



Radiofrequency ablation (RFA) is a minimally invasive procedure that is performed at your doctor's office.

Step-by-Step Procedure for Radiofrequency Ablation

RFA can be performed under local or mild sedation. If sedation is used, the patient is usually kept awake and conscious to an extent to be able to describe what they feel during the stimulation and lesioning of the nerve. RFA involves the following steps:

- The patient lies on his/her stomach on a procedure table. If sedation is used, an intravenous (IV) line is started so that relaxation medicine (sedation) can be given.
- The skin over the treatment area (neck, mid-back, or low back) is well cleaned to minimize the risk of infection.
- The physician numbs a small area of skin by injecting a numbing medicine (anesthetic) in the region of the RFA injection site.
- The physician uses x-ray guidance (fluoroscopy) to direct the RFA needle toward the medial branch nerves that transmit pain from the facet joint(s). Each facet joint is connected to 2 medial branch nerves that carry pain signals away from the spine to the brain.
- Once the needle tip is placed accurately, an active electrode is inserted through the needle and a small amount of electrical current is carefully passed next to the target nerve and a safe distance from other nerves. This current may briefly recreate the painful symptoms that the patient usually experiences.
- Once the target nerve is confirmed, a heat lesion is created on the nerve.
- This process may be repeated for additional nerves.

The entire procedure usually takes about 15 minutes. It is advised to have someone drive the patient home after the procedure.

Radiofrequency Ablation Recovery

Immediately after the RFA, the patient is shifted to a recovery room for 15 minutes to an hour (if sedation was used) where his/her vital signs are continuously monitored. Depending on the area treated, a superficial burning pain with hypersensitivity, similar to a sunburn feeling may be experienced. Sometimes a slight numbness of the skin over the same area may also be experienced.

A few precautions and tips for the first day or two after RFA are:



- **An ice pack** may be used intermittently to numb the pain and reduce swelling on the injection site. Ice packs must be used for 15 to 20 minutes at a time with a break of at least two hours in between to avoid skin injury. Heat packs are usually not advised on the injection site after RFA.
- **Warm showers** are preferred over baths for 1 to 2 days after the RFA procedure.

Pain relief after RFA is typically experienced 1 to 3 weeks after the injection. Patients may engage in regular activities but should let pain levels be their guide for the first few days before returning to normal activities. Since many patients have been de-conditioned over many months or years as a result of their pain, physicians might prescribe a guided physical therapy regimen to allow them to increase their strength and activity tolerance in a safe manner.

The radiofrequency ablation treatment is a relatively safe and low-risk procedure. However, some people may experience certain side effects and/or complications from this treatment. It is advised to discuss the potential risk of developing any adverse reactions or side effects of RFA with a doctor prior to this treatment.

Side Effects of Radiofrequency Ablation

Immediately after radiofrequency ablation, the following side effects may be experienced:

- Burning and/or hypersensitivity over the injection site
- Numbness and/or tingling over the injection site

Sometimes, these symptoms may feel like a sunburn in the treated area. While these symptoms may last for the first few days or weeks, they can be managed by resting, intermittently using an ice-pack over the sore area, and using topical or oral medications like Ibuprofen etc.

These symptoms are typically not severe, however, sometimes the pain may be troublesome and may last for several weeks. While these symptoms are less common in the mid and low back, they may be more common at higher levels of the neck. These side effects may be due to increased irritation of a nerve that was only partially damaged and may still possess some function.

The medial branch nerves control some small muscles in the neck and mid or low back, but the loss of these nerves usually does not cause any significant loss of motor function.



There may be a concern that without the ability to feel sensation through the treated nerves, an injury to either the neck or back may be caused. There is, however, no scientific evidence to support this concern.

Risks of Radiofrequency Ablation

Although rare, serious risks may occur during or after the radiofrequency ablation procedure. These risks may be associated with the RFA procedure or the sedation provided prior to the treatment.

- Hyperesthesia—an excessive, abnormal sensitivity over the skin of the injection site
 - Superficial skin infections over the injection site
 - Damage to surrounding blood vessels and nerves during needle insertion resulting in excessive bleeding and/or irreversible neurologic damage causing long-term numbness and tingling
 - Heat damage to structures adjacent to the target nerve
 - Allergic reaction to the anesthetic used to numb the skin
- **Sedation-related risks.** Allergic reactions and respiratory depression (breathing difficulty) may result from the sedation process in rare cases.