MENDIP HAND
CLINIC

Patient information - Ultrasound guided Carpal Tunnel and Trigger finger Surgery

Carpal Tunnel Syndrome (CTS) is a common condition that occurs when the median nerve is compressed as it travels through the wrist, usually as a result of thickening of a ligament which crosses from one side of the wrist to the other. This can lead to symptoms such as pain, pins and needles, numbness, tingling, and weakness in the hand. Surgery usually aims to cut through the thickened ligament which allows more space for the nerve and enables the electrical signals which travel in the nerve to recover back to normal. Traditionally this is performed through a scar at the bottom of the palm of the hand which is about 4cm long.

Trigger Finger is a common condition when one or more of the fingers gets “locked” in a bent position in the palm of the hand when gripping. Patients often wake in the morning with the finger stuck and it may then open out with a painful flick, or you may need to manually pull the finger back out straight. If left untreated it can become permanently stuck in a bent position impairing the use of the hand. Surgery aims to open the thickened tissue around the finger tendons to enable them to glide smoothly again. This is normally undertaken through a 1-2cm incision in the palm of the hand.

Ultrasound-guided surgery is a minimally invasive procedure that offers several advantages over traditional open surgery.

What is Ultrasound-Guided Carpal Tunnel Surgery?
Ultrasound-guided carpal tunnel surgery involves the use of ultrasound imaging to visualize the anatomy of the wrist and guide the surgeon in performing the procedure. With the probe placed over the carpal tunnel or trigger finger the surgeon can “see inside”. This technique allows for precise localization of the structures, reducing the risk of complications whilst cutting the tissues causing constriction using a narrow instrument.

Advantages of Ultrasound-Guided Surgery Over Open Surgery

1. Minimally Invasive:
- The ultrasound-guided approach requires only a small incision the size of a large needle, which results in less tissue damage compared to the larger incision needed in open surgery. No stitches are needed and only a small dressing and bandage.

2. Reduced Pain and Discomfort:
- Patients often experience less postoperative pain and discomfort due to the minimal disruption of surrounding tissues. Scar pain is also less.

3. Faster Recovery Time:
- Most patients can return to normal activities sooner with ultrasound-guided surgery, as the recovery period is typically shorter due to the reduced trauma to the tissues.

4. Lower Risk of Complications:
- The use of ultrasound allows for precise targeting of the thickened tissue, which may reduce the risk of nerve damage and other complications associated with open surgery.

5. Improved Visualization:
- The real-time imaging provided by ultrasound allows the surgeon to see the anatomy clearly, which can enhance the accuracy of the surgery.

6. Cosmetic Benefits:
- The smaller incision used in ultrasound-guided surgery typically results in less scarring compared to the larger incision required in open surgery.

What to Expect
- Pre-Operative Preparation: Your surgeon will provide specific instructions on how to prepare for the surgery, including any necessary pre-operative evaluations. It is important to let them know if you take blood thinning medications. You should ensure that any rings are off and that you are not wearing nail varnish or false nails. You may be asked to change into a gown.
- During the Procedure: The procedure usually takes about 20minutes. You will be positioned comfortably, and antiseptic applied to the hand and wrist and sterile drapes covering the area. The surgeon will use ultrasound to guide the surgery. You will have an injection of local anaesthetic which will sting for a few seconds. A small hole around 1mm is made for the instrument to be passed inside and then the tissue is cut whilst the surgeon can see it with the ultrasound machine, checking at the end that the whole tight area is divided.
- Post-Operative Care: After the surgery, you will receive instructions on how to care for your hand and wrist and exercises to do. You will receive a telephone call follow up to check your progress and will be asked to complete a questionnaire about your outcome. Should you experience any problems in the post operative period you should call the helpline on this telephone number to get advice.

Potential Risks and Complications
While ultrasound-guided surgery is generally safe, there are potential risks, including:
- Infection
- Bleeding
- Nerve damage
- Incomplete relief of symptoms