and forearm turning	Fingers, thumb, and forearm turning, full range	Full finger and forearm movement
Load	Nothing in the hand	A cup of tea	Up to 2 kg. Grip work from week 8	Progressive strengthening once fused
Review	Wound check and X-ray at 2 weeks	Clinic and X-ray at 6 weeks	Clinic and X-ray at 12 weeks	X-ray until fused

Darker shading means tighter restriction. Times are guides. Your surgeon's instructions take precedence where they differ.

Seek advice urgently if

- The wound becomes red, hot, or swollen, or it leaks or opens.
- You have a fever or feel unwell.
- You cannot straighten the fingers or the thumb, or they catch on the back of the wrist.
- Pain returns or increases after a period of comfort.
- New numbness or tingling develops in the thumb and fingers.
- The dressing, splint, or cast feels too tight, or the fingers become cold, pale, blue, or very swollen.

Call 999 or go to the Emergency Department for shortness of breath or chest pain.

For anything else on this list, contact your surgical team the same day. Out of hours, call NHS 111.

Phase 1

Protect: weeks 0 to 2

Aims: control swelling, keep the fingers moving, protect the wound.

Do

- Keep the hand raised above the heart for the first 48 to 72 hours.
- Make a full fist and straighten the fingers fully, ten times every hour.
- Move the thumb to each fingertip.
- Move the elbow and shoulder fully.
- Keep the backslab dry and in place until the two-week visit.
- Take pain relief regularly as prescribed.

Avoid

- Lifting or carrying with the operated hand.
- Letting the hand hang down for long periods.
- Getting the plaster wet.
- Driving.

Expected in this phase

The back of the hand swells and the fingers feel tight. If bone graft was taken from the hip, that wound is sore for two to three weeks.

Phase 2

Hold still: weeks 2 to 6

Aims: let the fusion start, keep the fingers and forearm moving.

Do

- Wear the cast or splint at all times.
- Keep the fingers and thumb moving fully. A full fist and a flat hand, every hour.
- Turn the palm up and down with the elbow tucked into your side.
- Use the fingers for light tasks: typing, holding a fork.
- Massage the scar once the wound has healed, if the splint is removable.

Avoid

- Lifting anything heavier than a cup of tea.
- Gripping hard or twisting against resistance.
- Body weight through the hand.
- Smoking. It is the main avoidable cause of a fusion failing to join.

Move on to Phase 3 when

The six-week X-ray shows the plate is unchanged and the fusion is progressing.

Phase 3

Build use: weeks 6 to 12

Aims: normal light use, early grip strength.

Do

- Wear the splint for protection outdoors. Wean out of it as your surgeon advises.
- Use the hand for daily tasks within the 2 kg limit.
- Start grip work with putty from week eight.
- Stretch forearm turning to full range.
- Learn new ways to do tasks that needed a bent wrist: personal care, tight spaces.

Avoid

- Lifting more than 2 kg.
- Body weight through the hand.
- Impact and vibration: hammering, power tools.
- Sport with a risk of falling.

Move on to Phase 4 when

X-ray shows the bones have fused and the wrist is not tender.

Phase 4

Return: after 12 weeks

Aims: strong, pain-free grip for work and leisure.

- Build grip and forearm strength.
- Return to heavy manual work from four to six months, once fusion is confirmed.
- Return to golf, racket sports, and the gym in stages.

What to expect

A fused wrist gives a strong, comfortable grip. Most daily tasks are managed well. The plate can irritate the tendons on the back of the hand, and it is removed if it does, once the fusion is solid.

Return to activity

Typical times from surgery. Each depends on comfort, movement, and healing.

Activity	From	Condition
Desk work	2 weeks	One-handed at first
Driving	6 to 8 weeks	Able to grip and turn the wheel safely. Tell your insurer.
Running	6 weeks	Splint on
Swimming	8 weeks	Wound healed, gentle strokes
Light manual work	8 to 12 weeks	Within the 2 kg limit
Light gym resistance	12 weeks	Fusion on X-ray
Golf	4 months	Fusion on X-ray
Racket sports	4 to 6 months	Fusion on X-ray
Heavy manual work	4 to 6 months	Fusion on X-ray
Contact sport	6 months	Fusion on X-ray

Changes to the protocol

Your surgeon will tell you which operation was done and whether any of these apply.

- **Partial wrist fusion (for example four-corner fusion).** Some wrist bones are joined and the rest still move. A cast is worn for six to eight weeks, until X-ray or CT shows fusion. Wrist movement then starts with a hand therapist. Expect about half the normal bend, and a strong grip.
- **Removal of the first row of wrist bones (proximal row carpectomy).** Nothing has to fuse. A splint is worn for two to four weeks, then movement starts.
- **Smoking.** Stop completely, including vaping nicotine, until fusion is confirmed.
- **Rheumatoid arthritis.** A different fixation may be used. Your surgeon will set the timings.

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This protocol is general guidance for uncomplicated total wrist fusion with a plate. It is not a substitute for individual medical advice. Instructions from your own surgeon and therapist take precedence.

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