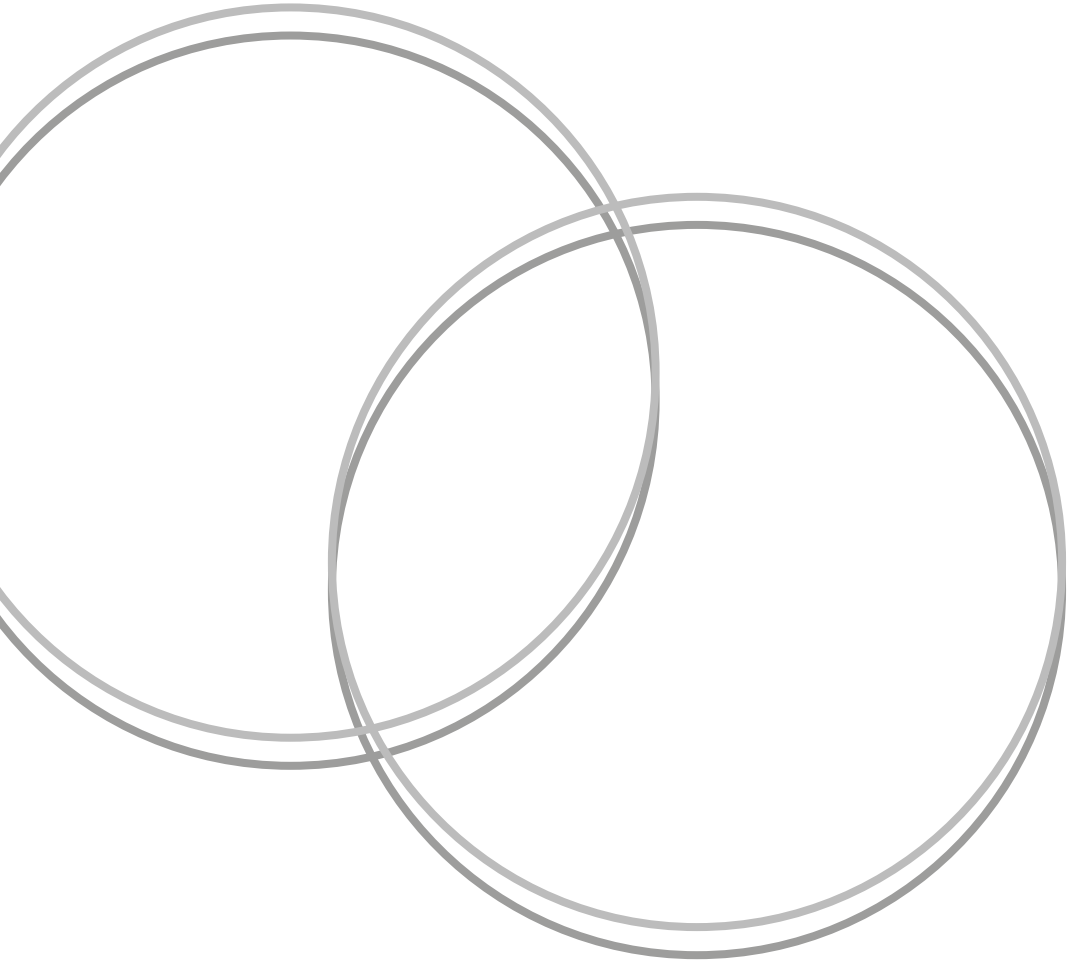
Oxford University Hospitals
NHS Foundation Trust

Basivertebral Nerve Ablation

Information for patients



Nuffield Orthopaedic Centre

What is a basivertebral nerve ablation (BVN-A)?

Basivertebral nerve ablation (BVN-A) is a minimally invasive procedure that destroys the nerves carrying pain signals from the spinal bones (vertebral bodies) to the brain. The top and bottom surfaces of the vertebral bodies, called the endplates, can be inflamed from degenerative disease or stress on the bone. The basivertebral nerve transmits the pain signals from the endplates to the brain. The nerves reside in the middle of the vertebral body, inside the bones. BVN-A aims to destroy these nerves by heating them with a small device (a radiofrequency probe) to relieve the pain.

Who might be suitable?

Patients who might be helped by this procedure are those with chronic lower back pain (at least 6 months) who have not been helped by conservative measures like physiotherapy, and have a pattern of pain that fits with 'discogenic pain' when examined. They must also have findings on their scans (an MRI, PET-CT or SPECT-CT) that matches with this. These patients are discussed at a multi-disciplinary meeting with pain specialists, spine surgeons, physiotherapists and a radiologist before deciding what treatments might be able to help. Not everyone is suitable for BVN-A, however.

What are the possible advantages, or risks and side effects?

Benefits:

- BVN-A can result in long term relief of lower back pain. The latest evidence shows significant improvement in back pain in 3 out of 4 patients even 5 years following the procedure.
- The procedure is minimally invasive, without the need for large surgical incisions.
- It is a day case procedure with little blood loss and quick recovery.

Risks and side effects:

- Temporary leg weakness or pain down one or both legs is uncommon.
- Bleeding or infection along the needle tract is rare.
- Severe complications such as worsening pain, nerve injury and fracture are rare.
- Return of pain in the years following the procedure is uncommon.

How do I prepare for the procedure?

If you are taking any blood thinning tablets, anti platelets (e.g. Aspirin or Clopidogrel), or anti-coagulants (e.g. Warfarin, Dabigatran, Rivaroxaban or Apixaban) please contact the department at least 2 weeks before the appointment, as you may need to consult your GP beforehand.

We also need to know if you have any electronic devices implanted in your body, especially pacemakers, cochlear implants or spinal cord stimulators.

If you have been offered an appointment at short notice, please contact our nurses at your earliest convenience: Telephone: 01865 738205.

The procedure is carried out with you awake but sedated using an X-ray machine to guide the needle safely.

The amount of radiation used is small, however female patients who are or may be pregnant should inform the department before attending the appointment.

Please also inform us if you are, or have recently been, unwell or have needed to take any antibiotics for an infection.

To reduce infection risk, we suggest having a shower or bath the night before, or else the morning of the procedure.

As you will sedated, it is important that you are **nil by mouth for at least six hours prior to the procedure. You can have clear fluids up to 2 hours before the procedure**.

What will happen during the procedure?

The procedure is performed by a radiologist (a Radiology doctor).

You will be admitted to day case or the radiology department in the morning, where you will be seen by one of our nurses and the radiologist. The details of your admission will be explained during your pre-assessment.

The team will ask you a few questions, including what medication you are taking and your medical conditions. They will also talk to you to ensure you have read this leaflet and understood it and will explain the procedure again and answer any questions you have. You will then be asked to sign a consent form.

The doctor or nurse will put a cannula (needle) into your arm so that we can give you sedation and pain-relieving medication during/after the procedure. You will then be taken into the Fluoroscopy (X-ray) room in radiology and meet the rest of the team (assistant, nurse, radiographer and radiologist).

You will be asked to lie down on your front on the X-ray table; the team will help you and make you comfortable.

You will have your blood pressure and oxygen saturations monitored throughout the procedure. We will also attach some pads to the back your thighs, which can be cold.

Using X-ray guidance, your skin will be marked with a sterile pen before the procedure starts.

The skin will be cleaned with antiseptic solution, which may feel cold.

The radiologist will inject local anaesthetic to the skin and muscles and around the vertebral body with the help of X-ray guidance to numb the area and reduce discomfort.

The radiologist may have to make a small skin cut (about 5 millimetres wide) and will pass a special needle into the middle of each vertebral body under X-ray guidance. Generally, at least 2 vertebral bodies are treated for this procedure. Once happy with the position of the needles, the radiologist will ablate the basivertebral nerves. Although this can take a few minutes to be finished, typically only the first few seconds are painful and the team will give you sedation and pain relief to keep you comfortable during this.

The procedure takes around an hour on average but can take longer.

After the procedure

- You will be taken back to our daycase ward or recovery area in radiology for a recovery period, and discharged when it is safe to do so (usually within 4 hours).
- You should not drive for 24 hours after as your insurance may not be valid if you are involved in an accident.
- The plaster and skin dressings should stay on for around 1 week. You can shower, but should avoid baths, swimming and hot tubs to reduce the risk of infection.

What happens next?

- You will be asked to fill in a pain chart for the next 2 weeks. This is so that the doctors can track whether the procedure has had an effect.
- The radiologist will send a report to your referring doctor and GP.
- You will have a follow-up telephone consultation with the Radiologist who performed your procedure 6 weeks after your procedure, and will be followed up by the specialist pain team or your referring doctor in due course.

For more information

There are useful online resources where you can find out more.

The International Society for the Advancement of Spinal Surgery

Website: www.isass.org

Healthline

Website: www.healthline.com

Nuffield Orthopaedic Centre

If you would like any further information, you may contact the Radiology department:

Telephone: **01865 738189**

Nuffield Orthopaedic Centre
Windmill Road
Headington
Oxford
OX3 7HE

Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

Author: NOC Radiology Team
November 2024
Review: November 2027
Oxford University Hospitals NHS Foundation Trust
www.ouh.nhs.uk/information

Leaflet reference number: OMI 101147