ROCK CREEK NEUROSURGERY

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Lumbar sympathetic nerve block

Overview

A lumbar sympathetic block is an injection of a local anesthetic that can help relieve chronic leg and foot pain caused by conditions such as complex regional pain syndrome, reflex sympathetic dystrophy, vascular insufficiency, and shingles. Medications are delivered to the sympathetic nerves – a cluster of nerve cell bodies – near the spine. The goal is to reduce pain so that you can resume normal activities and physical therapy.

What is a lumbar sympathetic block?

The sympathetic nerves in the body usually suppress pain, but sometimes can become oversensitive and transmit pain after an injury. During this minimally invasive procedure, a numbing agent (lidocaine or bupivacaine) is injected. In some cases a corticosteroid (betamethasone, triamcinolone, or dexamethasone) can also be injected. The medications are delivered to the sympathetic ganglia that lie adjacent to the L2, L3, and L4 vertebrae. The numbing agent can provide pain relief, while the corticosteroid can reduce inflammation.

Who is a candidate?

You may benefit from a sympathetic nerve block if you suffer chronic pain from:

- Complex regional pain syndrome Type 1 (reflex sympathetic dystrophy)
- Complex regional pain syndrome Type 2 (causalgia)
- Vascular insufficiency from small vessel blockage in the legs
- Phantom limb pain
- Postherpetic neuralgia from shingles (herpes zoster) in the legs
- Painful diabetic neuropathy in the legs not relieved with medications

A lumbar sympathetic block can be diagnostic and therapeutic. The procedure should not be performed if you have an infection or bleeding problems. The corticosteroid may temporarily elevate blood sugar levels in diabetics. It may also temporarily elevate blood pressure or eye pressure in patients with glaucoma. You should discuss this with your physician.

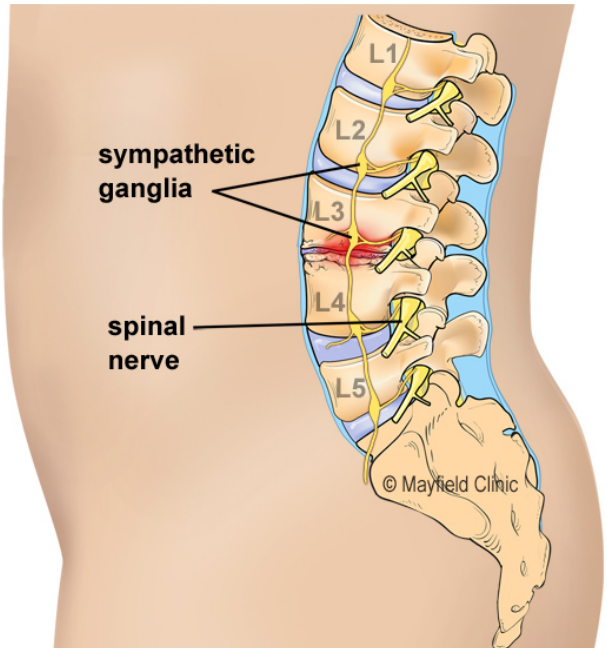

Figure 1. The sympathetic nerves are a small chain of ganglia located on both sides of the spine.

If you think you may be pregnant or are trying to conceive, please tell your physician. Fluoroscopy (x-rays) may be harmful to a fetus.

Who performs the procedure?

The types of physicians who administer nerve block injections include physiatrists (PM&R), radiologists, anesthesiologists, neurologists, and surgeons.

What happens before treatment?

The physician will review your medical history and imaging to plan the best approach for your injection. He or she will meet with you prior to your procedure and answer any questions.

Patients who take a blood thinning medication (warfarin, rivaroxaban, etc.) may need to stop taking it several days prior to the procedure. Discuss your medication with your prescribing doctor as well as the physician who will perform the injection.

The injection is usually an outpatient procedure performed in a fluoroscopy suite. Please make arrangements to have someone drive you to and from the office or outpatient treatment center.

What happens during treatment?

At the time of the procedure, you will need to have a list of your medications and allergies. You will also be asked to sign a consent form.

Step 1: prepare the patient
You will lie face down on the x-ray table. You may be given a low-dose sedative, such as diazepam or midazolam. Your lower back will be cleaned with a solution, and a local anesthetic will be injected to numb the skin. You will remain awake to provide feedback to your physician.

Step 2: insert the needle
The doctor will insert a hollow needle under fluoroscopic (x-ray) guidance through the skin and direct it to the lumbar sympathetic ganglia. The fluoroscope allows the physician to watch the needle movement in real time on a monitor. Contrast dye is injected to assure proper placement. Some discomfort occurs, but patients typically feel pressure more than pain.

Step 3: inject the medication
When the needle is properly placed, the medication is injected. The needle is removed.

What happens after treatment?

You may feel a sense of warmth or fullness in the affected leg. You may also feel some temporary numbness or weakness in the limb. You will be monitored for 15 to 30 minutes. You will be discharged when you are able walk without weakness. You cannot drive the day of the procedure. Do not swim or soak in a tub for 72 hours after the procedure.

Typically, patients resume full activity the next day. Soreness around the injection site may be relieved by using ice and taking a mild analgesic (Tylenol).

What are the results?

Many patients experience pain relief and benefits from the procedure. Commonly, patients need several lumbar sympathetic blocks to achieve long-lasting results. The timing of the procedures is determined by the results of the treatment.

What are the risks?

A nerve block injection is a relatively safe procedure with minimal risk of complications. Risks of a lumbar sympathetic block include bleeding, infection, allergic reaction, nerve damage, paralysis, a drop in blood pressure, anesthetic toxicity, hematuria (blood in the urine), numbness, weakness, and medication side effects.

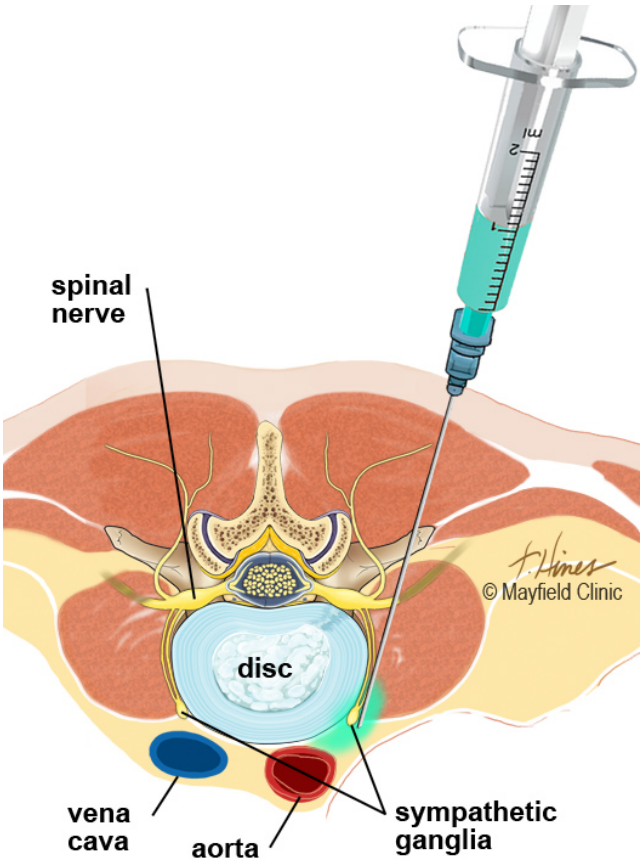

Figure 2. The anesthetic (green) is injected along the sympathetic ganglia to block the pain signals.

Sources & links

If you have more questions, please contact the Rock Creek Neurosurgery at 801-609-9310.

Links
http://www.spine-health.com
http://www.spineuniverse.com

Glossary

anesthetic: an agent that causes loss of sensation with or without the loss of consciousness
fluoroscopy: an imaging device that uses x-ray or other radiation to view structures in the body in real time. Also called a C-arm.
sympathetic nerves: part of the autonomic nervous system that controls our "fight-or-flight" response. They can constrict blood flow and increase heart rate, perspiration, and blood pressure.

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