

## Medial Branch Block (MBB) and Radiofrequency Ablation (RFA)

### What is a medial branch block and why is it necessary?

A medial branch block is a diagnostic procedure (injection) and usually the first step to help narrow the source of your neck or back pain. This injection/procedure is not a treatment per se, but is used to facilitate future treatments to ensure they will be effective.

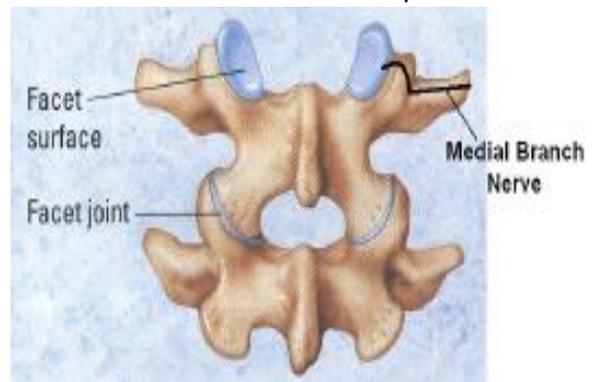
A common cause of pain is the small joints (facet joint) of the spinal column. These joints help stabilize the spine, and like any other joints in your body, are susceptible to pain when injured. There is also a capsule (covering) surrounding the joints, and if stretched can also cause pain and discomfort. These joints are controlled by small medial branch nerves that lie on the outside of the spinal column. They send sensory signals to the brain regarding the facet joints.

This procedure is considered a diagnostic test. You will be asked to complete a diary the day of your procedure and list your pain level and activities. Keeping track of your pain level immediately following the procedure and throughout the rest of this day, gives the physician excellent information to assist in your treatment plan. It is important you go through your usual activities that day.

Facet joint pain has a predictable referral pattern. Based on your symptoms and where the pain is present, your doctor, with your help, will try to isolate the joints that are causing the symptoms in order to come up with a treatment plan. With the degree of variability that is present, these procedures become increasingly important to localize the exact source of pain.

Injection of these medial branches is an accurate and definitive way to diagnose facet joint pain syndrome because certain joints may appear abnormal but not cause pain and, conversely, the problem joints may appear nearly normal on MRI imaging.

Picture 1: Facet Joint Anatomy



### What is injected?

The medication injected and used in this procedure is a numbing medicine designed to block the nerves that send the signals from the painful joints. This medication is only temporary and is used to guide further treatment. It is similar to the medication your dentist uses to numb the mouth before a procedure.

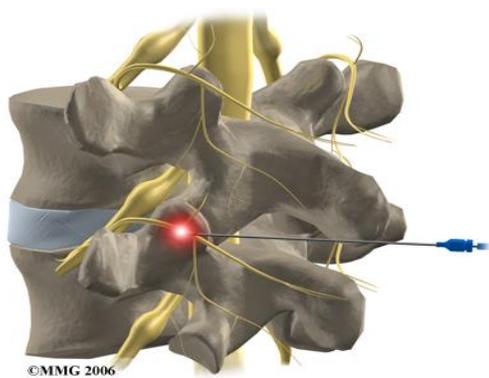
### How is the medication delivered?

Your doctor will be using an x-ray machine (fluoroscopy) to guide the needles to where the nerve meets the joint. Also, contrast or dye will be used to gauge the spread of the medication, ensuring proper delivery of the medication.

## Why is this procedure performed?

As relief from medial branch blocks is only temporary, it is used to facilitate long term treatment. Once it is established that the pain is coming from the facet joints, a more permanent solution can be undertaken. This is called Radiofrequency Ablation (or Neurotomy). This is the second and last step of treating and improving your pain.

Radiofrequency Ablation (RFA) is a safe, proven means of interrupting pain signals. Radiofrequency current is used to heat up a small volume of nerve tissue, thereby interrupting pain signals from that particular area. Radiofrequency techniques have been available for treating various pain disorders since the early 1970s. It is commonly used to treat abnormal signals in the heart to stop certain abnormal heartbeats. Similar technology is used to interrupt pain signals that start in the facet joint. Radiofrequency needles (Picture 2), accurately placed with the aid of a fluoroscopic X-ray machine, generate local heat at the tip when electrical current is applied which can be precisely controlled to treat painful nerves with minimal surrounding tissue damage. RFA can be performed with little trauma using local anesthesia and intravenous sedation. Radiofrequency treatment blocks pain signals for a prolonged period of time, sometimes many months or even years. If necessary it can be repeated.



Picture 2: Radiofrequency needles are positioned near the problem joint to where the nerve exists, in order to treat certain low back pain conditions.

## Are these procedures safe?

Like any procedure, there are risks, benefits and trade-offs. Your doctor may recommend different combinations of medication and approaches depending on a number of factors, including your specific medical conditions, pain issues and possible source of pain.

With the medications and technology, such as fluoroscopy available today, injection procedures for pain are remarkably safe, but with any intervention, there are potential risks. Millions of patients have received these injections and procedures over the last three decades, and the incidence of complications are very rare. Your doctor will discuss specific risks and alternatives with you. Your physician will talk to you about these risks, which may include: infection, bleeding, nerve injury, or headache. Your physician will also discuss the different ways that the needle can be inserted to target the appropriate structure as well as preventing future episodes of back pain.

**It is important that you have the information you need so that you can make an informed decision regarding your procedure. You are encouraged to ask your physician questions. You should only agree to have the injection done when you fully understand the risks and alternatives and have made a decision to proceed.**