Bone Cancer - Overview [1]

This section has been reviewed and approved by the Cancer.Net Editorial Board [2], 08/2014

ON THIS PAGE: You will find some basic information about this disease and the parts of the body it may affect. This is the first page of Cancer.Net?s Guide to Bone Cancer. To see other pages, use the menu on the side of your screen. Think of that menu as a roadmap to this full guide.

About bones

The adult human skeletal system is made up of 206 bones that protect the internal organs, allow people to stand upright, and attach to muscles, which allow movement. Bones are connected to other bones by bands of tough, fibrous tissue called ligaments, while cartilage covers and protects the joints where bones come together. Bones are hollow and filled with bone marrow, which is the spongy, red tissue that produces blood cells. The cortex is the hard, outer portion of the bone.

See illustrations of the bone [3].

Bone consists of collagen, which is a soft, fibrous tissue, and calcium phosphate, a mineral that helps harden and strengthen the bone. There are three types of bone cells:

- Osteoclasts?cells that break down and remove old bone
- Osteoblasts?cells that build new bone
- Osteocytes?cells that carry nutrients to the bone

About bone cancer

Although it is rare, cancer can occur in any part of any bone. Cancer begins when normal cells in the bone change and grow uncontrollably, forming a mass called a tumor. A bone tumor can be cancerous or benign. A cancerous tumor is malignant, meaning it can spread to other parts of the body. A benign tumor means the tumor will not spread. Even though a benign tumor does not spread outside the bone, it can grow large enough to press on surrounding tissue and weaken the bone. A malignant tumor can destroy the cortex and spread to nearby tissue. If bone tumor cells get into the bloodstream, they can spread to other parts of the body, especially the lungs, through a process called metastasis.

There are different types of bone cancer, including:

- Osteosarcoma [4] and Ewing sarcoma [5]. These are two of the most common types of bone cancer and mainly occur in children and young adults.
- Chondrosarcoma. Chondrosarcoma is cancer of the cartilage and is more common in adults.
- Chordoma. This is a type of bone cancer that typically starts in the lower spinal cord.

Rarely, soft tissue sarcoma [6] begins in the bone, causing cancers such as:

- Undifferentiated pleomorphic sarcoma (UPS). UPS makes up less than 1% of bone tumors and is usually found in adults. An arm or leg, especially around the knee joint, is the most common place for UPS to appear.
- Fibrosarcoma. This type of soft tissue sarcoma is also more common among adults, particularly during middle age. It most often begins in the thighbone.
- Paget disease of the bone. This disease generally occurs in older adults and involves the overgrowth of bony tissue.

This section contains information about primary bone cancer, which is cancer that begins in the bone. However, it is much more common for bones to be the site of metastasis from other cancers, such as breast [7], lung [8], or prostate [9] cancer. Cancer that started in another area of the body and has spread to the bone is called metastatic cancer, not bone cancer. For example, lung cancer that has spread to the bone is called metastatic lung cancer.

For information about cancer that has started in another part of the body and spread to the bone, please see the information for that type of cancer [10] or read the fact sheet about when cancer spreads to the bone [11].

To continue reading this guide, use the menu on the side of your screen to select another section.

Links:
[1] http://www.cancer.net/cancer-types/bone-cancer/overview
[2] http://www.cancer.net/about-us
[3] http://www.cancer.net/node/18536
[4] http://www.cancer.net/node/31389
[5] http://www.cancer.net/node/31309
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