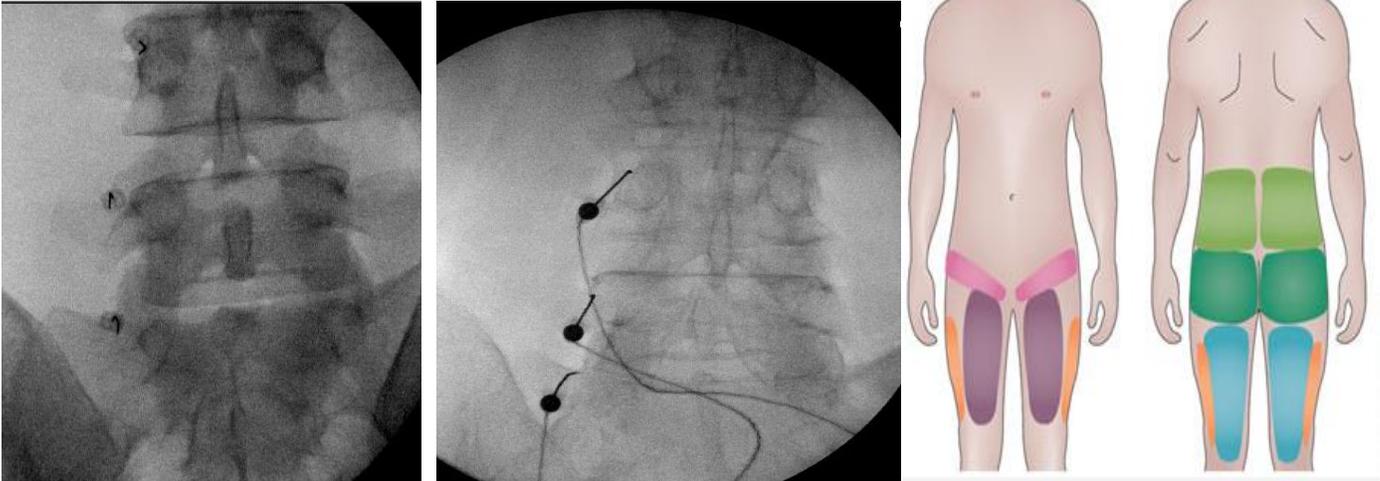


Diagnosis Medical Branch Block & Radiofrequency Ablation Treatment

Prepared by: Tufts PM&R Medical staff

Overview and indications for procedure:

Lumbar Facet joints (also known as the Zygapophysial joints or Z-joints) are paired structures on both side of your spine that allows movement between two vertebrae. When a facet joints are strained (car accident, fall, injuries) ,degenerative changes settles in these joints or there is a shift between two vertebrae (spondylolisthesis) , the joints could become the source of back pain.

Pain may be localized to the lower back or radiating to the buttock, posterior hamstring, groin area or to side of the legs (colored figure credit: Nature Reviews Rheumatology 9 , 216-224 , April 2013) .

Medial branch block: Pain information from the facet joints travels to the brain via small nerve endings called medial branches. In order to determine whether or not the facet joint are causing pain, medial branch nerves could be diagnostically blocked and patient can determine whether or not there was a changes in their pain after the procedure. Medial branch block (MBB) is performed twice to confirm the correct diagnoses and the correct number of facets contributing to pain. Clinicians are looking for improvement of pain between 50 - 100% after each diagnostic block. When patient experiences significant reduced pain with diagnostic medial branch injections on 2 separate occasions, he/ she is considered a good candidate to proceed to radiofrequency ablation treatment.

Radiofrequency ablation treatment: This procedure is performed after diagnostic medial branch injection is performed and it is determined (with a reasonable degree of certainty) that facet joints are the source of individuals back pain. Radiofrequency ablation procedure uses radio-magnetic waves to stop the lumbar medial branch nerve from transmitting pain signals from the facet joints to the brain. Your interventional physiatrist will use an x-ray to direct specialized needles to specific medial branches. Exact location of the nerve is identified with a brief neuromuscular testing . Once the location of each needle is finalized, anesthetic is used and radiofrequency procedure is completed in less than 10 minutes. Radiofrequency ablation procedure is performed to reduce lower back pain, improved flexibility, enhance function, enabling patient to pursue PT and return to work or leisure activities. At times, the presentation is on both sides in which case each side is treated separately (1-2 weeks apart). It is encouraged to couple this treatment with organized physical therapy exercise program, activity modification and ergonomic corrections for optimal outcome.

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Risk Associated with procedure:

It is important to know risk associated with any medical or surgical treatment. , There are few risks associated with MBB and RFA but they tend to be rare. The potential risks include, but are not limited to:

- Immediate or delayed allergic reaction to medication use
- Infection
- Bleeding
- Nerve Injury
- Dural Puncture
- Temporary increase in pain
- Transient muscle spasms
- Complex regional pain

Infection rate is less than 1% in patients receiving spinal injections performed under sterile conditions. The *bleeding complication* is more common in patients' history of bleeding disorder, patients being treated with anticoagulant/antiplatelet medications and patients taking over the counter medication like Motrin and Aspirin. The frequency of *injury to the spinal nerve roots or spinal cord* has substantially reduced with use of fluoroscopy and contrast material. It is rare to encounter Nerve Root or Spinal Cord Injury with MBB/RFA procedures. The rate of nerve injury and spinal cord injury is higher in obese patients due to poor visualization of the target on lateral X-rays. *Dural puncture is an* infrequent complication and may cause a positional headache (headache in seated and standing position but not on laying down position). This type of headache is often self-limiting, although in persistent cases, a blood patch may be necessary to alleviate the headache. Following side effects tend to be rare

Who should Medial Branch injection or Radiofrequency ablation?

These procedures should not be performed following conditions:

- In individuals with known allergies to local anesthetics
- Patients with local or systemic bacterial infection
- Pregnant Patients
- Patients with bleeding disorders
- Patients suffering from a tumor or infection of the spine
- Uncontrolled congestive heart failure or diabetes
- When risk of holding certain medications (Aspirin, antiplatelet drugs/blood thinners) outweighs benefit of procedures
- Patients with pace makers may not be able to have RFA procedures
- Make sure you are not Pregnant at the time of procedure. Do a Urine Pregnancy test the night before your spinal injection and report the results to the nurse before the procedure. Exposure to X-ray (used during spinal procedure) is known to result in birth defects and possible miscarriage. If in doubt, cancel and reschedule your procedure until you can confirm that you are not pregnant.
- Please let us know if you have had fevers, antibiotic treatment, any illness, or hospitalization within the last 4 weeks. You must be healthy and off all antibiotics on the day of the procedure

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Certain medications have to be held before elective spinal procedures. We will provide you with the list of medications that has to be held with the exact number of days it needs to be held. Do not hold such medication on your own. Consult your Primary Care Physician (or Cardiologist) before stopping those medications. Ask your PCP if it is safe to stop the medication. Continue to take all other medications, especially your Blood Pressure medications.

A sample of medications that has to be held includes:

1. Aggrenox® (dipyridamole)
2. Aspirin
3. Coumadin® (warfarin)
4. Effient® (prasugrel)
5. Fragmin® (dalteparin)
6. NSAIDS (see below)
7. Herbal blood-thinning medications
8. Heparin
9. Lovenox® (enoxaparin)
10. Plavix® (clopidogrel),
11. Pradaxa® (dabigatran)
12. Ticlid® (ticlopidine)

NSAIDS (such as ibuprofen, naproxen, nabumetone, diclofenac, etodolac, indomethacin, ketorolac, meloxicam, piroxicam, ketoprofen, oxaprozin)

Day of your procedure:

- Please take a shower, wash the skin with normal soap and DO NOT put skin lotions or mediated creams in the area of the injection .Wear dark and loose clothing and undergarment.
- Arrive 30 minutes early and come with someone that can give you a ride home. Your procedure should take less than 30 minutes and your total time from greeting to end should be less than 90 minutes.
- Bring your latest MRI /CT /imaging studies and the report with you.
- Bring an updated list of your medications and allergies. Please point out if you are allergic to Contrast, Iodine or Latex.
- Do not eat or drink for 2 hours before your appointment. Diabetics may have a light meal.
- After check-in, an ID wristband containing your name and allergies will be placed on your wrists. A nurse or medical assistant will go over your meds and allergies and ask few screening questions. Then a nurse will go over final preparation before the procedure. If necessary an IV line will be placed particularly if this is your first spinal procedure.
- In rare cases, oral sedation is needed to reduce anxiety associated with the procedure. This will slow down the entire process. Take medication 1 hour before the procedure and you must have someone drive you to and from the procedure. Without the ride, procedure may be canceled.

During the procedure:

- You will change into a gown. You will be escorted to the procedure by a nurse and a consent form will be reviewed/ signed before the procedure. You will be asked to lay on your stomach
- Blood pressure monitor and pulse oximeter will be placed on your arm/finger. Every medical equipment produces loud noises (beeping, alarms) and you should not be concerned.
- Intermittently your doctor will talk to staff in the procedure room and instruct them to perform a task. Your physician will guide you through the procedure step by step.

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- After standard time out, your skin will be disinfected with a cool solution, and sterile sheet of paper or plastic will be placed on your skin.
- When your physician is ready, X-ray unit is placed over your spine to identify the target.
- Skin will be marked and anesthetized (you will feel small pinch and burning sensation at each spot). It is normal to feel pressure or muscles twitching as needles are advanced to the final target.
- Once needle is at radiographic target, a small amount of contrast is injected to confirm final needle position
- *In Radiofrequency procedure*, the doctor will ask you if you feel a tingling sensation or if you feel your muscle twitching. This will help ensure the electrode is in the proper place. This step will be followed by anesthetic injection and 2-3 minutes per needle lesion time.
- Once procedure is completed, needle is removed, skin is cleaned and Band-Aid is applied. You are then transferred back to the recovery area for observation.

Right after your procedure:

- You will be observed for 15-45 minutes.
- If you have an IV line, it will be removed.
- A nurse will check your vitals and review the discharge instructions with you and will answer any questions you may have. A responsible adult must be present to drive you home after discharge.
- You will leave along with a pain log and a copy of the discharge instruction which contains Emergency contact numbers. Please do not discard your discharge instructions.
- A responsible adult must drive you home.

Discharge instructions:

- 4 hours after the diagnostic medial branch block, you are asked to call back and report changes in your pain level (617.636.5631) . We will instruct you if we can proceed to RF procedure based on the diagnostic results.
- After the RF procedure, make a follow-up office appointment to see your doctor (6 weeks after procedure). It takes at least 4 weeks to see some results.
- For 24 hours after the procedure, do not drive or operate machinery
- If sedated, for 24 hours after the procedure, do not make financial or important life decisions until the effect of such medication is cleared
- For 24 hours after the procedure, do not participate in strenuous activity
- It is okay to shower after procedure. No bathing /submerging under water for 24 hours.
- You may remove the bandages 24 hours after the injection. Call if there is excessive redness or infection sign like warmth, discharge or collection of puss at the site of injection.
- You may resume your normal diet and medications after procedure.
- Resume your Blood Thinners/ Anticoagulants / Antiplatelet as instructed by PCP /Cardiologist. You may need to check INR/PT/PTT 2-3 days after your procedure. Contact your primary care and ask when you should have the blood work.
- Diabetics should monitor blood sugar levels 3 times a day for 3 days after the procedure.

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Call your doctor if you develop these symptoms. You may be directed to ER:

- Shortness of breath or palpitation after procedure
- Sudden weakness
- Fever over 101°F within 5 days after procedure
- Persistent redness increased localized pain or discharge from the site of injection.
- Possible allergic reaction within 48 hours of the procedure
- Intractable headache
- Significant increased pain not responding to ice, NSAIDS and pain meds or associated with fever
- Newly developed weakness in the legs, face or arm following procedure
- Newly developed incontinence of urine or stool following procedure

Insurance:

Most insurance require prior authorization to cover this procedure (Medicare beneficiaries require no authorization). Your doctor will provide information to insurance company for approval.

It takes anywhere between 3-15 days for approval. You would likely have copay and deductible for this type of treatment.

You would also receive two medical bills related to these types of treatments (Hospital bill and Doctors bill). Please call your insurance company to understand your benefits.

The codes used for Diagnostic Medial branch block are: CPT: 64493, 64494, 64495 and 77003

The codes used for RFA are: CPT: 64436, 64437, 77003

Keywords: Lumbar Medial Branch Injection, Lumbar Radiofrequency lesionin, Lumbar Radiofrequency avblation,, Rhizotomy ,

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Patient Instructions for Temporary Holding Medications before Spinal Procedures/Injections

IF YOU HAVE ANY QUESTIONS REGARDING THESE INSTRUCTIONS CALL 617-636.5631

The decision to discontinue or hold medications should be shared between the spine specialist, patient, and prescribing physician (usually PCP, cardiologist or neurologist). These medications are held for specific period of time to limit bleeding complications during and within the 1st 24-72 hours after procedure. We follow nationally recognized guidelines including ASRA, American Society Pain Medicine, the European Society of Regional Anesthesia and Pain Therapy, the American Academy of Pain Medicine, and the World Institute of Pain.

If you are on any of the following medication, please discuss with the prescribing physician whether or not you're allowed to hold the medication for indicated amount of time prior to her procedure. You may resume that medication after your spinal procedure as indicated below.

Medication Anticoagulant- Antiplatelet	STOP BEFORE Injection/Procedure	RESTART AFTER Injection/Procedure
ABCIXIMAB	5 days	12 hours
Acenocoumarol	5 days-INR 1.3	24 hours
AGGRASTAT	24 hours	24 hours
APIXABAN	72 hours	24 hours
ARIXTRA	4 days	24 hours
Aspirin 325	4 Days	24 hours
Aspirin 81	2 Days	24 hours
BRILINTA	5 days	12 hours
CILOSTAZOL	48 hours	24 hours
CLOPIDOGRL (Plavix)	7 days	12 hours
COUMADIN (warfarin)	5 days- INR 1.3	24 hours
DABIGATRAN	4 days	24 hours
DALTEPARIN	24 hours	12 hours
Dipyridamole	48 hours	24 hours
EFFIENT	7 days	12 hours
ELIQUIS (Apixaban)	72 hours	24 hours
ENOXAPARIN	24 hours	12 hours
EPTIFIBATIDE	24 hours	24 hours
FONDAPARINUX	4 days	24 hours
FRAGMIN	24 hours	12 hours
HEPARIN IV	8 hours	24 hours
HEPARIN SQ	8 hours	12 hours

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LOVENOX	24 hours	12 hours
PERSANTIN	48 hours	24 hours
PLAVIX	7 days	12 hours
PLETAL	48 hours	24 hours
PRADAXA	4 days	24 hours
PRASUGREL	7 days	12 hours
REOPRO	5 days	12 hours
RIVAROXABAN	72 hours	24 hours
TICAGRELOR	5 days	12 hours
TICLID	14 days	24 hours
TICLOPIDINE	14 days	24 hours
TIROFIBAN	24 hours	24 hours
Vorapaxar	7 days	12 hours
Warfarin	5 days INR 1.3	24 hours

NSAIDS and Others	STOP BEFORE Injection/Procedure	RESTART AFTER Injection/Procedure
Aspirin 500	4 Days	24 hours
Aspirin 325	4 Days	24 hours
Aspirin 81	2 Days	24 hours
Bufferin	4 Days	24 hours
Celebrex	Do not stop	Do not stop
Daypro	5 Days	24 hours
Diclofenac	2 Days	24 hours
Dolobid	4 Days	24 hours
Ecotrin	4 Days	24 hours
Etodolac	2 Days	24 hours
Exedrin	4 Days	24 hours
Fiorinal	4 Days	24 hours
Ibuprofen	2 Days	24 hours
Indocin	3 Days	24 hours
Indometacin	3 days	24 hours
Ketorolac	2 Days	24 hours
Lodine	2 Days	24 hours
Meloxicam	5 Days	24 hours
Midol	4 Days	24 hours
Motrin	2 Days	24 hours
Nabumetone	7 days	24 hours
Naprosyn	4 Days	24 hours
Naproxyn	4 Days	24 hours

To learn more about this condition or to be evaluated by one of our Physiatrist at Tufts Medical Center please call 617.636.5631 or visit us at www.TuftsRehab.com

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Oxaprosin	5 Days	24 hours
Percodan	2 Days	24 hours
Relafen	7 days	24 hours
Salasate	4 Days	24 hours
Sulindac	4 Days	24 hours
Talwin	4 Days	24 hours
Tordol	2 Days	24 hours
Trilisate	4 Days	24 hours
Vicoprofen	2 Days	24 hours
Voltaren	2 Days	24 hours

Weight loss and Nutrition Supplements to be held for 5 days

<i>Alpha Lipoic acid</i>	<i>Acetyl 1 1. Carnitin</i>	<i>Cinnamon</i>	<i>Chamomile</i>	<i>Creatinine</i>
<i>Echinacea</i>	<i>EPHEDRA</i>	<i>Fish oil</i>	<i>Garlic</i>	<i>GINGER</i>
<i>GINKGO BILOBA</i>	<i>Ginseng</i>	<i>GLUCOSAMINE</i>	<i>Glutenin</i>	<i>Goldenseal</i>
<i>L -Carnosine</i>	<i>Licorice</i>	<i>Kava Kava</i>	<i>Milk Thistle</i>	
<i>Omega-3</i>	<i>Resveratol</i>	<i>Skullcap</i>	<i>St Joh's Wort</i>	<i>Vitamin E</i>