

CERVICAL RFA (RADIO FREQUENCY ABLATION)

CERVICAL RADIO FREQUENCY ABLATION RFA

The diagnosis your doctor has given you that explains why your neck hurts is *cervical facet arthritis*. This diagnosis was made because your neck pain was relieved after your doctor anesthetized your facet joints. Unfortunately, the pain is recurring and requiring repeated injections for relief because your facet joints are too degenerative (“bone on bone”) for the steroid injections to be of any further benefit.

What can we do now?

An option at this time, other than a surgical fusion, would be to destroy the nerves that are conducting the painful signals from your facet joints. This procedure is referred to as a *denervation*. (“removing or destroying a nerve”). Much like the dentist removing the pain generating nerve from a tooth during a root canal, this procedure only destroys the nerve that causes the pain and not the nerves that cause you to touch, feel or move your limbs.

Where are these nerves?

The nerves that innervate the facet joints are the nerves that exit from the spinal cord and split into two branches. One goes forward toward your throat referred to as the *anterior rami* (rami means “branch”) and forms the nerves that allow you to feel and move your arms. The other branch a *posterior rami* that curves toward the skin of your neck which conduct pain signals from the joints and some muscles of the spine. These posterior rami are the target group of nerves.

These nerves lie in the middle of a “trapezoid” formed by the joints above and below and a bone jutting out perpendicular to the joint called the transverse process. Although nerves cannot be seen on xray, this “trapezoid” is very easily seen on fluoroscopy (xray) such that the tip of a needle could be placed directly next to the nerve.

How do you destroy this nerve?

Using a special needle that is insulated except at the last few millimeters of the tip, electricity is sent down the needle at the speed of radio waves (60,000cycles/sec) creating heat. Just like a bowl in your microwave does not get hot but the food in side does, the needle stays cool while the tissues immediately around the needle get very warm. Indeed, this heat can be adjusted to be hot enough to destroy the pain nerves but not hot enough to do any collateral damage to surrounding tissues and nerves. This technique of denervating the facet joints is called *radiofrequency technique*.

How is this procedure performed?

Using the fluoroscopy xray machine, the special needle is placed so that the tip lies in the middle of the trapezoid of the facet joint. To make sure that the needle is very close to the facet nerve and far away from the nerve that makes you feel and move, a small current of electricity is sent down the needle to stimulate the nerve. If it is the nerve to your arm, then it will harmlessly tingle in the arm. If it is close to the pain nerve, it will reproduce your neck pain a bit.

Once the needle is in good position, a small amount of local anesthetic is injected to anesthetize the nerves and the radiofrequency procedure is begun. It is painless. Since the joints often share nerves from the surrounding joints, and since it is almost always a disease affecting both sides, the nerves of 2-3 joints on each side are destroyed or *lesioned* at any one procedure. Each nerve requires about 2 minutes of the radiofrequency energy to produce the lesion. Afterward, you will be observed for 15-20minutes in a recovery area.

What are the risks?

The risk of infection and bleeding are the same as the facet steroid injection. Obviously, there is an additional risk of damaging a nerve that makes you move or feel. With the above safeguards, this is extremely unlikely and if it does occur, will improve with time.

What are the side effects?

Since there are no drugs injected or used, there are no side effects. Patients often report that the pain returns a little worse for a week or so. Occasionally patients will report that their head feels “disconnected” from their neck. Since the same nerve that is destroyed also provides sensation to the skin of the neck, patients will report a “sunburn feeling” afterward. These side effects always improve in a few weeks. At times, the muscles feel tired and weak. This is from deconditioning since the muscles have not moved or stretched for a long time while they were painful. This often improves with exercise/PT and muscle reconditioning.

How long will the relief last?

Unlike the rather rapid relief following a facet steroid injection, the relief found after a facet denervation may take 4-6 weeks before any relief is felt. But, we have seen the relief to last months to a year. If it were to recur, repeating the procedure is equally effective.

Will there be any followup?

A followup visit is scheduled in 4 weeks to evaluate the status of the pain and further disposition.

- If the pain is relieved, then we can conclude that the joint is the tissue that is causing the neck pain. We can expect 6months to a year of relief.
- If not, then we can safely say that either the facet joints are *not* the cause of your neck pain or not the *entire* cause of your neck pain. There might be another tissue in your back in addition to your facets that is the cause of the neck pain. If it is not muscle or a broken bone, then the disc would be suspected. Further injections will help to decide if this is the case.

ON THE DAY OF YOUR PROCEDURE, PLEASE DO THE FOLLOWING:

- ◆ Take all blood pressure pills & heart medications prior to the procedure with a sip of water at least 3 hours before your requested arrival time. Your vitals must be stable to have the procedure.
- ◆ Have a responsible person to take you home.
- ◆ Arrive at the requested procedure time. Please do not be late or your procedure may be cancelled.

ON THE DAY OF YOUR PROCEDURE:

- ◆ **Do not** take ANY of the following **5** days before your procedure: Coumadin
- ◆ **Do not** take ANY of the following **7** days before your procedure: Plavix
- ◆ Coumadin must be stopped prior to the injection. You must have a normal INR prior to the injection. **Do not stop the drug by yourself.**
- ◆ Eat or drink 6 hours before the procedure.

NOTE: YOUR PROCEDURE WILL BE CANCELLED IF:

**You have an active infection, flu, cold, fever, or very high blood pressure.
You do not have a responsible driver to take you home, arrive late for your
procedure,
or unable to follow the medication / fluid restrictions.**

Call the office at (501) 219-1114 for procedure related questions.