

Occipital Nerve Block Injection

Overview

An occipital nerve block injection can help relieve headache and neuralgia pain at the back of the skull. Sometimes numbing the occipital nerve blocks the pain signals and reduces chronic headache. The effects of a nerve block tend to be temporary. If successful, a radiofrequency ablation may be recommended for longer pain relief.

What is a nerve / pain receptor block?

A nerve block is an injection of anesthetic on or near a nerve. The injection temporarily "blocks" the pain in the same way a dentist numbs your jaw before working on your teeth. The injection also contains a corticosteroid to reduce inflammation of the nerve.

The occipital nerves run from the spinal cord, through the neck muscles, to the back of the scalp (Fig. 1). Two pairs of nerves originate near the second and third cervical vertebrae of the neck. The greater occipital nerve is a branch of the C2 spinal nerve. The lesser occipital nerve is a branch of the C3 spinal nerve. Nerve inflammation causes pain at the base of the skull (usually on one side) that radiates to the top of the head, the temple, the forehead, or the eye.

Nerve blocks may be given along with trigger point injections in the neck muscles.

Occipital nerve blocks may relieve pain from:

- Occipital neuralgia, an electric-like shooting, stinging, or burning pain at the back of head.
- Incision pain that can occur after surgery for Chiari, C1-C2 spine fusions, or a craniotomy at the back of the skull.
- Shingles of the scalp (post-herpetic neuralgia).
- Tension or cluster headaches.

Nerve block injections may be done up to 3 times to calm down the overactive nerves, depending on the physician and patient preference, as well as insurance requirements.

Who is a candidate?

Occipital injections work best when the typical pattern is one-sided head pain consistent with C2

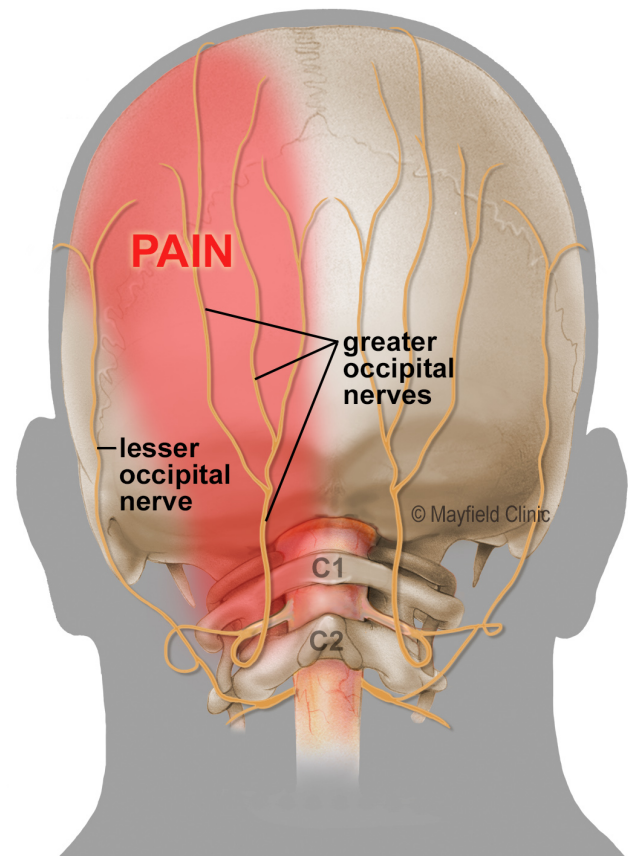


Figure 1. Two pairs of nerves, the lesser and greater occipital nerves, arise from C2 and C3 spinal nerves and provide sensation to the back and top of the head.

nerve pain (that goes from back of the skull, behind the eye and into the ear area). Typically, the procedure is recommended for those who do not respond to other conservative treatments, such as anti-inflammatory medication, massage, dry needling, or physical therapy.

Occipital injections should NOT be performed on people who have an infection or have bleeding problems. The injection may slightly elevate the blood sugar levels in patients with diabetes. It may also temporarily elevate blood pressure and eye pressure for patients with glaucoma. You should discuss this with your physician.

Who performs the procedure?

Physicians who administer nerve block injections include physiatrists (PM&R specialists), radiologists, anesthesiologists, neurologists, and surgeons.

What happens before treatment?

The doctor who will perform the procedure reviews your medical history and previous imaging studies to plan the best location for the injections. Be prepared to ask any questions you may have at this appointment.

Patients who take aspirin or a blood thinning medication may need to stop taking it several days before the procedure. Discuss any medications with your doctors, including the doctor who prescribed the medication and the one who will perform the injection.

The procedure is usually performed in an outpatient center.

What happens during treatment?

At the time of the procedure, you will be asked to sign consent forms, list medications you are presently taking, and list any allergies to medication that you have. The procedure may last 5-10 minutes, followed by a recovery period.

Step 1: prepare the patient

The patient sits or lies face down on the table. The injection is given at the back of the head, just above the neck. The patient remains awake during the injection to provide feedback to the doctor.

Step 2: insert the needle

The doctor feels the area and directs the needle through the skin and close to the trunk of the nerve. If the injection is well placed, the scalp on that side of the head will go numb quickly.

Step 3: inject the medication

Several angles of the needle ensure the anesthetic and steroid go deep into the tissues. The needle is then removed. If there is a lot of swelling in the nerve, the full effect of the steroids may not be felt for two or three days. Their effect is more long-lasting — sometimes weeks or months. One or several blocks may be performed, depending on the location of the pain.

What happens after treatment?

Most patients can walk around immediately after the procedure. After being monitored for a short time, you can usually leave the office or suite.

The effects of the local anesthetic may wear off in a few hours, but the effects of the steroid begin to increase over the next several days. You may notice a slight increase in pain as the numbing medicine wears off.

You may be asked to keep a daily pain diary to determine if the procedure was effective.

What are the results?

The physician will recommend further treatment based on your pain relief after the block.

If you experience marked pain relief immediately after the injection, then the block is considered successful and indicates that the occipital nerve is the source of your pain.

If you do NOT experience marked pain relief, the occipital nerves may not be the source of your pain. Further work should be done to diagnose the cause.

It is rare to do more than three occipital nerve blocks in a six-month period. The more injections of steroids that are given, the greater the chance of side effects. If more frequent injections are needed, another type of treatment may be considered.

Treatments might include:

- Cutting the nerve
- Relieving pressure on the nerve
- Killing nerve fibers with radiofrequency energy
- Implanting an occipital nerve stimulator, a device that is similar to a pacemaker in the heart. The neurostimulator delivers electrical impulses to help block pain messages to the brain.

What are the risks?

A nerve block injection is a relatively safe procedure with minimal risks. There may be some bleeding at the injection sites. The complications reported in the literature include: temporary increase in nerve pain, neuritis, neuroma, localized numbness, infection, allergic reaction to medications used during the procedure, and/or lack of pain relief.

Sources & links

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



updated > 1.2020
reviewed by > Donald Carruthers, MD, Mayfield Clinic, Cincinnati, Ohio

Mayfield Certified Health Info materials are written and developed by the Mayfield Clinic. We comply with the HONcode standard for trustworthy health information. This information is not intended to replace the medical advice of your health care provider. © Mayfield Clinic 1998-2020.