



## Sarcoma

Sarcomas are cancers of connective tissue. They fall into groups based on whether they arise in soft tissue or bone.

- Soft tissue sarcomas are more common and occur mostly in the elderly. They can originate from cells of muscle, fat, nerve, fibrous tissue, deep skin tissue or blood vessels. However, in many cases, the cell of origin is unknown. Soft tissue sarcomas most frequently are found in the arms or the legs, but can occur anywhere in the body.
- Bone sarcomas more commonly occur in adolescents and young adults. The most common types are osteosarcoma and Ewing sarcoma. Osteosarcoma, a cancer of the part of the bone that gives bone its strength, is found most often in the bones around the knee. Ewing sarcoma most often occurs in the bones of the pelvis, chest wall, or the middle of long leg bones, but can also presents in the muscles.

These tumors are different from other “cancers of the bone” such as breast cancer, which spreads to bone, or multiple myeloma, which arises from blood cells in the bone marrow.

## Statistics

- Sarcomas account for about 1 percent of adult cancers and about 20 percent of childhood cancers.
- In the U.S., about 13,040 new cases of soft tissue sarcoma are expected to be diagnosed in 2018, resulting in approximately 5,150 deaths.
- In the U.S., about 3,450 new cases of bone and joint cancer are expected to be diagnosed in 2018, with approximately 1,590 deaths.

## Risk Factors

There are no known reasons for developing sarcomas, but certain risk factors have been identified based on common characteristics in individuals who developed the disease, including:

- High doses of radiation exposure from treatments for other cancers; however, radiation treatment techniques have improved to ensure the targeted area is treated more precisely so effects on surrounding tissues and organs are minimized.
- Individuals exposed to herbicides with phenoxyacetic acid and wood preservatives with chlorophenols have a higher risk.
- Individuals with certain inherited diseases, including Li-Fraumeni syndrome, retinoblastoma, Paget’s disease of bone, multiple exostoses syndrome, Gardner syndrome, Werner syndrome, Gorlin syndrome, von Recklinghausen disease, neurofibromatosis or tuberous sclerosis have an increased risk of developing a soft-tissue or bone sarcoma.
- Damage to a person’s lymph system, which can occur through surgery or radiation therapy, is also a risk factor associated with soft-tissue sarcoma.

## Signs and Symptoms

In the early stages, it can be difficult to determine if a sarcoma is present and can go undetected for a long period of time. Bone pain, suspicious lumps, or swollen areas of the body should be evaluated by a physician, who may conduct a biopsy to determine if the lump is a malignant tumor or benign. Over time, tumors will grow, become sore, and eventually cause pain, bone fracturing, swelling, numbness, tingling, or weakness because the tumor presses against nerves or muscles.

## Tips for Prevention

There are no known ways to prevent the development of a bone or soft-tissue sarcoma. Maintaining a healthy lifestyle and getting regular check-ups are the best ways to reduce the risk for developing all forms of cancer.

## Treatment Options

Once a sarcoma is diagnosed, the treatment plan will be based on type, location, stage, and the patient’s overall health. Depending on the cancer’s location, as well as its stage of development, surgery is an option for treatment. For a soft-tissue sarcoma, tissue in distant sites is sometimes removed if the disease has spread to other areas. Chemotherapy or radiation therapy may also be used to shrink the tumor before surgery. Following the surgery, patients may receive radiation therapy or chemotherapy to improve the chances of eliminating all tumor cells.

*Source: American Cancer Society, American Society of Clinical Oncology, Sarcoma Foundation of America*