



Superior Trunk Percutaneous Temporary Neuromodulation and Block

Patient Information Leaflet

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Understanding Your Treatment Options

This leaflet provides information about two distinct treatments that might be considered for managing pain in your shoulder, arm, or neck: a **Superior Trunk Block** and **Superior Trunk Neuromodulation**. While both aim to relieve pain, they work in different ways and are suitable for different situations.

Part 1: Superior Trunk Block (Nerve Block Injection)

What is a Superior Trunk Block?

A **Superior Trunk Block** is an injection of local anesthetic around the superior trunk of the brachial plexus.

The brachial plexus is a network of nerves in your neck and shoulder that controls movement and sensation in your arm, hand, and parts of your shoulder. The superior trunk is a specific part of this network, formed by nerve roots from your neck (C5 and C6).

By injecting local anesthetic near these nerves, the block temporarily "numbs" the area, preventing pain signals from reaching your brain.

Why might a Superior Trunk Block be recommended?

This block is commonly used for:

- **Pain Relief for Shoulder and Upper Arm:** It provides excellent pain relief for chronic shoulder pain or during and after operations on the shoulder, collarbone (clavicle), and upper arm.
- **Diagnosis of Pain:** In some cases, it can help your doctor determine if your pain is coming from the nerves in the superior trunk.

How does the procedure work?

During the procedure:

- You will typically lie on your back with your head slightly turned away from the side of the injection.
- Your doctor will use an ultrasound machine to carefully visualize the superior trunk nerves in your neck. This helps ensure the anesthetic is injected precisely.
- The skin around the injection site will be cleaned and numbed with a small amount of local anesthetic.
- A thin needle will be guided by ultrasound to the area around the superior trunk nerves.
- If you are having neuromodulation along with the block, the doctor will pass a small amount of current through the needle which you will feel like tingling or very gentle movement in the muscles around the shoulder. This will help the doctor to identify specific muscles or parts of the nerve to be stimulated to target the painful area of your shoulder.
- This neuromodulation stimulation can be continued for 5-6 minutes normally.
- Local anesthetic medication (and sometimes other medications like steroids) will be injected after the neuromodulation.
- You may feel some pressure or mild discomfort during the injection, but it should not be severely painful.
- You may feel the difference in your pain very soon.

What to expect after a Superior Trunk Block?

- **Numbness and Weakness:** Your arm may start to feel a bit numb, heavy, and slightly weaker shortly after the injection and typically lasts for up to 12-24 hours, but sometimes up to 48 hours as the local anesthetic wears off.
- **Pain Relief:** You should experience significant pain relief in the affected area.
- **Temporary Side Effects:** You might experience temporary increase in pain, bruising around the injection site.
- **Care of Your Arm:** While your arm is numb, it's crucial to protect it. You won't be able to feel all sensation properly.
 - Avoid holding hot objects (e.g., hot drinks, radiators) with that arm
 - Avoid heavy lifting or strenuous activities until the feeling returns completely.
 - Do not drive for 24 hours or till the sensation is completely returned.

Risks and Complications of a Superior Trunk Block

While generally safe, all procedures carry some risks.

Common side effects are usually mild and temporary, and may include:

- Incomplete Block: The block may not provide full pain relief, and other pain management options will be explored.
- Soreness or bruising at the injection site
- Bleeding or bruising.
- Warmth or redness in the arm and hand on the side of the injection

More serious, but rare, complications can include:

- Nerve damage-Although rare (around 1 in 5,000 to 1 in 30,000 nerve blocks), temporary or, very rarely, permanent nerve damage (numbness, weakness, or persistent pain) can occur.
- Accidental injection into a blood vessel or other structures.
- Allergic reaction to the medications.
- Infection

Part 2: Superior Trunk Neuromodulation

What is Neuromodulation?

Neuromodulation is a treatment that changes nerve activity by delivering targeted stimuli (like electrical impulses, heat or cold) to specific nerves supplying the area that is painful in the body.

For chronic pain, this often involves using temporary methods like percutaneous temporary neuromodulation, pulsed radiofrequency denervation, radiofrequency denervation, cryoneurolysis or implanting a small device that sends mild electrical pulses to nerves to interfere with pain signals. The method is chosen based on the need, type of nerve and duration of pain relief needed.

While "Superior Trunk Neuromodulation" specifically targeting the superior trunk is not the standard, widely established treatment like the nerve block, similar principles of neuromodulation (e.g., peripheral nerve stimulation, or sometimes spinal cord stimulation) might be considered if your pain is thought to be related to persistent nerve issues in that area.

Please note: Specific "Superior Trunk Neuromodulation" is not a common or standalone term in the same way a "Superior Trunk Block" is. If your doctor has mentioned this, it might refer to a form of **peripheral nerve stimulation** specifically targeting nerves of the superior trunk along with the block.

Why might Neuromodulation be recommended?

Neuromodulation, in general, is usually considered for **chronic, persistent pain** that has not responded to other treatments, including medications, physical therapy, and nerve blocks. If your pain in the shoulder, arm, or neck is severe and long-lasting,

and specifically linked to nerve damage or dysfunction (neuropathic pain) that could involve the superior trunk nerves, your doctor might explore this option.

What to expect after Neuromodulation?

- **Pain Reduction:** The goal is to reduce your pain to a more manageable level and improve your ability to perform daily activities. It may not be a complete "cure" for pain, but a way to manage it.
- **Sensations:** You might feel a tingling or buzzing sensation (paresthesia) in the area where the nerves are being stimulated for a brief period and then it settles down.
- **Long-term Management:** Neuromodulation may require ongoing follow-up with your pain specialist as normal. But if contributing lifestyle risk factors for pain like diabetes, smoking etc are managed, you may get better longer lasting pain results.

Important Note:

This leaflet provides general information. Your doctor will discuss which treatment is most appropriate for your specific condition, explain the procedure in detail, and answer all your questions. Always follow your healthcare team's instructions carefully.

Please contact your healthcare provider immediately if you experience any new or worsening symptoms, signs of infection (fever, redness, warmth, swelling, pus at the injection or implant site), or unexpected changes in your sensation or movement.

As this procedure is done under ultrasound guidance, the serious, but rare complications are extremely rare. Your doctor will discuss these risks with you in detail.

Preparing for the procedure

- Please let us know if you are taking anticoagulant medications (blood thinners) such as clopidogrel (Plavix), warfarin or dipyridamole. You may need to stop these before the procedure.
- If you are taking Warfarin, we will need to do a blood test before you have the procedure. Please be aware that this may cause a slight delay to your treatment.
- You can continue to take all other medications as prescribed.
- You may eat and drink as normal if this is done under local anaesthesia and no sedation .

Information and advice for patients on the day of surgery

- You will be admitted to the hospital for the procedure.

- Please note that this is a mixed sex facility.
- When you arrive, a nurse will check you in and may give you a gown to put on.
- The doctor will then explain the procedure once again and ask you to sign a consent form.
- Please make sure that you understand the procedure and ask any question.

During the procedure

- The whole procedure will take approximately 10-20 minutes.
- The doctor will clean the area.
- Identify the nerve using an ultrasound machine.
- The doctor will identify the nerve, may stimulate it with a nerve stimulator and then inject the local anaesthesia and other medications like a small dose of short acting steroid to reduce inflammation to the nerve.

Position during surgery (sitting, standing, lying down?)

- Depending on patient preference, you will be lying down or slightly propped up.
- You may feel some discomfort when having the injection but this should only last briefly.
- The area injected may feel slightly numb for up to 24 hours after the injection.

After the injection

- You will be asked to wait for approximately 10-20 minutes to check that you feel alright.
- Once you feel ready, and the staff are satisfied with your condition, you may go home, accompanied by family, a friend or relative.
- You should not drive a vehicle yourself or travel on public transport for the rest of the day.
- You can continue with normal activities the day after.
- We advise you to keep the area where the injection was given clean to reduce the risk of infection. The area injected may feel numb

Follow up

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.

If you have any further questions or concerns about the nerve block or neuromodulation, please do not hesitate to speak with your doctor or nurse.

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.

Further information

Specific information regarding superior trunk neuromodulation

[ESRA19-0594 Ultrasound guided percutaneous neuromodulation and block to treat chronic shoulder pain-A retrospective analysis of 50 patients](#)

[ESRA19-0598 Ultrasound guided superior trunk percutaneous neuromodulation to treat contralateral acute on chronic shoulder pain after shoulder surgery under GA and interscalene block](#)

More general information given by the Faculty of Pain Medicine regarding nerve blocks can also be found here

[General Information - injection treatments](#)