

FACT SHEET

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CANCER AND SPINAL FRACTURES **Bone Metastasis and Multiple Myeloma**

Fractures of the bones which make up the spinal column are referred to as **spinal fractures**. Two types of cancer, **bone metastasis** and **multiple myeloma**, can also affect the stability of vertebrae. Below are facts and information about the relationship between cancer and spinal fractures, which emphasize the importance of comprehensive care plans that address all aspects of a patient's condition.

What is bone metastasis?

- Bone metastasis is the term for cancer that spreads to bone from another site; cancer cells migrate from the primary tumor site, enter the bloodstream and travel to other areas of the body.
- Cancer cells can spread to bone and cause two kinds of lesions; osteolytic and osteoblastic. Osteolytic lesions are destructive, increasing bone loss and decreasing bone strength and stiffness. This type of lesion is associated with bone fractures. Osteoblastic lesions increase bone formation. Even though the bone density increases, the bone strength does not change and the stiffness of the bone decreases.
- Bone metastasis occurs most commonly in people with breast, prostate and lung cancer.
- Bone metastasis has been reported to occur in half of all cancer patients whose cancer has spread to some other part of their body, which means that a large number of people each year have bone metastasis and suffer from complications, which include spinal fractures, back pain and spinal cord compression.
- Although bone pain is usually the earliest symptom, bone fractures can also be a sign of bone metastasis since it can often go undiagnosed until it has reached an advanced stage. The spine is one of the most common sites for bone fracture.

What is the connection between bone metastasis and spinal fractures?

- Approximately 17-50% of patients with breast carcinoma (malignant or advancing new cancer growth) and bone metastasis will experience new spinal fractures each year.¹
- Up to two-thirds of patients with bone metastasis experience severe pain and disability.²
- Up to 41% of patients receiving radiation to treat bone metastasis experience bone fractures.³

What is the survival rate of people with bone metastasis?

Survival rates in patients with bone metastasis have improved; the current median survival is two years. Approximately 10% of patients are still alive five to ten years after they are first diagnosed.¹

Is there a test to detect bone metastasis?

- Imaging techniques that help show evidence of the spread of cancer into the bones include x-rays, radionuclide bone scan (radioactive material is injected to better identify the bone), computed tomography (CT) or magnetic resonance imaging (MRI).
- Blood tests and needle biopsies are also used to detect bone metastasis. A surgical bone biopsy may be performed if needle biopsies do not provide an answer.

What is multiple myeloma?

- Multiple myeloma is a cancer of blood cells, white blood cells that are part of the body's immune system.
- At any given time, approximately 75,000 to 100,000 people in the U.S. have multiple myeloma.

What is the connection between multiple myeloma and spinal fractures?

- New spinal fractures are reported to occur in approximately 15-30% of patients with multiple myeloma annually.¹
- According to experts approximately 75% of patients with multiple myeloma have bone pain at the time of diagnosis.¹
- Among those myeloma patients with bone pain in the back, vertebral fracture is present more than half the time.¹

For additional information about cancer and spinal fractures, visit:

- www.spine.org North American Spine Society
- www.cancer.org American Cancer Society
- www.myeloma.org International Myeloma Foundation

For a consultation concerning treatment options for a spinal fracture, please contact [Contact name at Physician's Office] at [phone number].

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- ¹ Body, J. (2003). "Effectiveness and Cost of Bisphosphonate Therapy in Tumor Bone Disease." *Cancer* (supplement) 97 (3): 859-865
- ² Janjan, N. (2001). "Bone Metastases: Approaches to Management." *Seminars in Oncology* 28 (4): 28-34.
- ³ Patel and DeGroot. (2001) "Evaluation of the Risk of Pathologic Fractures Secondary to Metastatic Bone Disease." *Orthopedics* 24:612-7.

Facts and figures not associated with a footnote were researched on the web site of the American Cancer Society at: www.cancer.org.