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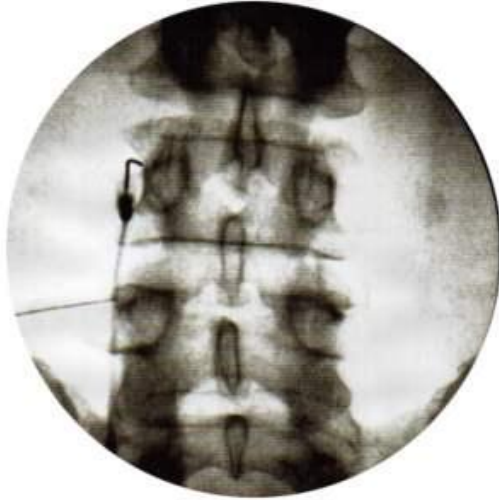
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## Radiofrequency Lesioning

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### What is Radiofrequency Lesioning?

Radiofrequency lesioning is an outpatient procedure designed to treat pain, which stem mostly from the facet joints; it is performed in a fluoroscopy room, by an anesthesiologist pain physician. Local anesthetic (numbing medication) is injected followed by a radiofrequency needle at the nerve that innervates the suspected pain-generating facet. After X-Ray confirmation that the needle tip is positioned correctly, an electrode is inserted into the needle. The proper location is confirmed by additionally to fluoroscopy, by nerve stimulation, using electrical stimulation; the correct nerve is identified by the patient in response to a "tingling" or "buzzing" sensation, and the lack of motor response (muscle movement). This sensation does not typically produce any pain.

The tissues surrounding the needle tip are then either heated or pulsed when electric current is passed using the radiofrequency machine for 60 to 120 seconds. This will "deaden" the nerves, however the term deaden is rather inaccurate as the nerves are actually lesioned, and in fact they do recover within 6-12 months, although in some patients this can last for more than 2 years.

Lesioning most commonly is done at the medial branches of the nerve roots of the cervical, lumbar and thoracic spine. This is a common procedure to alleviate back pain brought on by degenerative disc disease, facet arthropathy or generalize facet disease.

Typically, a procedure such as this is preceded by a motor sensory nerve stimulation to test the overall functioning of the nerves in this area.

### What are the benefits of Radio Frequency Lesioning?

The procedure disrupts nerve conduction (especially conduction of pain signals) and it may reduce other related symptoms (numbness, tingling, or burning.) Approximately 70-80% of patients will get good block of the intended nerve. This should relieve the pain that the blocked nerve controls. Once a nerve is blocked, it sometimes becomes clear that there is also pain generated from different areas.

### How long does the procedure take?

Depending upon the area/s to be treated, the procedure can take from about thirty minutes to an hour.

### How is it performed?

Since nerves cannot be seen on X-Rays, the needle/s are positioned using bony landmarks that indicate where the nerves usually are. Fluoroscopy (X-Ray) is used to identify those bony

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anatomical landmarks. A local anesthetic (like Novocaine) is injected to numb the superficial tissue. A special Radiofrequency needle is then inserted under X-ray guidance.

When the needle is in good position as confirmed by X-Rays, electrical nerve stimulation is performed in order to confirm proper placement; this stimulation may produce a buzzing - tingling sensation which may feel like "when one hits the funny bone". You may also feel your muscles twitch or jump. You need to be awake during this part of the procedure so you can report to the doctor what you feel.

Once the doctor confirms adequate placement, typically by lack of muscle twitches, he or she will initiate the actual lesioning, i.e., the tissues surrounding the needle tip are heated as electronic current is carried using the Radio Frequency equipment, for 90-120 seconds. This "numbs" the nerves semi-permanently.

### **Will the procedure hurt?**

Nerves are protected by layers of muscle and soft tissues. The procedure involves inserting a needle through skin and those layers of muscle and soft tissues. A local anesthetic is given via a very thin needle prior to inserting the RF needle.

### **Will I be "put out" for this procedure?**

No. This procedure is done under local anesthesia. Most of the patients also receive intravenous sedation and pain medicine, which makes the procedure easier to tolerate. The amount of sedation given depends upon the patient tolerance. It is necessary for you to be awake enough to communicate easily during the procedure.

### **How is the procedure performed?**

It is done with the patient lying on the stomach. The patient is monitored with EKG, blood pressure cuff, and blood oxygen-monitoring device. The skin on the back is cleaned with antiseptic solution and then the procedure is carried out. X-ray (fluoroscopy) is used to guide the needles.

### **What should I expect after the procedure?**

Initially there will be muscle soreness for a few days after the procedure. Ice packs will usually control this discomfort. After that time, your pain may be gone or lessened significantly.

### **What should I do after the procedure?**

You should not drive home. We advise patients to take it easy for a day after the procedure. You may want to apply ice to the affected area. You can perform activity as tolerated.

### **Can I go to work to work the next day?**

You should be able to return to your work the next day. Your physician may restrict certain activities after the procedure.

### **Can the procedure be repeated?**

If the first procedure does not relieve your symptoms completely, your doctor may recommend having a repeat procedure. Because these are not permanent procedures, it may need to be repeated if the pain returns (i.e., 6-12 months).

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### **Will Radiofrequency Lesioning help me?**

It is very difficult to predict if the procedure will indeed help you or not. Generally speaking, the patients who have responded to local anesthetic blocks or cortisone injections in the facet joints or the medial branch nerves will have better outcomes. Also those procedures performed in the cervical (neck) region have better predictable outcomes than those in the lumbosacral or thoracic regions.

### **What are the risks?**

Generally speaking, this procedure is safe. With any procedure there are risks, side effects, and the possibility of complications. The risks and complications are dependent upon the site(s) that are lesioned. With any injection through the skin, there is a risk of infection. This is why sterile conditions are used for this procedure. The needles have to go through skin and soft tissues, which will cause soreness. The nerves to be lesioned may be near blood vessels or other nerves which can be potentially damaged. As with other types of injections, you should not have the procedure if you are currently taking blood thinning medicines (Plavix®, Ticlid®, and Coumadin®). Great care is taken when placing the Radiofrequency needles using X-ray, but rarely do complications occur. You should discuss any specific concerns with your physician.

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