

Bone Tumors

Bone tumors can occur in any location of your body and at any age. They typically present themselves with pain or a mass (or lump) of tissue. In some cases, they can cause a limp. The vast majority of bone tumors have no known cause. There is no evidence that injuries can cause tumors, although patients may identify a bone mass as a result of an injury to the area. Most bone tumors are benign - or non-cancerous - and are usually not dangerous. On the other hand, some bone tumors are malignant - or cancerous - and can be life threatening. Malignant bone tumors are rare, accounting for only 5 percent of all cancers in children and 1 percent of all cancers in adults.

What are bone tumors?

Bones are made up of different types of cells, and bone tumors are usually classified according to their cells of origin. For example, a growth arising from bone cells is called an **osteoma** and may be either cancerous (malignant) or not cancerous (benign). A common type of non-cancerous tumor growing on the outside of a bone is called an **exostosis**. Other examples of benign bone tumors are **chondromas**, which arise from cartilage, and **fibromas**, which arise from fibrous cells.

Non-cancerous bone tumors usually grow more slowly than cancerous tumors and may cause pain - especially when they weaken the bone. If the bone does become weakened and breaks as a result, it is referred to as a pathological fracture. Cancerous bone tumors usually grow more rapidly than benign bone tumors and tend to cause an increasing amount of bone pain. When a tumor is close to a joint, it can restrict the motion of that joint and cause further pain or a limp. Both cancerous and non-cancerous bone tumors can result in pathological fractures.

How are bone tumors diagnosed and treated?

The diagnosis of a bone tumor depends upon the patient's symptoms, a doctor's physical examination, X-rays, and possibly other studies. Frequently, an X-ray can make the diagnosis. Sometimes additional procedures are required, such as blood tests, a CT scan, an MRI, or a biopsy. A biopsy is a surgical procedure in which a small amount of bone is removed so that it can be further examined under a microscope.

The treatment of bone tumors depends upon several factors, including whether it is benign or malignant, its size, its location, and its symptoms. Some benign bone tumors only require observation to ensure that they do not grow or change. Other benign bone tumors may require surgery to "clean" out the lesion and then replace the bone material in the bone cavity. Most malignant bone tumors require surgical removal, as well as possible other treatments, including chemotherapy or radiation therapy. The goal of treatment of cancerous tumors is saving the person's life, but nearly equally important is trying to save the person's limb where the cancer is located. Many cancerous bone tumors can be treated with limb sparing surgery in which the tumor is removed and replaced with a metallic bone replacement. Today, amputations are needed less frequently than in the past. Cure rates from bone cancers are also quite high compared to other forms of cancer.

If you have any unexplained bone swelling or progressive bone pain, call your health care professional immediately. Regardless of whether you believe that it is benign or malignant, the cause of your symptoms should be assessed.



Other resources

- Connect to our Web site at kp.org/mydoctor to access health and drug encyclopedias, interactive programs, health classes, and much more.
- Contact your Kaiser Permanente Health Education Center or Department for health information, programs, and other resources.
- If you are hit, hurt, or threatened by a partner or spouse, this can seriously affect your health. There is help. Call the National Domestic Violence Hotline at 1-800-799-7233 or connect to ndvh.org.

This information is not intended to diagnose health problems or to take the place of medical advice or care you receive from your physician or other health care professional. If you have persistent health problems, or if you have additional questions, please consult with your doctor.