

Medial Branch Blocks and Radiofrequency Denervation

Introduction

You and your doctor have decided that it is appropriate for you to have diagnostic medial branch (facet joint nerve) blocks. The purpose of this procedure is to find out if the facet joints in your neck or back are responsible for your pain. If the blocks reveal this to be the case, you may consider medial branch denervation, or "permanent" nerve block. Below we will explain the goals of this therapy as well as the procedures. Please feel free to ask your doctor and nurses for more detailed information or explanation.

Therapeutic rationale:

Throughout the entire spine there are joints called facet joints. These joints are located in pairs along the posterior (back) of the spinal column but are not very close to the actual spinal cord. These joints are small and somewhat fragile and are prone to injury in certain types of traumatic, inflammatory or degenerative conditions. They also have a nerve supply that is capable of referring pain to the central neck, low back and buttocks. Unfortunately the joints cannot be repaired or replaced. However, the nerve supply to the joint can be affected. That is what these procedures do. In some cases spinal fusion surgery is an option. The denervation process has the potential advantage of avoiding or delaying surgery.

Diagnostic medial branch (facet nerve) blocks: In both the cervical (neck) and the lumbar (low back) regions the nerve that blocked with local anesthetic (numbing medication). This procedure allows you and your doctor to assess the role that these joints play in your pain problem. If your pain is made significantly better for a temporary period after the diagnostic block that may mean that the joint is responsible for your pain. If this is the case, the block will be repeated on one other occasion to verify the effect.

Sometimes you may experience long lasting pain relief after these injections. During the procedure you will be placed on the examination table in the procedure suite. The doctor will use fluoroscopy (x-ray) to locate the appropriate place for the block. A local anesthetic will be used to numb your skin. After that a sterile needle will be placed under x-ray guidance into the vicinity of the medial branch nerve. When positioning of the needle is acceptable, a small amount of local anesthetic will be injected.

You may experience some discomfort during the procedure but your doctor will be as gentle as possible. Remember that you are in charge and may request a pause if you feel that it is necessary. Typically, you will receive minimal sedation during this part of the procedure. This is important because the sedation medications will interfere with the interpretation of the results of the procedure. You will be under the care of your doctor performing the procedure and a pain management nurse will closely monitor you during the procedure. If your pain is not affected by the diagnostic block, it may be that the facet joint is not responsible for your pain. In this case, you and your doctor will need to find a different plan to treat your pain.

Radiofrequency denervation of the facet joint:

If you have had a series of diagnostic blocks and pain continues to be a problem, you and your doctor may elect to try a long-term solution. The nerve to the facet joints can be destroyed by the use of a special technique called radiofrequency denervation. In this technique, a special needle is placed under x-ray guidance. When the needle is in the correct position, it is attached to the radiofrequency generator. The generator gives your doctor the ability to verify the position of the needles in relationship to the nerves in the area. When your doctor is sure the

location is appropriate and safe, the radiofrequency generator will be used to heat the tissue at the end of the needle. This will destroy the nerve that supplies the facet joint.

If necessary, this procedure will be repeated at several levels as determined by the results of your diagnostic blocks. Since the procedure is more uncomfortable than the diagnostic blocks and since the important decision have been made by this time, you will have sedation and pain relieving medication administered intravenously during the denervation. The sedation may be administered by the nurse under the direct supervision of the doctor.

Goals of facet denervation:

This procedure is not designed to eliminate all of your pain. Unfortunately, that result is not usually a realistic expectation. However, it may substantially reduce the pain that you experience directly due to your facet joints. This will allow you to perform physical therapy that you were previously unable to do. This post-procedural physical therapy is very important to your recovery and is generally different than physical therapy that you have done previously.

Common questions and concerns

My pain relief was only temporary after the diagnostic block. Is that a failure?

No. The diagnostic blocks may or may not produce long-lasting pain relief. It is generally difficult to predict. They are mostly designed to find out if temporary reduction of nerve function results in temporary relief of pain. If blocks are effective for some time but pain persists, it may be appropriate to try a denervation procedure.

Isn't it bad to destroy nerve? Don't I need them?

Generally speaking, yes. In this case, however, there is not a great risk with the destructive procedure. This is a minor nerve that only serves the joint and a small muscle that may also be responsible for your pain. Unless an entire series of these nerves are damaged, you won't notice the loss. Often, injury to a large nerve or one that supplies the skin results in increased pain. This is not generally the case after these procedures because of the way in which the radiofrequency lesion is generated.

Will the nerve grow back?

Yes, in 3-12 months the nerve will generally grow back. Since the radiofrequency lesion does not physically disrupt the nerve like a scalpel would, the regenerating nerve will not create a neuroma (another painful condition).

When the nerve grows back, some of the discomfort may return but not necessarily.