PROCEDURE

Foraminotomy

Foraminotomy is surgery that widens an opening in the spine to relieve pressure on a nerve.

PURPOSE
Relieve pressure on a spinal nerve exiting the spine

PROCEDURE TYPE
Therapeutic surgery, performed open or minimally invasively

WHERE IT IS DONE
Operating theatre

ANAESTHESIA
General anaesthesia, usually

HOW LONG IT TAKES
About 1 to 3 hours, longer for multiple levels

PREPARATION
Fasting and medication review, especially blood thinners

RECOVERY
Same day or overnight; no driving until cleared

MAIN RISKS
Infection, bleeding, spinal fluid leak, nerve injury

RESULTS
Surgical findings immediate; symptom response over days to weeks

Overview

A foraminotomy is an operation that widens a neural foramen, the opening where a spinal nerve leaves the spine. This creates more room around the nerve.

The opening can narrow because of bone spurs, arthritis, thickened ligaments, or a bulging or herniated disc. Pressure on the nerve may cause pain, tingling, numbness, or weakness in an arm or leg.

Foraminotomy can be performed in the neck or lower back using an open or minimally invasive approach. The surgeon may also remove disc material or nearby bone. If the spine is unstable, spinal fusion may be needed instead of or alongside foraminotomy.

Why the procedure is performed

The aim is to relieve pressure on a specific nerve. A surgeon may recommend foraminotomy when:

The procedure generally treats pain traveling into an arm or leg more directly than pain limited to the neck or back. A nerve compressed for a long time may not recover completely.

- Arm or leg pain follows the path of a compressed nerve
- Numbness or weakness affects daily activities
- Imaging findings match your symptoms
- Nonsurgical treatments have not provided enough relief
- Nerve function is worsening

Who should and should not have it

Foraminotomy may be suitable when examination and imaging identify nerve compression at one or more spinal levels.

It may not be the right operation if the main problem is spinal instability, major deformity, or widespread narrowing of the central spinal canal. These conditions may require another decompression procedure or fusion.

Surgery may be delayed if you have:

Smoking, diabetes, poor nutrition, and some medicines can increase healing or infection risks and may affect preparation or timing.

Seek prompt assessment for rapidly worsening weakness, loss of bladder or bowel control, or numbness around the genitals or buttocks. These symptoms may require urgent treatment.

- An active infection
- A medical condition that is not well controlled
- A bleeding risk that cannot be managed safely
- Skin problems near the planned incision
- Symptoms that do not match the scan findings

How to prepare

Follow your treating facility's instructions, as preparation varies with the surgical approach, anaesthetic plan, and your health.

Tell the team about all prescription medicines, over-the-counter products, vitamins, and herbal supplements. Blood thinners and medicines that affect bleeding need special planning. Do not stop them unless your treating team tells you when and how.

Follow instructions about when to stop eating and drinking. Ask what to do with diabetes medicines and other regular treatments on the day of surgery.

Arrange transport home because you cannot drive immediately afterward. Someone may need to stay with you during early recovery.

You may need blood tests, an electrocardiogram, or other tests. The surgeon will confirm the spinal level and discuss whether an additional procedure, such as removing disc material, may be necessary.

What happens during the procedure

Most foraminotomies use general anaesthesia, so you are unconscious during surgery.

The team positions you, protects pressure points, and uses imaging to confirm the correct spinal level. The surgeon makes an incision and moves muscles aside to reach the spine. Through an open or minimally invasive approach, small amounts of bone, ligament, or disc material are removed to widen the nerve opening.

The surgeon checks that the nerve has enough space while preserving supporting bone where possible. If the spine is unstable, fusion may be considered. The wound is then closed, and you are moved to recovery as the anaesthetic wears off.

Recovery and what to expect afterward

Pain: Incision and muscle soreness are expected. Arm or leg pain may improve quickly, while numbness or weakness can take longer and may not resolve completely.

Eating: You can usually eat and drink when awake and not feeling sick. Nausea or constipation can occur after anaesthesia or opioid pain medicines.

Activity: Staff may help you stand and walk soon after surgery. Follow instructions about lifting, bending, twisting, wound care, and exercise. Increase activity gradually rather than remaining in bed. Some people need physical therapy.

Driving: Do not drive home or drive while taking sedating medicines. Wait until your surgeon

clears you and pain or limited movement no longer affects safe vehicle control.

Work: Desk-based work may resume sooner than work involving lifting, climbing, driving, or repeated bending. Follow your surgeon's advice.

Some people leave the same day; others stay overnight or longer for monitoring or after more extensive surgery.

Risks and possible complications

Risk depends on the spinal level, approach, number of levels treated, and your general health. Possible complications include:

Scar tissue, new bone growth, or further disc changes can narrow the opening again. Additional treatment or surgery may be needed.

- Bleeding, bruising, or a collection of blood near the wound
- Wound or deeper infection
- Nerve root injury or, during neck surgery, spinal cord injury
- A tear around the nerves causing spinal fluid leakage
- Persistent, recurrent, or worsening symptoms
- Spinal instability that may require fusion
- Blood clots, heart or breathing problems, or anaesthetic reactions
- Surgery at the wrong spinal level despite safety checks

Results and follow up

The surgeon can confirm during surgery whether the intended material was removed. Symptom improvement becomes clearer as swelling settles and the nerve recovers.

Radiating arm or leg pain may improve within days. Tingling, numbness, and weakness can take weeks or months, and recovery may be incomplete after severe or prolonged compression.

At follow-up, the team checks the wound, movement, nerve function, pain, and medicines. They will review activity limits, return to work, and whether physical therapy may help. Imaging is not always required after an uncomplicated recovery.

Alternatives

Alternatives depend on your symptoms, scan findings, and whether nerve function is worsening.

- Activity changes and time: May allow irritation to settle but do not widen the opening.
- Pain medicines: Can control symptoms but do not remove pressure.
- Physical therapy: May improve movement and function but may not be enough for severe pain or continuing weakness.
- Spinal injections: Steroid like prednisone or hydrocortisone near the nerve may temporarily reduce inflammation but does not remove bone or disc material.
- Discectomy: Removes disc material pressing on the nerve and may be combined with foraminotomy.
- Laminectomy: Removes more bone to treat broader spinal canal narrowing.
- Spinal fusion: Stabilizes vertebrae when compression occurs with instability or deformity.
- Continued observation: Avoids surgical risks, but pain or loss of nerve function may continue or worsen.

When to call your healthcare team

Contact your surgical team promptly for fever, increasing wound redness, drainage or swelling, worsening pain, or new or increasing numbness or weakness. Also call for a severe headache that is worse when upright, especially if clear fluid leaks from the wound.

Seek emergency care for:

Routine questions about wound care, medicines, activity, work, and follow-up can usually wait for normal contact hours.

- New loss of bladder or bowel control
- New numbness around the genitals, buttocks, or inner thighs
- Rapidly worsening weakness or inability to move a limb
- Severe trouble breathing or swallowing
- Chest pain, fainting, or sudden shortness of breath

Common questions

Will I be asleep?

Usually. Most foraminotomies use general anaesthesia.

Can I drive home?

No. Arrange transport and restart driving only when cleared, able to move safely, and no longer taking sedating medicines.

How painful is it?

Incision and muscle soreness are common. Nerve pain may improve quickly, although temporary irritation can occur while swelling settles.

When will I know if it worked?

Arm or leg pain may improve soon after surgery. Numbness and weakness may take weeks or months, and recovery is not always complete.

Will I need a spinal fusion too?

Not necessarily. Fusion may be recommended if the spine is already unstable or decompression would remove too much supporting bone.

How big will the scar be?

It depends on the approach and number of spinal levels treated. Your surgeon can explain the expected incision.

Sources

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