

Benefits of Enhanced Vertebroplasty for Metastatic Spine Tumors:

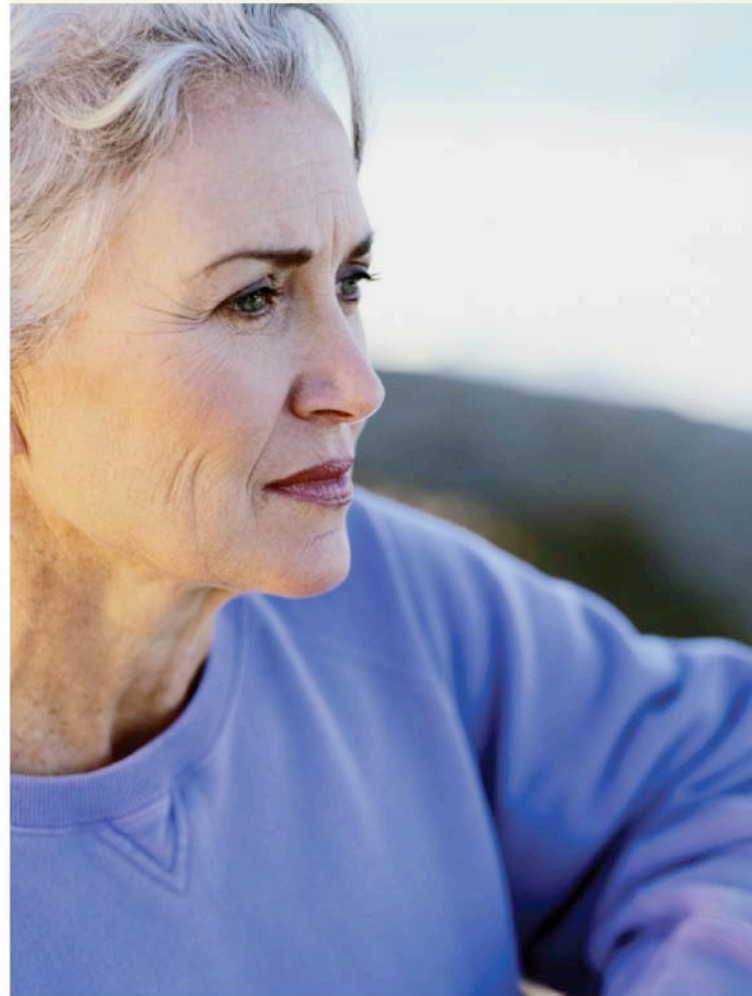
- **Minimally invasive; performed using x-ray guidance**
 - Elimination of complications that may result from open surgery
- **Pain relief within 24-72 hours post procedure**
- **Enables patient to continue chemotherapy treatment**



Local Contact Information:

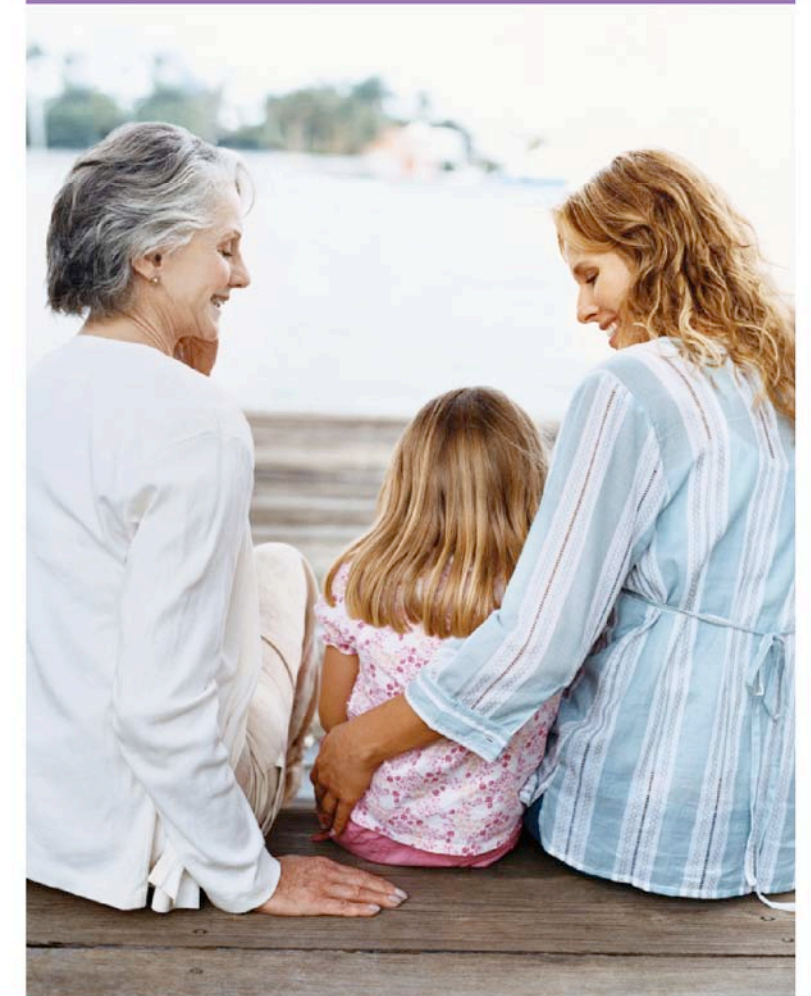
Enhanced Vertebroplasty for Metastatic Spine Tumors

A procedure designed to stabilize painful vertebral compression fractures caused by metastatic spine tumors.



Who Is a Candidate for This Procedure?

Patients who have been diagnosed with a painful vertebral compression fracture caused by a metastatic spine tumor may be candidates for this procedure. It is important to discuss any treatment options including risks and complications with your doctor before undergoing any treatment.



Vertebral compression fractures can occur in cancer patients because tumors metastasize to the spine causing weakness in the vertebra. The following information is designed to help you and your loved ones make an informed decision about how to treat vertebral compression fractures caused by these tumors. A specialist can determine whether you are a suitable candidate for this procedure.

About Compression Fractures

Vertebrae are the bones of the back, which join together to make up the spinal column. Vertebral compression fractures occur when vertebral bones weaken and collapse. This often causes debilitating back pain, impaired mobility and reduced quality of life. Left untreated, vertebral compression fractures may result in chronic pain and spinal deformity. The most common causes of this condition are osteoporosis, tumors or severe trauma.

There are several options available for treating vertebral compression fractures. Pain medications, bed rest or bracing may help temporarily relieve some of the painful symptoms, however, these methods do not address the fractured vertebrae.

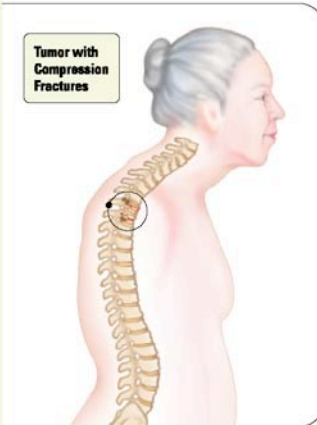
Treatment for Fractures Caused by Metastatic Tumors

Two minimally invasive procedures, vertebroplasty and kyphoplasty, are designed to address the fractured vertebrae. In these procedures, bone cement is utilized to stabilize the frail area affected by the tumor.

While the techniques differ, vertebroplasty and kyphoplasty were originally used for treating malignant lesions.¹ Traditional vertebroplasty and kyphoplasty procedures are associated with high complication rates when metastatic tumors are the cause of the fracture as compared to fractures caused by osteoporosis.² This is because the vertebra is

typically compromised by the tumor. Complications may include bone cement leaking out of the vertebra or cancerous cells being spread into the blood stream. This can potentially cause additional metastases to develop in other areas of the body.

Open spinal surgery can also restore the function of the spine. Open surgery has more risks, typically involves a long recovery period, and not everyone is a good candidate.

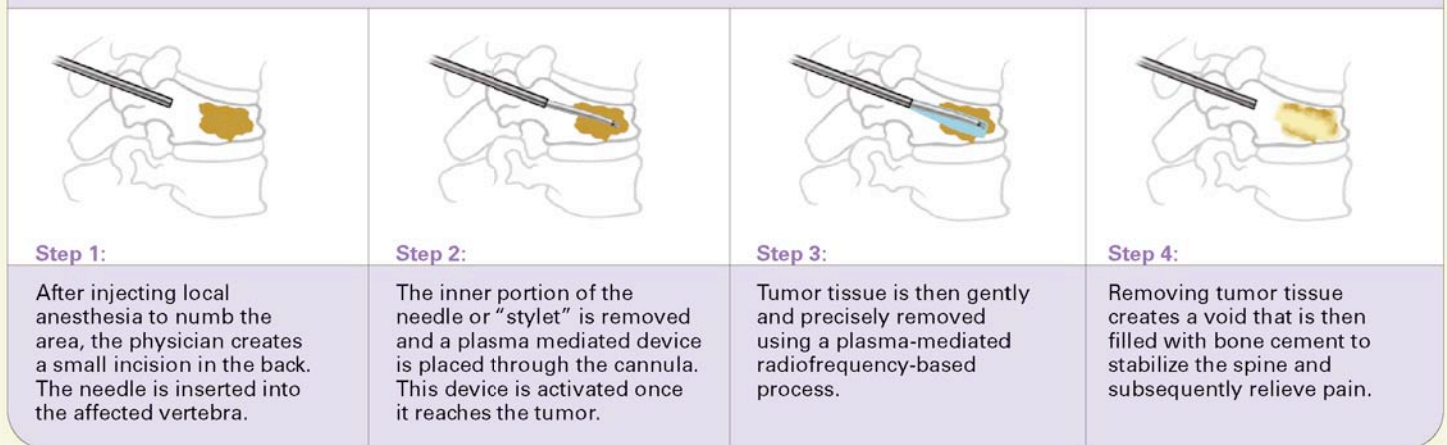


Enhanced vertebroplasty may be an excellent alternative to open spinal surgery for many patients. Unlike traditional procedures, enhanced vertebroplasty uses a plasma mediated device to precisely remove tumor tissue prior to injecting bone cement in the cavity. This approach may result in fewer complications and reduce risks such as cement leakage, while providing pain relief.



HOW THE PROCEDURE WORKS

Removing tumor tissue creates a space for the bone cement. This procedure may reduce the risk of cement leaking from the porous tumor affected vertebrae.



WHAT TO EXPECT

Before the Procedure

Your medical examination will include a physical exam. Imaging (x-rays, MRI) will be reviewed to locate the tumor and determine if the procedure is appropriate for you. If you are currently being treated with radiation, medications or other therapies, you will continue these therapies unless advised otherwise by your physician.

During the Procedure

Patients undergoing enhanced vertebroplasty for metastatic tumors typically are given local anesthesia and light sedation. The procedure requires that you lie on your stomach. A small incision is then made in the skin near the spine, and a needle is inserted to gain access to the vertebral body.

After the Procedure

Although some patients may be able to return home the same day as their procedure, patients who have this procedure typically stay in the hospital overnight for observation. Your doctor will make this decision based on your overall health at the time of the procedure. Typically, patients can resume their normal activities within 24-48 hours after the procedure.

What are the Risks of Enhanced Vertebroplasty?

Enhanced vertebroplasty for treating metastatic tumors has a strong safety profile, but as with any surgical procedure, there are potential risks. *Complications are rare, but these should be discussed with your doctor.*

¹ Fourmey DR., Schomer DF., Nader R., Chane-Fourney J., Suki D., Ahrar K., Rhines LD., Gokaslen ZL., Percutaneous Vertebroplasty and Kyphoplasty for Painful Vertebral Body Fractures in Cancer Patients. *J. Neurosurg.* 2003; 98:21-30

² Raj D. Rao, Manoj D. Singrakha. Painful Osteoporotic Vertebral Fracture: Pathogenesis, Evaluation, and Roles of Vertebroplasty and Kyphoplasty in Its Management. *J. Bone Joint Surg. Am* 85:2010-2022, 2003.