Overview and Indications for Procedure:

Osteoarthritis (OA) of the knee is the leading cause of knee pain in adults. Knee OA results in thinning of the covering cartilage and remodeling of the knee joint and associated pain with walking and weight bearing. If conservative care including physical therapy and medications and joint injections (steroid or viscosupplements) are not helpful, most common treatment has traditionally been surgical joint replacement.

Some patients try to avoid surgery. Some have had surgery but the knee pain continues to persist. In both such cases, Genicular Radiofrequency Ablation may be an option to treat knee pain.

Genicular neurotomy is indicated for a variety of conditions:
- Osteoarthritis (OA)
- Chronic Knee Pain
- Degenerative Joint Disease
- Total Knee Replacement (before or after)
- Partial Knee Replacement (before or after)
- Patients unfit for knee replacement
- Patients who want to avoid a knee replacement

Genicular ablation is an innovative option for treating knee pain without surgery. By selectively applying a radiofrequency waves to the nerves surrounding the knee, one can effectively relieve pain in the knee. There is no steroid used in this procedure. In fact, no medication is injected into the knee joint at all. The entire procedure is performed outside the knee joint making it ideal for use before or even after knee surgery if necessary.
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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 Genicular Radiofrequency Ablation and they tend to be rare. The potential risks include, but are not limited to:

- Immediate or delayed ALLERGIC reaction to anesthetics/contrast
- Infection
- Bleeding
- Complex regional pain syndrome
- Temporary increase in pain
- Transient facial flushing

Infection is a rare complication in patients receiving therapeutic injection performed under sterile conditions. It is more common in diabetic and immune compromised patients. The bleeding complication is more common in patients with bleeding disorder or patients treated with anticoagulant/antiplatelet or patients taking over the counter medication like Motrin and Aspirin.

Who Should Avoid Genicular nerve ablation?
Genicular nerve ablation should not be performed in patients who:

- Have a local or systemic bacterial infection
- Pregnant Patients
- Have bleeding disorders
- May be suffering from a tumor or infection of knee region
- When risk of holding certain medications (antiplatelet drugs/blood thinners) outweighs benefit of the epidural procedure
- There is a relative contraindication in patients who have implanted pacemaker

Prepare for your Procedure:
Certain medications have to be held before elective 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)

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

- Please let us know if you have had fevers, antibiotic treatment, any illnesses, or hospitalization within the last 4 weeks. You must be healthy and off all antibiotics on the day of the procedure.
- 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.

Day of your Procedure:
- Arrive 30 Min 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 films with you.
- Bring an updated list of your medications and allergies. Please point out if you allergic to Contrast, Iodine or Latex.
- 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 on the day of procedure or for 24 hrs. after the procedure.
- Wear shorts or loose sweat pants
- Do not eat or drink for 1 hours before your appointment. Diabetics may have a light meal.
- After check-in, a nurse or medical assistant will go over your meds and allergies and ask few screening questions. Then the 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 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 procedure to your home. Without the ride, procedure may be canceled.

During Procedure:
- You will be escorted to the procedure by a nurse, consent form will be reviewed/ signed before the procedure and 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 with that. From time to time your doctor will talk to staff in the procedure room and ask for things as well. Your physician will also speak to you step by step throughout the procedure.
- After time out, your skin will be cleaned with cool disinfectant solutions, and sterile sheet of paper or plastic is placed on your back.

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- When your physician is ready, X-ray unit is placed over your spine to identify the target. Once identified, skin will be numbed up with anesthetic (small pinch and transient burning sensation). Needle will be then advanced to the target. It is normal to feel pressure or muscle twitching as needle is advanced to its final target.
- Once needle is at radiographic target, a small amount of contrast is injected to confirm final needle position before injecting steroid medication. You may feel transient pressure or tingling down your leg/buttock or hip with this step.
- 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 Procedure:
- You will be observed for 15-45 minutes in recovery room while you enjoy a snack.
- A nurse will check your blood pressure and pulse and if stable will discuss discharge instructions with you. A responsible adult must drive you home.
- You will be discharged along with a pain log and discharge instruction.
- There will be clear instruction on your discharge instruction how to contact your physician in case of emergency.

Discharge instructions:
- Make a follow-up 6 weeks after the procedure and bring your pain-log with you.
- After the procedure, Do not drive or operate machinery for at least 24 hours.
- If sedated, do not make financial or important life decision until the effect of such medication is cleared (24 hours).
- Do not participate in strenuous activity on the day of procedure.
- It’s Ok to shower after procedure. No bathing/submerging under water for 48 hours.
- You may remove any bandages 24 hrs. after the injection. Call if there is an excessive redness or infection sign like warmth, discharge or collection of puss at the site of injection.
- You may resume your normal diet and Meds.
- Resume your Blood Thinners/ Anticoagualnts / Antiplatelets 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 blood work.

Call your doctor if you develop these symptoms. You may be directed to ER:
- Excessive redness or swelling or discharge at the needle entry
- Sudden leg weakness
- Fever over 101 within 5 days after procedure
- Possible allergic reaction within 5 days of the procedure
- Significant increased pain not responding to ice, NSAIDS and pain meds
- Newly developed weakness in the legs following procedure

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**Insurance:**

Most insurance require prior authorization to cover this procedure. Your doctor will provide information to insurance company for approval. It takes anywhere between 3-15 days for approval (Medicare beneficiaries require no authorization).

You would likely have a copay and deductible for this type of treatment.

You would also receive two medical bills related to your treatments (a Hospital bill and a doctor bill).

Please call your insurance company to understand your benefits. The codes used for this procedures are: 64640 x 3 + 77002

**Keywords:** Genicular Nerve Ablation, Genicular Neurotomy