Peripheral nerve block injections

Overview

A nerve block injection temporarily stops pain signals. The exact source of peripheral nerve or joint pain (hip, knee, shoulder) can be hard to isolate. A diagnostic nerve block tests which nerve the pain is coming from, leading to a more effective treatment plan. The anesthetic gives quick pain relief, while the added steroid helps the relief last longer by reducing swelling.

What is a nerve / pain receptor block?

A nerve block is an injection of anesthetic near the pain receptors (nociceptors) of a nerve or joint. The injection temporarily "blocks" the pain in the same way a dentist numbs your jaw before working on your teeth.

Diagnostic nerve blocks use a fast-acting anesthetic with a short duration (hours) of pain relief to test the nerve. If you still feel pain, then that nerve is not the source. If you get pain relief, then a therapeutic injection may be given.

Therapeutic nerve blocks may be longer lasting by relieving pain flare-ups and inflammation. The anesthetic "calms" overactive pain receptors. The steroids reduce swelling and begin working in 2 to 7 days to help the nerve heal.

Types of peripheral nerve blocks:

- Suprascapular nerve for shoulder pain (Fig. 1)
- Femoral-obturator nerves for hip joint (Fig. 2)
- Piriformis entrapment of sciatic nerve (Fig. 3)
- Lateral femoral cutaneous nerve for thigh pain
- Genicular nerves for knee pain
- Intercostal nerves for shingles or rib fractures
- Occipital nerve for headache
- Pelvic floor pain (pudendal, ilioinguinal, or genitofemoral nerves)
- Sympathetic or ganglion impar blocks

Nerve blocks may be done 1 or 2 times or in conjunction with a steroid injection. This depends on the physician and insurance requirements.

Who is a candidate?

If you have pain suspected from a joint or peripheral nerve, then you may benefit from a nerve block. Typically, it is for people who have not responded to oral medication or physical therapy.

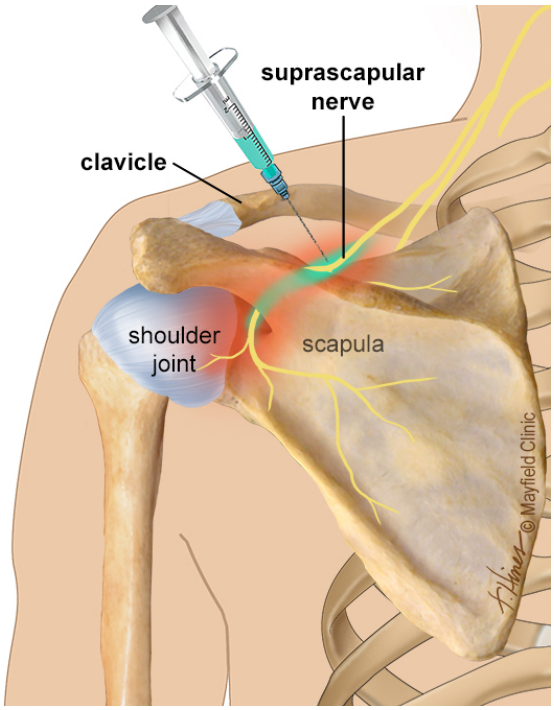

Figure 1. Anesthetic (green) is injected along the suprascapular nerve to block pain of the shoulder joint. Blocks can also be given to nerves trapped by ligaments.

Nerve blocks may use X-rays and should not be performed on people who are pregnant, have an infection, or have bleeding problems.

What happens before treatment?

The doctor will review your medical history and any imaging scans. They will plan the best location and number of injections. The benefits and risks will be explained, and you will sign consent forms. Be prepared to ask any questions at this appointment.

Bring a list of medications and vitamins you take and any allergies you may have (iodine contrast, latex, drugs). If you take aspirin or blood thinners, ask the doctor if you need to stop them before the procedure. Discuss all medications with your doctors.

The injection is performed in a procedure suite with x-ray fluoroscopy or ultrasound. Wear loose, comfortable clothes. Ask your doctor if you need someone to drive you to and from the appointment.

What happens during treatment?
The procedure may last 15-45 minutes.

Step 1: prepare the patient
The patient sits or lies on a table. Local anesthetic numbs the skin area to minimize discomfort. You will be awake during the injection to provide feedback to the doctor.

Step 2: insert the needle
Using X-ray fluoroscopy or ultrasound, the doctor places a hollow needle into the area near the nerve. Fluoroscopy/ultrasound allows the doctor to see the needle in real-time and guide it to the desired location. Some discomfort occurs, but patients feel more pressure than pain.

Step 3: inject the medication
A contrast dye may be injected to confirm needle placement and flow of medicine. The anesthetic is injected followed by the steroid (Fig. 1-3). The needle is then removed. One or several blocks may be performed depending on the location of the pain.

What happens after treatment?
You are moved to a recovery area for a short time. The nurse will go over discharge instructions, then you can leave. You may resume full activity the next day. Soreness at the injection site is relieved by using ice and taking Tylenol.

You may be asked to do activities that normally cause pain to test if the block is working. You may notice a slight increase in pain as the numbing medicine wears off. You will report the amount and duration of pain relief to the doctor's office.

What are the results?
The doctor will recommend further treatment based on how much pain relief you get after the block.

If you experience marked pain relief immediately after the diagnostic injection, the block is considered successful. A therapeutic injection may give pain relief for weeks to months allowing you to do physical therapy to strengthen the joint.

If you do NOT experience marked pain relief, then that specific nerve / joint may not be the source of pain. Further workup will be done to find the cause.

What are the risks?
A nerve block injection is a relatively safe procedure with minimal risks. Possible risks may include bleeding, temporary increase in nerve pain, neuritis, neuroma, localized numbness, infection, allergic reaction, and/or muscle weakness.

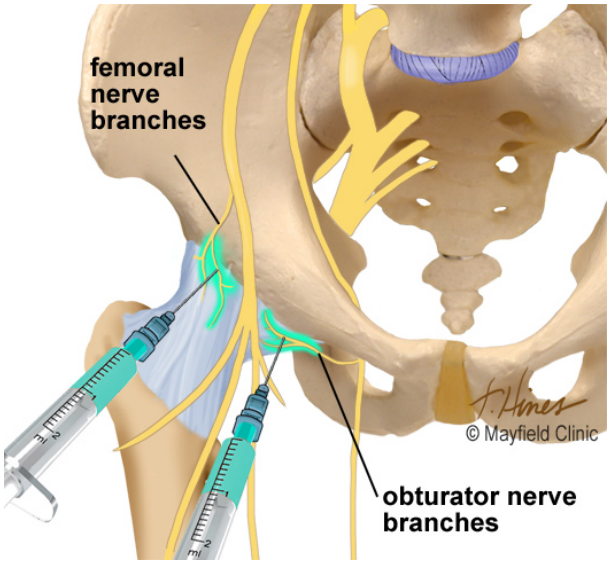

Figure 2. Anesthetic (green) injected along the femoral and obturator nerves to block pain signals in the hip joint.

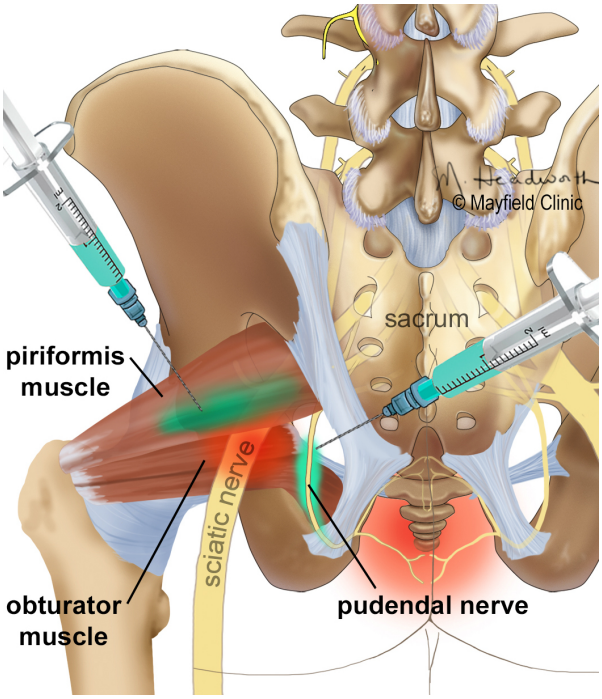

Figure 3. Sciatic and pudendal nerve entrapments can be treated with nerve block injections.

Sources & links
If you have questions, please contact Mayfield Brain & Spine at 800-325-7787 or 513-221-1100.

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