

# Primary Bone Cancer: Risk Factors



## What is a risk factor?

A risk factor is anything that may increase your chance of having a disease. Risk factors for a certain type of cancer might include smoking, being overweight, family history, or many other things. The exact cause of someone's cancer may not be known. But risk factors can make it more likely for a person to have cancer.

Things you should know about risk factors for cancer:

- Risk factors can increase a person's risk, but they don't always cause the disease.
- Some people with risk factors never develop cancer. Other people with cancer have few or no risk factors.
- Some risk factors are very well known. But there's ongoing research about risk factors for many types of cancer.
- Some risk factors, such as family history, may not be in your control. But others may be things you can change.

## Who is at risk for primary bone cancer?

Anyone can get primary bone cancer (cancer that starts in the bone). But there are some factors that can increase your risk.

- **Family history of certain genetic diseases or rare cancers.** A small number of bone cancers, mostly osteosarcomas, seem to be linked to hereditary diseases (genetic changes that are passed on in families). For instance, people with Li-Fraumeni syndrome may have an increased risk of bone cancer. Children who have the inherited form of an eye cancer called retinoblastoma are also at greater risk. These cases are rare, though. Healthcare providers have still not found all of the genes that are linked to bone cancer.
- **Having had radiation therapy or chemotherapy before to treat another cancer.** Exposure to radiation increases the risk of primary bone cancer. This is especially true in people who were treated at a young age or had a high dose of radiation. It's rare, but treatment with certain types of chemotherapy as a child might be linked with later development of bone cancer.
- **Paget disease of the bone.** This disease mostly affects people who are 50 years of age and older. It causes abnormal bone tissue to form. This leads to brittle, thick bones, that are weak and more likely to break (fracture). It's not cancer, but it can lead to bone cancer (usually osteosarcoma) in a very small number of cases.
- **Having certain types of bone or cartilage tumors.** Having a genetic condition that causes bumps of bony tissue or benign bone or cartilage tumors can increase your risk for bone cancer. Your healthcare provider can tell you if you have any of these conditions.
- **Having a bone marrow transplant.** In a few cases, having a bone marrow transplant has been linked to developing osteosarcoma.

## What are your risk factors?

Talk with your healthcare provider about your risk factors for bone cancer. Ask if there's anything you can do about them. Most risk factors for bone cancer are not under your control. But if you're at increased risk, there might be things you can do that could help find bone cancer early, when it's small and might be easier to treat.

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