Metastatic Tumors of The Spine

What are metastatic spine tumors?
Metastatic cancer is a cancer that has spread from the place where it first started (primary site) to another place in the body. The bones of the skeletal system are the third most common place for metastatic tumors. The most common types of cancers that spread to the spine are breast, lung, renal (kidney) and prostate.

Where are metastatic spine tumors located?
The spine, also known as the backbone, is made of small individual bones called vertebrae. The vertebrae are stacked on top of each other with a thin disc in between each vertebrae. The vertebra gives the spine support and helps to protect the spinal cord. The spinal cord sends signals to the nerves in your arms and legs and bowels and bladder.

Metastatic tumors are often located in the vertebra. Spine tumors can grow and invade the spinal cord and nerves. The spine is divided into 5 regions. These include:

- Cervical (neck) - 7 bones: C 1 to 7
- Thoracic (upper back) - 12 bones: T1 to T12
- Lumbar (lower back) - 5 bones: L1 to L5
- Sacrum - 5 bones (fused): S1 to S5
- Coccyx (tailbone) - 3 to 5 fused bones
What are symptoms of metastatic spine tumors?
Some people have no symptoms. The tumors may be found during an x-ray that is done to follow your primary cancer. The most common symptom is back pain. Symptoms can depend on the location of the tumor. Other symptoms may include:
• Numbness or tingling in the arms or legs
• Weakness (paralysis) in the arms or legs
• Problems walking
• Balance problems (unsteady)
• Problems with bowel or bladder function

How are metastatic tumors diagnosed?
Radiology tests and x-rays can be used to help diagnose metastatic tumors. These tests may include:
• Spine x-rays: This x-ray will show how stable your spine is and helps to find spine tumors.
• CT scan of the spine: This is a special x-ray that shows details of the bones and tissue inside the body.
• MRI with contrast: MRI uses a powerful magnet linked to a computer. It shows detailed pictures of the tumor in the soft tissue, spinal cord, or nerves. Contrast, also called dye, is a medicine given through a needle or catheter put into a vein in your arm. The IV contrast helps to highlight the body parts inside the body.
• CT scan of the chest, abdomen, and pelvis: A special x-ray that shows details of the body and can be used to find or track the primary cancer.
• Positron Emission Tomography (PET) scan: This test looks at the metabolic activity (cell activity) inside the body. The PET scan can help the doctor see where a tumor or cancer is located in the body.

How are metastatic tumors of the spine treated?
The type of treatment will depend on the following:
• The type of tumor
• Where the tumor is located in the body
• The size of the tumor
• The stage of your primary cancer
The doctor will also evaluate how well you are doing to plan your treatment. The goals of treatment for metastatic spine tumors are to:

- Control pain
- Help you keep the ability to do daily activities
- Maintain your quality of life

The health care team will talk with you and your family to discuss options for treatment. Options may include:

- Medical Management
- Surgical Management
- Radiation Therapy
- Chemotherapy
- Rehabilitation
- Palliative Care

**Medical management**

Pain control is an important part of your treatment. The type of pain and what works best to control it can be different for each person. It is very important to talk with your doctor about your pain. Uncontrolled pain can affect your quality of life and your day-to-day activities. Other members of the health care team may be asked to help treat your pain. Medicine may be given by mouth, intravenous (IV) or injection. Tell your doctor if your pain is not controlled. Changes can be made to your medicine to make you comfortable. Steroids may also be used to help decrease swelling around the tumor.

**Surgical management**

Surgery can decrease the amount of tumor in the spine to lessen pressure on the spinal cord, nerves or tissues. Surgery can help to reduce pain and prevent further symptoms. Sometimes surgery is done to keep the vertebra from collapsing. Surgery may be done from the front, back or both. Surgery may be done on one or more days.

Here are the different types of spine surgery:

- **Decompression**: This is done to reduce the amount of tumor to help increase the space around the spinal cord and nerves.

- **Stabilization**: This is done to stabilize and support the vertebrae by using plates, screws and rods.
Radiation therapy
Radiation therapy may be added to your treatment plan. Your doctor may recommend radiation therapy as the main treatment or the radiation may be done after surgery. This will depend on the type of tumor, the size and location of the tumor. If radiation is given after surgery, it may not start until after you are healed. There are different types of radiation that can be given. Radiation may be given in several daily sessions or in a one day session. A radiation oncologist, a doctor who specializes in the delivery of radiation, will meet with you to discuss treatment options.

Chemotherapy
Chemotherapy may or may not be given for metastatic tumors of the spine. The medical oncologist, a doctor who specializes in treating cancer, will talk with you to discuss options for chemotherapy.

Rehabilitation
Recovery after diagnosis is different for each person. You may need help to return to normal activities. A physical therapist (PT) and occupational therapist (OT) may be asked to evaluate your function and make recommendations for services. Rehabilitation may be done in an in-patient or outpatient setting. The rehabilitation team will help you and your family make this decision.

Palliative care
Palliative care focuses on comfort care for your body, mind and spirit. This includes relieving pain, managing symptoms and improving quality of life throughout the course of your illness. Palliative care uses health care providers from multiple specialties to help you and your family with physical, emotional, spiritual and social concerns.

Follow up
It is important to keep your appointments with the medical team so they can continue to monitor your progress and response to treatments.

For more information or questions regarding information in this handout, please call the Department of Neurosurgery at (614) 293-8714.