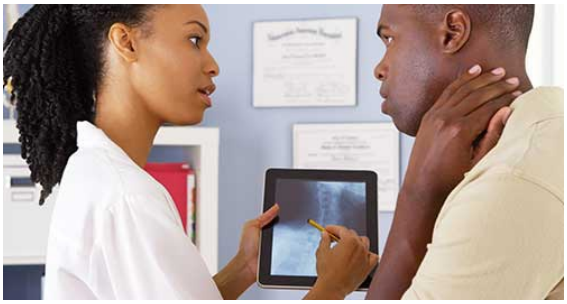
Nerve Blocks



A nerve block is an injection to decrease inflammation or "turn off" a pain signal along a specific distribution of nerve. Your doctor may use imaging guidance to place the needle in the most appropriate location for maximum benefit. A nerve block may allow a damaged nerve time to heal, provide temporary pain relief, and help identify a more specific cause of pain.

This procedure requires little to no special preparation. Tell your doctor if there's a possibility you are pregnant. Wear loose, comfortable clothing and leave jewelry at home. You may need to change into a gown for the procedure.

What is a Nerve Block?

A nerve block is an anesthetic (http://www.radiologyinfo.org) and/or anti-inflammatory injection targeted toward a certain nerve or group of nerves to treat pain. The purpose of the injection is to "turn off" a pain signal coming from a specific location in the body or to decrease inflammation in that area.

Your doctor may use imaging guidance, such as ultrasound (http://www.radiologyinfo.org) , fluoroscopy (http://www.radiologyinfo.org) , or computed tomography (http://www.radiologyinfo.org) (CT or "CAT" scan), to help place the needle in the most appropriate location. This will allow you to receive the maximum benefit from the injection.

What are some common uses of the procedure?

People who suffer from either acute or chronic pain might have a nerve block injection to achieve temporary pain relief. Often, such pain originates from the spine, but other areas commonly affected include the neck, buttocks, legs, and arms. Delivering a nerve block injection allows a damaged nerve time to heal itself from a state of constant irritation. Additionally, nerve blocks can provide diagnostic information to the doctor. By performing a nerve block and then monitoring how you respond, your doctor may determine the cause or source of the pain and plan further treatment. Nerve blocks are also done frequently before surgeries by an anesthesiologist or surgeon to help control pain after a procedure.

How should I prepare for the procedure?

Usually, a nerve block requires no special preparation.

You may need to change into a gown for the procedure.

The doctor will probably ask you to use the restroom before the procedure.

You will be positioned on your stomach, back or side depending on the type of nerve block being performed.

What does the equipment look like?

The doctor will insert a small needle through the skin and direct it towards the injection site. A small amount of contrast material

Copyright© 2026, RadiologyInfo.org

may be used to confirm needle placement in the appropriate location. The injection itself will use a syringe much like one that would be used for a routine vaccination. The doctor will fill the syringe from a small vial of medication. The type of medication your doctor uses will depend on your individual needs.

When imaging guidance is used, additional equipment will be present around you.

How does the procedure work?

The injection will deliver medication as close to the nerve causing the pain as possible. It will then "shut down" the pain receptors within the nerve(s) causing the problem.

The effects of the injection are usually immediate. It only takes a short time for the medication to achieve pain relief. However, nerve blocks are only a temporary fix. Depending on the medication mix, local anesthetics typically last for a few hours/days. Steroids are slower acting but longer lasting, sometimes providing relief for weeks or months. There may be a period where your symptoms return to baseline between when the local anesthetic wears off and the steroids have yet to take effect. Also, while most patients will experience relief, some may need to undergo several nerve blocks before they experience long term relief. Some may not ever experience benefit from this and may require different treatment methods to manage their symptoms.

How is the procedure performed?

This procedure is often done on an outpatient basis. However, some patients may require admission following the procedure. Ask your doctor if you will need to be admitted.

Most common nerve blocks are administered in the operating room just prior to surgery. Nerve blocks usually take only minutes to administer.

You will lie on a table or other surface to allow the doctor access to the site(s) to be injected. The doctor will identify the spot where the needle needs to be placed, using palpation and/or imaging guidance. They will clean the area with antiseptic solution. They will insert the needle at a specific depth to deliver the medication as close to the problematic nerve(s) as possible. The doctor may use an injection of contrast material to confirm needle position prior to injecting the medicine.

You may need more than one injection. This will depend on how many areas of pain you have or how large an area is involved. The doctor will most likely tell you when they insert the needle and when the injection is done.

When finished, you will be allowed to rest for 15 to 30 minutes to let the medication take effect. The nurse will also make sure you don't have any unexpected side effects before you leave the doctor's office.

What will I experience during the procedure?

You will probably feel a "pinch" when the doctor inserts the needle. However, as soon as the injection delivers the medication, you should feel less discomfort. Sometimes the doctor must insert the needle deep to reach the nerve causing your problem. This can be temporarily uncomfortable, but it is important to hold still so that the doctor can correctly insert the needle.

If you require an injection close to a major nerve or bundle of nerves, such as the sciatic nerve, your doctor will tell you to speak up if you get a sudden jolt of pain. This means that the needle has come too close to the major nerve and will need to be retracted and re-positioned. This happens rarely, however, so it should not be a major concern.

After the injection, you will probably experience a sensation of pain relief in the area injected. This will typically last a few weeks to months, or even permanently in some cases.

Who interprets the results and how do I get them?

Copyright© 2026, RadiologyInfo.org

A radiologist (http://www.radiologyinfo.org) or other pain management doctor will most likely perform the nerve block injection.

The doctor who delivers the injections will follow up with you to see how you are doing and determine if further action is required. Any imaging that is performed during the procedure itself will conclude with the procedure, and no follow-up image interpretation is necessary.

What are the benefits vs. risks?

Benefits

- Temporary pain relief
- Temporary reduction of inflammation in the distribution of the nerve causing pain
- May help the doctor identify a more specific cause of pain
- Better ability to function in daily life without the restrictions previously caused by pain

Risks

- Infection at the injection site
- Bleeding
- Accidental delivery of medication into the blood stream
- Unexpected spread of medication to other nerves or spinal canal
- Technical failure
- Hitting the "wrong" nerve while trying to block the targeted nerve, if the nerves are close together
- When fluoroscopy or CT is used, there will be minimal low-level radiation. *See Radiation Dose (https://www.radiologyinfo.org/en/info/safety-xray) for more information.*

Women should always tell their doctor and technologist (http://www.radiologyinfo.org) if they are pregnant. Doctors will not perform many tests during pregnancy to avoid exposing the fetus (http://www.radiologyinfo.org) to radiation. If an x-ray is necessary, the doctor will take precautions to minimize radiation exposure to the baby. *See the Radiation Safety (https://www.radiologyinfo.org/en/info/safety-radiation) page for more information about pregnancy and x-rays.*

What are the limitations of Nerve Block?

Typically, the effects of a nerve block injection are temporary and offer little to no long-term relief. Every person is different; however, nerve block injections are often delivered in a series and then discontinued, depending on the results they achieve. A patient may feel benefits after a round of injections, or none despite delivery of the medication to the correct spot. If the nerve blocks don't help ease your pain, however, your doctor will most likely recommend a different treatment approach.

Disclaimer

This information is copied from the RadiologyInfo Web site (http://www.radiologyinfo.org) which is dedicated to providing the highest quality information. To ensure that, each section is reviewed by a physician with expertise in the area presented. All information contained in the Web site is further reviewed by an ACR (American College of Radiology) - RSNA (Radiological Society of North America) committee, comprising physicians with expertise in several radiologic areas.

However, it is not possible to assure that this Web site contains complete, up-to-date information on any particular subject. Therefore, ACR and RSNA make no representations or warranties about the suitability of this information for use for any particular purpose. All information is provided "as is" without express or implied warranty.

Please visit the RadiologyInfo Web site at **http://www.radiologyinfo.org** to view or download the latest information.

Note: Images may be shown for illustrative purposes. Do not attempt to draw conclusions or make diagnoses by comparing these images to

other medical images, particularly your own. Only qualified physicians should interpret images; the radiologist is the physician expert trained in medical imaging.

Copyright

This material is copyrighted by either the Radiological Society of North America (RSNA), 820 Jorie Boulevard, Oak Brook, IL 60523-2251 or the American College of Radiology (ACR), 1891 Preston White Drive, Reston, VA 20191-4397. Commercial reproduction or multiple distribution by any traditional or electronically based reproduction/publication method is prohibited.

Copyright ® 2026 Radiological Society of North America, Inc.