GENICULAR RADIOFREQUENCY ABLATION (RHIZOTOMY)

What is a genicular radiofrequency ablation (RFA)?

A genicular RFA is a procedure to cauterize (burn) a nerve that is transmitting pain signals from an arthritic or damaged knee to the brain.

What is the purpose of a genicular RFA?

There are a series of nerves that transmits pain from a knee to the brain when the knee is arthritic or damaged. If these nerves are ablated (or cauterized), pain from the knee can no longer be transmitted to the brain. A genicular RFA is therefore performed to alleviate pain due to arthritic or damaged knees, and this treatment typically works for 8-12 months. Pain recurs as those nerves regenerate.

How is the procedure performed?

You will be placed on the procedure table. The injection site is sterilized with either iodine or chlorhexadine. The site to be injected is numbed with a local anesthetic, and a needle is directed to the target area. X-ray guidance is used to ensure proper placement and positioning of the needle. Once the needle is properly positioned, a test is performed to ensure that the needle tip is close to the appropriate nerve, and that it is close enough to ensure a successful ablation. Radiofrequency waves are then transmitted to the tip of the needle, which causes it to reach a temperature of 80 degrees Celsius. The needle tip is heated to this level for sixty seconds in order to complete the ablation process. This process is repeated for each targeted nerve.

Will the procedure be painful?

The injection can be painful and we therefore provide the option of receiving IV sedation. IV sedation, combined with local anesthetic, can make the injection nearly pain free. It allows you to remain very still during the procedure, which can also make the injection easier, faster, and more successful. If you decide to have IV sedation, you must have a driver to get you home safely afterwards. In addition, you cannot have anything to eat within 6 hours of your appointment (clear liquids are allowed until 2 hours before the procedure). If you take medications for diabetes, these medications may need to be adjusted the morning of the procedure. Your primary care physician can help you with this adjustment.

What are the discharge instructions?

If you have received IV sedation do not drive or operate machinery. You may return to work the next day following your procedure. You may resume your normal diet immediately. Do not engage in any strenuous activity for 24 hours. Do not take a bath, swim, or use a hot tub for 24 hours (you may take a shower). Call the office if you have any of the following: severe pain afterwards (different than your usual symptoms), redness/swelling/discharge at the injection site(s), fevers/chills, difficulty with bowel or bladder functions.

What are the risks and side effects?

The complication rate for this procedure is very low. Whenever a needle enters the skin, bleeding or infection can occur. Some other serious but extremely rare risks include paralysis and death.

You may have an allergic reaction to any of the medications used. If you have a known allergy to any medications, especially local anesthetics, notify our staff before the procedure takes place.

You may experience any of the following side effects up to 4 hours after the procedure:

- Leg muscle weakness or numbness may occur due to the local anesthetic affecting the nerves that control your legs (this is a temporary affect and it is not paralysis). If you have any leg weakness or numbness, walk only with assistance in order to prevent falls and injury. Your leg strength will return slowly and completely.
- Dizziness may occur due to a decrease in your blood pressure. If this occurs, remain in a seated or lying position. Gradually sit up, and then stand after at least 10 minutes of sitting.
- Mild headaches may occur. Drink fluids and take pain medications if needed. If the headaches persist or become severe, call the office.
- Moderate to severe discomfort at the injection site can occur. This can last for a couple weeks or longer, and is due to inflammation of ablated nerve(s). If this occurs, take anti-inflammatories or pain medications, apply ice to the area the day of the procedure. If it persists, apply moist heat in the day(s) following. The nerve(s) will heal slowly and the inflammation will resolve, leading to resolution of this pain caused by the procedure.

The side effects listed above can be normal. They are not dangerous and will resolve on their own. If, however, you experience any of the following, a complication may have occurred and you should either contact your doctor. If he is not readily available, then you should proceed to the closest urgent care center for evaluation:

- Severe or progressive pain at the injection site(s)

- Arm or leg weakness that progressively worsens or persists for longer than 8 hours
- Severe or progressive redness, swelling, or discharge from the injections site(s)
- Fevers, chills, nausea, or vomiting
- Bowel or bladder dysfunction (i.e. inability to urinate or pass stool or difficulty controlling either)

How long does it take for the procedure to work?

The healing process can take up to 2-4 weeks. As your nerve(s) heal from this procedure, the pain will continue to imporve. The maximum benefit from this procedure is typically experienced about 2 weeks afterwards, and this typically lasts 8-12 months.