

# Leukemia: 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, diet, family history, or many other things. The exact cause of someone's cancer is often not 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 increase a person's risk, but they don't always cause the disease.
- Some people with one or more risk factors never get cancer. Other people get cancer and have no risk factors.
- Risk factors have different degrees of risk. Some are strong and some are weakly linked.
- 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 or gender, may not be in your control. But others may be things you can change. Knowing about risk factors can help you make choices that might help lower your risk. For instance, if smoking is a risk factor, you may choose to quit smoking.

## Who is at risk for leukemia?

Anyone can get leukemia. Most people with leukemia don't know what caused it. Many have no risk factors. But here are some known risk factors for leukemia:

### Smoking

People who smoke are more likely to get acute myeloid leukemia (AML) than people who do not smoke.

### Exposure to certain chemicals

Being exposed to certain chemicals has been linked with some types of leukemia. For example, exposure to benzene is a risk factor for AML. It may also be a risk factor for acute lymphocytic leukemia (ALL). Benzene may be used in the rubber industry, oil refineries, chemical plants, and manufacturing. It is also in cigarette smoke, vehicle exhaust, and certain cleaning products, art supplies, and paints. Exposure to Agent Orange, an herbicide used in the Vietnam War, has been linked to an increased risk for chronic lymphocytic leukemia (CLL).

### Chemotherapy in the past

People who get certain chemotherapy medicines to treat other cancers are more likely to get AML or ALL later on. A person's risk for leukemia is higher for a number of years after the first cancer is treated. But this small increased risk of getting leukemia later on does not outweigh the need to use these medicines to treat the cancer.

### Radiation exposure

High doses of radiation raise a person's risk for AML, ALL, and chronic myeloid leukemia. This exposure could be from an atomic bomb blast or a nuclear reactor accident. It could also be from radiation therapy used to treat another type of cancer.

## Rare congenital diseases

A small number of people are at greater risk for AML and ALL because they have certain rare diseases from the time they are born. For example, people with Down syndrome, ataxia-telangiectasia, and Bloom syndrome have an increased risk of getting acute leukemias.

## Certain blood disorders

People who have certain blood diseases are more likely to get AML. These diseases include myelodysplastic syndromes.

## Family history

Most people who get leukemia don't have a family history of it. But people with a close relative (parent, sibling, or child) who have AML or CLL may be at increased risk.

## Age

Most types of leukemia, especially chronic leukemias, become more common as people get older. But ALL is more common in children than in adults.

## Gender

Most types of leukemia are slightly more common in males than in females. Experts don't know why.

## What are your risk factors?

Talk with your healthcare provider about your risk factors for leukemia and what you can do about them.

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