

# Percutaneous Vertebroplasty

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**This Infosheet explains what Percutaneous Vertebroplasty is, how it is used to treat vertebral compression fractures in myeloma patients, how it is performed and the potential risks and complications.**

## **What is Percutaneous Vertebroplasty?**

Percutaneous Vertebroplasty is a surgical procedure which can be used to treat vertebral compression fractures in myeloma. The aim of Percutaneous Vertebroplasty is to stabilise collapsed bones of the spine (vertebrae) by directly injecting them with bone cement.

This technique helps to alleviate pain and helps to prevent further collapse.

Bone disease is the most common complication of myeloma. In myeloma, the myeloma cells within the bone marrow cause bone to be broken down faster than it can be replaced. As a result the bone becomes weaker and can sometimes break (fracture) after trivial injury or stress.

One of the most common sites for such fractures is the vertebrae, which tend to collapse when they fracture.

The resulting loss of height and altered spinal alignment (kyphosis) can lead to symptoms such as:

- Chronic pain
- Reduced mobility
- Loss of independence in daily activities
- Decreased lung capacity and function (difficulty in taking a deep breath)
- Difficulty sleeping

Non-surgical treatment options for fractures of the spine caused by myeloma bone disease include pain-killers (analgesics), radiotherapy and in some cases spinal support. Bisphosphonate drugs are very effective in preventing and controlling myeloma bone disease but do not repair fractured bones.

Balloon Kyphoplasty is a similar surgical procedure to Percutaneous Vertebroplasty but it also aims to restore the height of the damaged vertebra by inflating a balloon inside it and then filling the balloon with the bone cement.

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For more information see the **Balloon Kyphoplasty Infoguide from Myeloma UK.**

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### How is Percutaneous Vertebroplasty used in myeloma?

The aim of Percutaneous Vertebroplasty is to relieve pain and improve function and mobility. It is reported that as many as 80% of patients experience pain relief within a few days of the procedure. Relief from pain can mean that mobility is increased and overall function of the spine improved.

Careful selection of those patients who may benefit from Percutaneous Vertebroplasty is important.

Selection criteria include:

- Non-surgical treatment for relieving bone pain (e.g. pain-killers) must have already been tried
- Pain must have persisted for more than two months after non-surgical treatment, as pain may take some weeks to respond and settle
- Other causes of pain must have been excluded
- Vertebrae must not be severely compressed

- The procedure must usually take place within 12 months of the collapse occurring

Some patients may not be suitable for treatment because of other conditions, e.g. if the collapsed vertebra is causing nerve (neurological) problems, or if they have a bleeding disorder.

### **How is Percutaneous Vertebroplasty performed?**

It is important that a trained and experienced specialist performs this procedure. This might be a specialist spinal surgeon or an interventional radiologist. The procedure can be done under either local or general anaesthetic.

Percutaneous Vertebroplasty is performed with the patient lying face down and involves injection of a small amount of acrylic material (bone cement) through a hollow tube (cannula) into the vertebra, in order to restore its strength. The cannula needs only a small keyhole incision in the skin, and is inserted into the bone guided by X-rays to ensure precise placement.

On average, the procedure takes about one hour for each vertebra injected. Up to two or three vertebrae can be treated

at one time. A CT scan may be performed at the end of the procedure to check the distribution of the cement. Antibiotics may be given either prior to or during the procedure to prevent infection.

Most patients can go home on the same day because the cement hardens almost immediately. Some patients report improvement in pain symptoms within 24 hours, while others may feel a more gradual benefit over a few months.

The surgeon or radiologist will follow the patient up within the first week to check progress and to answer any questions. Normal activities may be resumed within a few days but strenuous activity should be avoided for six weeks.

### **What are the potential risks and complications?**

All surgery carries some risks, including reaction to anaesthesia or post-operative infection. The most common complication of Percutaneous Vertebroplasty is cement leakage, which can lead to complications including nerve damage, infection and blood clots. According to some small clinical trials, myeloma patients being treated for spinal

fractures face a slightly lower risk of cement leakage following Balloon Kyphoplasty compared to Percutaneous Vertebroplasty, although this remains the subject of ongoing research.

### **Future directions**

Researchers continue to evaluate the success of treating vertebral compression fractures in myeloma with Percutaneous Vertebroplasty. The procedure has been shown to improve back pain and general quality of

life, but researchers have yet to determine its long-term effects in myeloma patients.

### **About this Infosheet**

The information in this Infosheet is not meant to replace the advice of your medical team. They are the people to ask if you have questions about your individual situation. All Myeloma UK publications are extensively reviewed by patients and healthcare professionals prior to publication.

## Other information available from Myeloma UK

Myeloma UK has a range of Essential Guides, Infoguides and Infosheets available covering many areas of myeloma, its treatment and management.

To order your free copies or to talk to one of our Myeloma Information Specialists about any aspect of myeloma, call the **Myeloma Infoline: 0800 980 3332** or **1800 937 773** from Ireland

The Myeloma Infoline is open from Monday to Friday, 9am to 5pm and is free to phone from anywhere in the UK and Ireland. From outside the UK and Ireland, call **0131 557 9988** (charged at normal rate).

Information and support about myeloma is also available around the clock at **[www.myeloma.org.uk](http://www.myeloma.org.uk)**

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**Myeloma Awareness Week 21 - 28 June**