Dr.ATHMA
Holistic Compassionate Care

Ultrasound-Guided Peripheral Nerve Percutaneous Neural Mapping / Neuromodulation ± Hydrodissection and Block

Patient information leaflet

16.10.2025

Your doctor at the Pain Management clinic has suggested this procedure that may help to ease your pain. This leaflet will briefly explain the treatment. It is important that you understand the treatment you will be receiving.

Introduction
This leaflet provides information about your planned procedure. Please read it carefully and ask your doctor if you have any questions.

What is this procedure?
This is a minimally invasive treatment used to diagnose and manage nerve-related pain.

- **Neural mapping / neuromodulation** involves applying a gentle electrical stimulation through the needle to confirm the nerve involved in your pain and, in some cases, to help reduce abnormal pain signals.
- **Hydrodissection** is the injection of fluid (saline, weak concentration of local anaesthetic agent or dextrose) around the nerve to free it from surrounding scar tissues that may be irritating or compressing it.
- A **nerve block** may be performed by injecting local anaesthetic (sometimes with a steroid) to reduce pain and inflammation.
- **Ultrasound imaging** is used to guide a fine needle safely and accurately to the target nerve.

Why is it performed? (Indications)
This procedure may be recommended if you have:

- Persistent nerve pain (*neuropathic pain*).
- Nerve entrapment or irritation where nerves get trapped between tissues due to scarring or injury due to various reasons (e.g., carpal tunnel syndrome, suprascapular nerve entrapment, occipital neuralgia).
- Post-traumatic or post-surgical nerve pain.
- Pain that has not responded adequately to medicines, physiotherapy, or other conservative treatments.

Medications Used
Depending on your case, the injection may include:

- **Local anaesthetic** (e.g., lidocaine or Bupivacaine) – temporarily numbs the nerve.
- **Saline or dextrose** – separates the nerve from tight surrounding tissue (hydrodissection).
- **Corticosteroid** (some times) – reduces inflammation and irritation.
- **Hyaluronidase** (some times) - helps to break down the scar tissue.

Before the Procedure

- Inform your doctor if you:
    - Are taking blood-thinning medication (e.g., warfarin, clopidogrel).
    - Have allergies to local anaesthetics, steroids, or antiseptics.
    - Are pregnant, breastfeeding, or have an infection.
    - Have a pacemaker or other implanted device.
- You may eat and drink normally unless told otherwise.
- Sedation is not usually required, but if it is, please arrange for someone to accompany you home.

During the Procedure

- You will be positioned comfortably, depending on the nerve being treated.
- The skin will be cleaned with antiseptic.
- An ultrasound probe will be placed on the skin to locate the nerve.
- A fine needle will be guided to the nerve under ultrasound view.
- Gentle electrical stimulation may be used to confirm nerve location (you may feel tingling or twitching).
- Fluid will be injected to perform hydrodissection, and a nerve block may also be administered.
- The procedure usually takes 20–40 minutes.

After the Procedure

- You may experience numbness, tingling, or mild weakness in the treated area, which usually wears off within a few hours.
- Some discomfort or bruising at the injection site is normal.
- Avoid strenuous activity for 24 hours.
- You may resume normal daily activities the following day unless otherwise advised.
- Continue with physiotherapy, rehabilitation, or exercises if prescribed.
- After the procedure you will be followed up either as telephone follow up or face to face follow up in 6-8 weeks' time to assess the outcome and plan the next step forward.

Benefits

- Targeted treatment of nerve pain.
- Minimally invasive and performed under ultrasound guidance for accuracy and safety.
- May provide significant pain relief and improved function.
- May reduce reliance on medications.
- Can be repeated if required.

Risks and Possible Side Effects
Most patients tolerate the procedure well. However, potential risks include:

- Temporary discomfort, bruising, or swelling at the injection site.
- Temporary numbness or weakness in the area supplied by the nerve.

- Infection (rare).
- Nerve irritation or injury (very rare).
- Allergic reaction to medications (rare).
- If corticosteroids are used: possible facial flushing, mood change, or short-term rise in blood sugar.

When to Seek Medical Advice
Contact your doctor urgently if you develop:

- Severe or worsening pain, redness, or swelling at the injection site.
- Fever or chills.
- Persistent numbness, weakness, or loss of function.
- Rash, itching, or difficulty breathing (seek emergency help immediately).

Are there any alternative treatments?

Alternative treatments may include the following in isolation or combined together.

- Self management through lifestyle modifications
- Different medications as tolerated
- Use of a TENS machine / Physiotherapy/Application of heat or cold/ massage/exercises
- Attending a Pain Management Programme.
- Stress management programmes.

Your doctor will discuss other options with you.

Summary
Ultrasound-guided peripheral nerve mapping, neuromodulation, hydrodissection, and block are safe, effective options for managing nerve-related pain when other treatments have not been successful. They are performed under direct ultrasound guidance to maximise safety and accuracy.