

Ultrasound-Guided Carpal Tunnel and Trigger Finger Surgery

Patient information from Mendip Hand Clinic

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This leaflet explains the ultrasound-guided minimal access technique, how it compares with traditional open surgery, and what the evidence does and does not show. It is designed to support, not replace, your conversation with Miss Edwards. The separate Patient Information and Consent leaflets for carpal tunnel release and trigger finger release cover each operation, its risks and its recovery in full.

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The two conditions

Carpal tunnel syndrome occurs when the median nerve is compressed as it passes through the wrist, usually because a ligament crossing the wrist has thickened. It causes pain, pins and needles, numbness, tingling and weakness in the hand. Surgery divides that thickened ligament, giving the nerve more space so the signals travelling along it can recover. Traditionally this is done through a 2–3cm incision in the palm, closed with three or four stitches.

Trigger finger occurs when a finger catches or locks in a bent position when gripping. It may open with a painful flick, or you may have to pull it straight with the other hand. If left untreated the finger can become permanently stuck, which impairs the use of the hand. Surgery opens the thickened tissue around the tendon so it can glide smoothly again. Traditionally this is done through a 1–2cm incision in the palm.

What ultrasound-guided surgery involves

Instead of opening the skin to see the structures directly, the surgeon uses an ultrasound probe placed on the skin to see inside. The thickened tissue is then divided with a narrow instrument, about the width of a large needle, passed through a hole of around 1mm. The ultrasound image shows the anatomy throughout, and allows the surgeon to check at the end that the whole tight area has been divided.

Because the opening is so small, no stitches are needed — just a small dressing and a bandage.

The procedure takes about 20 minutes. It is done as a day case under local anaesthetic, so you stay awake and do not need to starve beforehand. You will have an injection of local anaesthetic, which stings for a few seconds as it goes in.

What is genuinely different about it

A much smaller wound. A pinprick-sized mark rather than an incision, with less disturbance of the surrounding tissue.

No stitches, and no stitch removal appointment.

Less scar tenderness, and a quicker return to normal activities.

A smaller scar, which some people care about a great deal and others not at all.

What the evidence does — and does not — show

This is the part worth reading carefully, because it is easy to assume that a smaller wound automatically means a safer operation.

Ultrasound-guided release does allow a quicker return to normal activities than open surgery. That is the finding the published evidence supports.

It has not been shown to have a lower complication rate. There is less published information on complications after the ultrasound-guided technique than after open release (Garcia et al., 2024). Having less data is not the same as having better results, and it would be wrong to tell you that the technique is safer when what we actually have is less evidence either way.

Open release, by contrast, has decades of published series behind it, which is why the complication figures in your consent leaflet come from those.

What that means for your decision. If a quicker recovery and a smaller scar matter to you, the ultrasound-guided technique offers those. If you would rather have the operation with the longest track record and the best-documented risks, open release offers that. Neither is the wrong choice, and which suits you also depends on your own anatomy — which is something to discuss at your consultation.

The risks

The risks are those of the operation rather than of the technique: infection at the wound, bleeding, injury to a nerve, incomplete release, and a return of symptoms needing further treatment.

For open carpal tunnel release, the published figures are: wound infection in around 1 in 270 people (0.4%), with fewer than 1 in 10,000 needing admission or further surgery for it; nerve injury needing surgical repair in around 1 in 2,500; and around 3 in 100 having a further carpal tunnel operation over the years that follow.

For open trigger finger release: infection in around 1.5%; nerve injury in under 1%, usually temporary; persistent pain or stiffness in around 4–5%; and incomplete release or recurrence in around 2–3%.

As above, comparable figures for the ultrasound-guided technique are not yet available in the same detail.

Before your operation

You will be given specific instructions about how to prepare. In general:

- Tell us if you take blood-thinning medication.
- Remove rings and nail varnish, including false nails, from the operated hand before you arrive.
- You may be asked to change into a gown.
- You do not need to fast, and you can take your usual medications as normal.

- Because your hand will be bandaged, arrange for somebody to drive you home.

Afterwards

You will be given instructions on caring for your hand and the exercises to do. You will have a telephone follow-up to check on your progress, and you will be asked to complete a questionnaire about your outcome — this is how the clinic keeps track of how well the technique is working.

If you have any problems in the first days and weeks, call the helpline number you are given rather than waiting for your follow-up.

Detailed recovery timelines are in the Patient Information and Consent leaflet for your operation.

Contact details

Mendip Hand Clinic, Practice Plus Group Hospital, Old Wells Road, Shepton Mallet, Somerset BA4 4LP. Bookings: 0330 818 8981.

If you think anything in this leaflet is unclear or needs updating, please tell us using the contact details above.

A final note

This leaflet is general information and does not replace individual advice. Your own risks, alternatives and expected recovery should be discussed personally with Miss Edwards, in line with GMC guidance on decision making and consent.

References

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