

MILD Procedure

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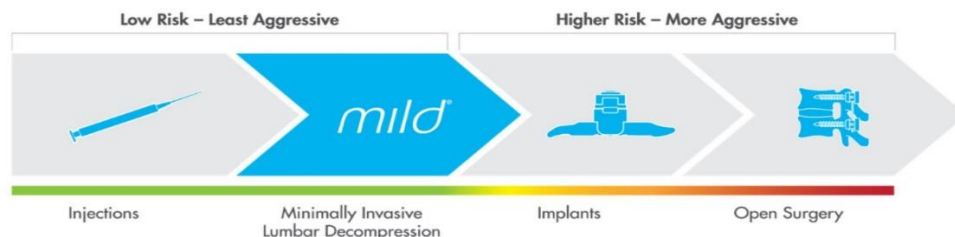


Lumbar Spinal stenosis is a common medical disorder of aging adults. It can result from a herniated disc, forward slippage of the vertebrae, thickening of the ligamentum flavum, and arthritis of the facet joints. These changes in the spinal tunnel resulting narrowing therefore there is less space for the nerves and spinal cord to go through.

In patients with spinal stenosis, the main complaint is a limited ability to walk or stand. These activities would result in pain, numbness, tingling in one or both legs and often gets better as soon as patient sits or if the walk with a walker (or leaning on a shopping cart). In more significant cases, patients are only able to walk for less than a block before they have to sit and relieve the symptoms. Even simple household activities and preparing a meal in the kitchen that require standing may become difficult.

Traditional treatments have been physical therapy, epidural injections, and spine surgery. Technology has advanced and now we have two options for spinal stenosis, including MILD Procedure and Vertiflex implant that could be attempted before open surgery. These are minimally invasive interventions performed in a day surgical setting, under conscious sedation (no intubation, only iv sedatives), and can result in substantial improvement of leg pain, numbness, tingling, and as a result, improved function.

When injections fall short... the next step is *mild*[®]



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MILD Procedure:

This is an x-ray guided lumbar decompression. It is indicated for moderately severe lumbar spinal stenosis. The typical candidates will have difficulty with standing and walking and would often require sitting to relieve leg pain. MILD Procedure takes 30-40 minutes to perform in an ambulatory day surgery setting. The patient is not intubated and only IV sedation by an anesthesiologist is used. There is no overnight stay, and the patient will go home an hour after the Procedure. This type of anesthesia is common in colonoscopy and small procedures.

Once the patient is sedated, skin is anesthetized. Following this, MILD procedure tools are used to remove a small amount of degenerated and thickened ligament (ligamentum flavum) to make more room for the nerves to pass through. The incision which is made is the size of the baby aspirin. This incision is too small to require stitches, so Steri-Strip is placed, and a bandage is applied, and the patient will be discharged home about an hour after the Procedure.

After the MILD Procedure, all patients are asked to exercise and walk on the very next day. The patient will track the progress in terms of pain relief and improvement of their ability to stand and walk for 12 weeks after the Procedure. The MILD Procedure is more effective for leg symptoms than it is for back pain. The effect of the MILD Procedure is often notable somewhere between 6 to 12 months after the treatment. Improvements may continue for several months after the treatment. At our spine center, we have treated patients from 60-94 years of age with MILD Procedure. This is an FDA cleared treatment. This is a Medicare-covered procedure, but some co-pays, deductibles, and facility charges may apply.



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Risk Associated with the procedure

It is important to know the risks associated with any medical or surgical treatment. There are a few risks associated with MILD procedure include but not limited to :

- Immediate or delayed allergic reaction to medication used during procedure
- Anesthesia/sedation side effect
- Infection
- CSF leak and spinal headache
- Bleeding
- Nerve Injury
- Dural Puncture
- Temporary increase in pain
- High blood sugar levels
- Unsuccessful surgery with limited value or requirement to move forward with open laminectomy

Who should avoid Mild Procedure?

- Patients who have been operated on the same segment before (open surgery)
- Patients with ligamentum flavum less than 2.5 mm or stenosis not related to ligamentum flavum thickening
- Patients that cannot lay on stomach for procedure
- Patients with known anaphylactic allergies to local anesthetics and contrast
- Patients with local or systemic bacterial infection
- Patients with bleeding disorders
- When the risk of holding certain medications (Aspirin, antiplatelet drugs/blood thinners) outweighs the benefit of the procedure
- Patients suffering from a tumor or infection of the spine
- Patients who cannot tolerate conscious sedation or at high risk
- Patient with such severe stenosis that are progressively losing strength in legs or are developing urinary retention or stool incontinence due to stenosis.
- Extremely severe spinal stenosis or unstable spine

Prepare for your Procedure:

Certain medications have to be held before elective spinal procedures. We will provide you with the list of medications that have 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.

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A sample of medications that have to be held includes:

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

Examples of NSAIDS to be held: Ibuprofen, Motrin, Naproxen, Advil, Nabumetone, Diclofenac, Etodolac, Indomethacin, Ketorolac, Meloxicam, Piroxicam, Ketoprofen, Oxaprozin

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.

Day of your Procedure

1. 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.
2. 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.
3. Bring an updated list of your medications and allergies. Please point out if you are allergic to Contrast, Iodine or Latex.
4. Bring your latest MRI /CT /imaging studies and the report with you.
5. Do not eat or drink for 12 hours before your appointment. Diabetics may have medications with sip of water
6. After check-in, an ID wristband containing your name and allergies will be placed on your wrist. A nurse or medical assistant will go over your meds and allergies and ask a few screening questions. Then a nurse will go over the final preparation before the procedure. If necessary, an IV line will be placed, particularly if this is your first spinal procedure.
7. You need a driver to bring you in and take you home
8. You need to have someone at home for 1-2 nights after the procedure

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During the Procedure:

- You will change into a gown.
- Anesthesiologist and your surgeon will consent for anesthesia and procedure
- You will have an IV and antibiotics given,
- A nasal canula will be placed for oxygen during the MILD procedure.
- You will be escorted to the OR and will lay down prone on the procedure table.
- The operating room has many personnel, each responsible for a task.
- Medical devices make noises, but this are all normal.
- A timeout will be done, and you will be sedated after that.
- Skin will be washed with chlorohexidine soap . Once this is dried, skin is prepared with Duraprep solution and sterile draping will be placed.
- MILD procedure is performed while you are sedated.
- Once procedure is complete, you will be transferred with a stretcher back to postoperative care area for observation and discharge.
- Anticipate staying in recovery for 60 minutes
- Discharge instruction will be reviewed with you

After MILD Procedure

- You will be observed for 60 minutes. IV line, it will be removed. A nurse will check your vitals and review the discharge instructions with you. A responsible adult must be present to drive you home.
- You may resume your normal diet and medications after the procedure.
- You will resume your Blood Thinners/ Anticoagulants / Antiplatelet as instructed by PCP /Cardiologist. You may need to check INR/PT/PTT 2-3 days after MILD.
- For 24 hours you may not participate in strenuous activity. It is okay to shower after the procedure. Once the skin fully heals, then you may take baths. You will leave bandage in place for in 2weeks.
- You will keep a pain log for 12 weeks after procedure
- You will have 2w, 6w and 12w post op visits

Rehabilitation

- We like you to start walking every day starting the day after MILD. You will walk a little more every day. You will time your walks and log them. (in minutes or steps if you have a smart watch). We like to see progress from week to week.
- May start a formal PT 6 weeks after procedure. See our website for post MILD exercise video.
- Full result will, take 6-12 weeks

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List of medication to Hold . Consult us before holding.

Medication Anticoagulant- Antiplatelet	STOP BEFORE Procedure	RESTART AFTER 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	4 Days	24 hours
BRILINTA	5 days	12 hours
CILOSTAZOL	48 hours	24 hours
CLOPIDOGR (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
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

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NSAIDs and Others	STOP BEFORE Procedure	RESTART AFTER Procedure
Aspirin	4 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
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

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