



Radiofrequency Medial Branch Neurolysis

Introduction

Neurolysis (or nerve destroying) procedures can be used for the long-term treatment of painful conditions in the low back or neck. Pain in the spine can arise from the small joints in the posterior portion of the spinal column called the facet joints. Many patients referred to the pain clinic have pain in the musculoskeletal system coming from these structures. Typically, we can establish the diagnosis of facet joint pain by first injecting the nerves that go to them with local anesthetic under X-ray guidance. These injections are called *Diagnostic Facet Injections*. If some pain relief occurs, the pain fibers going to these joints can then be zapped by using a controlled heating procedure that does not lead to scarring in order to help the patient achieve long-term relief. Since the nerve will grow back in time, it is important not to complicate the healing process for the nerve by causing scar tissue to form. Once pain relief is accomplished satisfactorily, a program of rehabilitation consisting of back strengthening and stabilization of the spine can help prevent recurrence of pain once the nerves grow back.

What is a Radiofrequency Neurolysis?

A radiofrequency neurolysis is the burning of the nerves with a small probe approximately the size of a standard injection needle. This is done under x-ray or fluoroscopy. The pain fibers are located because they have a standard location relative to the joint. This location can be examined and located under x-ray. The needle is then placed with x-ray assistance on top of the pain fiber. The pain fiber is then heated to approximately 80 degrees Centigrade for one minute. This puts the nerve out of commission anywhere from 6 weeks to 2 months. The nerves are not permanently zapped because their cell body is in the spinal cord. The cell body sends out signals for the nerve to regenerate its limbs, so to speak, which takes the 6 weeks to 2 months to complete. This is not all the story, however. It has been found that with proper rehabilitation, pain relief at one year can occur for up to 90% of individuals despite nerve regeneration in 2 months. This is the importance of the proper program of rehabilitation.

The procedure is simple and can be safely repeated on an outpatient basis 2-3 times per year as needed.

How is it performed?

Facet joint radiofrequency neurolysis procedures are performed under x-ray. The patient is brought into the x-ray suite and IV medication can be given for relaxation. It is important that you remain awake to answer questions during the procedure. The doctor then numbs up the skin with a small needle and then places the procedure needle on the nerve causing the pain next to the joint. The doctor then asks the patient to tell him when

he feels a different feeling such as a pressure sensation indicating that the needle is close enough to stimulate the nerve. Once this nerve is numbed, the temperature of the needle is then gradually increased to 80 degrees for 60 seconds causing the nerve to die and not transmit pain signals. An anti-inflammatory steroid is injected and the needle is removed. Each nerve is then treated in the same manner.

Possible complications

There are hundreds of thousands of these procedures being performed every year in the United States. Complication rates are extremely low. There may be some slight swelling or bruising in the spine where the injection is given. Approximately ten percent of the patients will have pain complaints at the site of injection for 24-48 hours. This will usually respond to standard over the counter anti-inflammatory drugs such as Ibuprofen and ice applied to the area.

What can I expect after the injection?

You may have a small bruise and a slight increase in back pain for 24-48 hours, however, some patients may not begin to notice relief for 2-3 week. Generally speaking, at approximately day three you will start to note some relief. The relief can be variable generally lasting anywhere from 6 weeks to much longer.

When can I resume my normal activities?

You may resume your activities after the procedure. If you have any concerns at all of what to do after your neurolysis, please ask the nurse for clarification.

Why do I need to add Rehabilitation training if my pain is better?

Just like a car that has its front tires changed when they wear unevenly, if the front end is not aligned they will quickly wear out again. Unlike your car, you have only one back and replacing parts on it (surgery) is not without many risks that need to be avoided. Therefore, we have found that with the proper musculoskeletal evaluation and training, we can help you align and strengthen your back and many times avoid recurrence of problems. A coordinated program of care can go along way toward ensuring the best long term outcome.