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## **Bone Cancer - Introduction [1]**

This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 05/2016

**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. Think of that menu as a roadmap to this full guide.

### **About bones**

The adult human skeletal system is made up of 206 bones. Bones 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. 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 3 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 healthy cells in the bone change and grow out of control, forming a mass called a tumor. A bone tumor can be cancerous or benign.

A cancerous tumor is malignant, meaning it can grow and spread to other parts of the body. 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.

A benign tumor means the tumor can grow, but it will not spread to other parts of the body. Even though a benign tumor does not spread outside the bone, it can grow large enough to press on surrounding tissue, weaken the bone, and cause the bone to fracture.

There are different types of bone cancer, including:

- **Osteosarcoma** [4] **and Ewing sarcoma**. These are 2 of the most common types of bone cancer. They mainly occur in children and young adults. [Ewing sarcoma](#) [5] is unusual in that it can occur in either bone or in soft tissue. Refer to the [guide to soft-tissue sarcoma](#) [6] for Ewing sarcomas that occur in soft tissue.
- **Chondrosarcoma**. Chondrosarcoma is cancer of the cartilage. It is more common in adults.
- **Chordoma**. This type of bone cancer 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 is an uncommon bone tumor, most closely related to osteosarcoma. UPS of bone 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's sarcoma**. Paget's disease of the bone generally occurs in older adults. It involves the overgrowth of bony tissue. If Paget's disease develops into cancer, it is called Paget's sarcoma, mostly osteosarcoma. However, this is uncommon.

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.

Similarly, other cancers start in bone marrow, such as [myeloma](#) [10] or leukemia. These are different cancers and are discussed in their own guides on Cancer.Net.

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](#) [11] or read the [fact sheet about when cancer spreads to the bone](#) [12].

*The [next section in this guide is Statistics](#). [13] It helps explain how many people are diagnosed with this disease and general survival rates. Or, use the menu to choose another section to continue reading this guide.*

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## Links

[1] <http://www.cancer.net/cancer-types/bone-cancer/introduction>

[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>

[6] <http://www.cancer.net/node/31379>

[7] <http://www.cancer.net/node/31322>

[8] <http://www.cancer.net/node/31273>

[9] <http://www.cancer.net/node/31382>

[10] <http://www.cancer.net/node/31400>

[11] <http://www.cancer.net/cancer-types>

[12] [http://www.cancer.net/sites/cancer.net/files/asco\\_answers\\_bone\\_metastasis.pdf](http://www.cancer.net/sites/cancer.net/files/asco_answers_bone_metastasis.pdf)

[13] <http://www.cancer.net/node/18535>