

Percutaneous insertion of craniocaudal expandable implants for vertebral compression fracture

Information for the public

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What has NICE said?

Percutaneous insertion of craniocaudal expandable implants for vertebral compression fracture is safe enough and works well enough for use in the NHS. Only people who still have pain after conservative treatment (for example, pain killers) should have the procedure.

What does this mean for me?

Your health professional should fully explain what is involved in having this procedure, and discuss the possible benefits and risks with you. You should also be told how to find more information about the procedure. All of this should happen before you decide whether you want to have this procedure or not.

Your healthcare team

A healthcare team experienced in managing vertebral compression fractures should decide which patients should be offered this procedure and should carry out treatment. The team should include a radiologist and a spinal surgeon.

The condition

A vertebral compression fracture is a type of break in a bone in the spine in which the broken bone collapses. It can be caused by trauma, cancer or osteoporosis (thinning of the bones). Pain is the most common symptom. Initial treatment is conservative and includes pain killers and bed rest, and back braces to limit movement in the spine. People who still have pain after conservative treatment may need surgery to improve the structure of the spine.

NICE has looked at using [percutaneous insertion of craniocaudal expandable implants](#) as another treatment option.

The procedure

The aim of inserting a percutaneous craniocaudal expandable implant for a vertebral compression fracture is to strengthen the bone and increase its height, increase mobility and relieve pain. The implant is inserted with the patient lying on their front, and using a general, regional or local anaesthetic. An unexpanded implant is placed inside the affected level in the spine using x-ray guidance. It is then expanded with special instruments to restore the vertebral height. Bone cement is then injected into and around the implant.

Benefits and risks

When NICE looked at the evidence, it decided that there was enough evidence on the safety and efficacy of percutaneous insertion of craniocaudal expandable implants for vertebral compression fractures to allow it to be used. The 11 studies that NICE looked at involved a total of 1,243 patients.

Generally, they showed the following benefits:

- a reduction in pain and improved function up to 12 months after the procedure
- an increase in vertebral height in most patients and a straighter spine in some patients.

The studies showed that the risks of percutaneous insertion of craniocaudal expandable implants were similar to or less than with other surgery for vertebral compression fractures, and included:

- leakage of bone cement into the surrounding tissue straight after the procedure in 3% to 55% of patients; in 1 patient this caused nerve pain

- a tear in the thin layer covering the spinal cord, which was treated successfully
- new spinal fractures in 8% to 21% of patients, which caused pain in some patients
- urinary tract infection in 17% of patients
- pain, skin infection, bruising, collapse of the bone, minor loss of vertebral height, neurological symptoms, movement of the implant and wrong insertion of the implant leading to damage of the spine, each in 1 patient.

NICE was also told about another possible risk: implant inserted in the wrong place so vertebral height was not restored.

If you want to know more about the studies, see the [guidance](#). Ask your health professional to explain anything you don't understand.

Questions to ask your health professional

- What does the procedure involve?
- What are the benefits I might get?
- How good are my chances of getting those benefits? Could having the procedure make me feel worse?
- Are there alternative procedures?
- What are the risks of the procedure?
- Are the risks minor or serious? How likely are they to happen?
- What care will I need after the procedure?
- What happens if something goes wrong?
- What may happen if I don't have the procedure?

About this information

NICE [interventional procedures guidance](#) advises the NHS on the safety of a procedure and how well it works.

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Accreditation

