



**S O U T H W E S T**  
**Spine & Sports**

## ***Pulsed Radiofrequency Treatment***

### ***What is a pulsed radiofrequency?***

Pulsed radiofrequency refers to a technique used for creating a carefully controlled electrical field around an electrode. For its use in treating pain, this electrode is usually built into the shape and size of a needle. It was first used as a pain treatment option in the mid 1990's. This technique is not the same as that used for a radiofrequency ablation procedure. The word "pulsed" means this technique applies energy to the electrode intermittently. This keeps the temperature very low, unlike the higher temperatures required for an ablation.

### ***Why is pulsed radiofrequency treatment used to treat pain?***

Scientific studies have demonstrated that the application of pulsed radiofrequency to certain nerves can block some of their ability to transmit pain. What is known thus far is that when a pulsed radiofrequency electrical field is applied to a nerve, it selectively affects only the portion of the nerve responsible for sending pain signals. Pulsed radiofrequency treatment is most effective at treating difficult types of pain that typically originate from either nerve damage or irritated nerves. In fact, many times, it seems that pulsed radiofrequency can offer additional pain relief even after other treatment options have failed, such as regular epidural injections. It is a valuable option for many patients with chronic nerve-related pain.

### ***What happens during the procedure?***

If a pulsed radiofrequency treatment is determined to be appropriate for you, an appointment will be made for you and your doctor at an outpatient injection facility. You may be given the option to receive some light sedation intravenously to help you relax. If sedation is used, you will be monitored closely with a heart rhythm monitor, blood pressure cuff, and blood oxygen sensing device. Local anesthetic will be used prior to the actual injection. The electrode is placed through the skin in the same way a typical needle would be used. Your doctor uses fluoroscopy (x-ray) to position the electrode closely to the affected nerve or nerves as they exit the spine. Once the needle is positioned, a very mild amount of pulsed radiofrequency is applied to make sure the electrode is in the proper position. This may or may not cause a sensation of tingling, buzzing, or vibrating in the distribution of your typical pain. With the electrode in the proper position, the pulsed radiofrequency procedure is performed. Usually, after completion of the stimulation, a small amount of corticosteroid is injected along with local anesthetic to decrease any temporary irritation to the nerve. Then, the electrode is removed and a small bandage is placed over the injection site.

### ***How long as the procedure take?***

You will typically be at the procedure center for about 2 hours, which includes time to check-in, preparation for the procedure and some time spent immediately after the procedure before you are released home. The procedure itself takes approximately 30 minutes. You will need someone to drive you home.

### ***Is the procedure painful?***

The procedure does involve injections, so you may feel some discomfort. The local anesthetic and intravenous medications are given to make you feel as comfortable as possible. As the electrode is positioned you may feel some of your typical symptoms. During the application of the pulsed radiofrequency treatment you may feel some pulsating in your limb or sensory changes in the distribution of your usual pain.

### ***How long does it take for the pain relief to begin?***

You may experience numbness or relief from your typical pain for up to 6 hours after the injection. This is due to the use of the local anesthetic. The beneficial effects of the steroid injection usually begin 2-4 days after the injection. Relief from the pulsed radiofrequency treatment may take up to several weeks to demonstrate a full effect, and the onset is usually subtle, becoming progressively better.

### ***Can I receive more than one treatment?***

Some studies have demonstrated lasting effects beyond one year. The good news is that other studies have demonstrated beneficial effects after repeat pulsed radiofrequency procedures. You and your doctor can determine if any repeat treatments are warranted.

### ***What are the risks of this procedure?***

Generally speaking, this procedure is very safe. However as with any procedure, there are risks, side effects, and the possibility of complications. The most common side effect is pain, which is temporary. There is also occasional bruising or skin discoloration at the injection site. Because the intention is to have the electrode close to the nerve root, this could cause a slight increase in pain with possible symptoms extending into the limb. It is very unlikely, but there could be permanent nerve damage. There is a slight possibility of developing an infection. If this were to occur, it could require the use of antibiotics. Additionally, if the infection were severe, it could require intravenous antibiotics, hospitalization, and possible surgery. Very rare complications may include known problems from repetitive steroid use, reaction to the injected medications causing respiratory or cardiac compromise, as well as seizures. Death is even a possibility, as with any invasive seizure, although this is exceedingly rare. Steroid medications have been associated with certain types of bone damage but this is usually limited to uses of high doses or frequent exposure.

# *Pre-Procedure Instructions for Pulsed Radiofrequency*

- Please stop all aspirin, aspirin products, and all nonsteroidals – except Celebrex– 5 days before the procedure. Examples of nonsteroidals that need to be stopped are: **Motrin, Advil, Naprosyn, Naproxen, Aleve, Indocin, Lodine, Orudis, Relafen, Daypro, Tolectin, Mobic, Torodol, Voltaren, Trilisate, Dolobid, Arthrotec, Ibuprofen, Diclofenac and Clinoril.**
- If you have questions regarding these types of products or their discontinuation, you should discuss this with one of our staff.
- If you take fish oil or Vitamin E supplementation, please stop these 5 days prior to the injection.
- If you take **Coumadin, Heparin, Lovenox, Warfarin, Pradaxa, Debigatran, Orgaran, Innohep, Fragmin, Argatroban, Plavix, Effient, Prasugrel, ReoPro, Ticlid, Trental, Persantine,** or any other **blood thinner**, notify your doctor. This medication must be discontinued prior to an injection and requires permission from the provider prescribing it.
- Do not eat 6 hours or drink 2 hours prior to the procedure. You may take routine a.m. medications with a small amount of water.
- Please wear comfortable, loose fitting clothing with an elastic waist band such as gym shorts, sweats, or pajama bottoms. Please do not wear jeans. Due to the use of betadine, please if possible wear dark colors.
- You may be requested to obtain laboratory work and an EKG prior to your procedure. This will be discussed and ordered, if necessary, at the pre-procedure appointment with your provider.
- For your safety, you must have a responsible adult to drive you home. Failure to have a driver may result in the cancellation of your procedure. Taxis are not permitted.
- If you have any problems, please contact our office directly to speak with a medical assistant.
- You will need to schedule a follow-up appointment for approximately 10 days to 2 weeks after your procedure. If this is not already scheduled please contact our office to schedule immediately.

Date of procedure: \_\_\_\_\_ Arrive at: \_\_\_\_\_ a.m./p.m.

Gateway Surgical Center 690 N. Cofco Center Court Suite 150 Phoenix, AZ 85008 (602) 288-4441	NSASC 9439 E Ironwood Square Dr. Suite 100 Scottsdale, AZ 85258 (480) 355-3750	Tempe Surgical Suite 4765 S Lakeshore Dr. Tempe, AZ 85282 (480) 860-8998
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# *Post Spine Procedure Instructions and Follow-up Orders*

- Your activity level following your injection should be at the following levels:

**Day of Injection:** We recommend no new activities. You should rest the day of the procedure. You can participate in all previous activities, but do this at a level of 25% of your usual effort. Avoid sustained sitting or standing and alternate your positions on a regular basis (about every 20 minutes).

**Day 2:** 25% to 50% of your usual activity level.

**Day 3:** Up to 75% of your usual activity level.

**Day 4:** After Day 4, activity is unrestricted as tolerated. If your physician gives you specific instructions or you have physical therapy, please follow these.

- **Diet:** Return to your normal diet as tolerated.
- **Medications:** ■ Resume aspirin and other anticoagulants the first day after the injection.
  - Resume your other medications as per your physician's previous directions.
- Should you have fever, chills, drainage, excessive swelling or redness from the injection site, bladder or bowel dysfunction, or change in sensation or muscle strength, please contact our office immediately. If you cannot reach your physician, please present to the nearest emergency room.
- The bandage may be removed after 24 hours.
- You may shower immediately, but please avoid swimming or baths/Jacuzzis/hot tubs for the first 2 days after the procedure, to reduce the risk of infection.
- You may use ice compresses over the injection site – 20 minutes on, then 20 minutes off. Repeat this cycle as required. If using a gel pack, make sure a towel or piece of cloth is placed between the cold pack and the skin. Do not apply the cold packs to the numb areas following injection.
- Common side effects following the procedure include:
  - Decreased pain and possibly some numbness for 4 to 8 hours due to the local anesthetic.
  - Pain at the injection site.
  - A small amount of bleeding at the injection site.
  - Back stiffness.
  - If a steroid medication was used during the procedure, possible side effects include facial flushing, insomnia, and occasionally a low-grade fever.

All of the side effects listed should disappear within 1 to 3 days after the procedure.

- If you experience a post-procedure headache, please contact our office. For the first 24 hours, lie down as much as possible. You can take Tylenol up to 3 grams per day in doses of 1 gram every 8 hours. Drink plenty of fluids in the form of caffeinated beverages. The caffeine will often minimize the headache substantially. If you continue with headaches after 24 hours following the procedure, please contact our office.