



[cancer.org](https://www.cancer.org) | 1.800.227.2345

Risk Factors and Causes of Cancers in Adolescents

A risk factor is anything that increases a person's chances of getting a disease such as cancer. Different cancers have different risk factors. And risk factors for adolescents are different from most of those for adults.

- [Lifestyle-related and environmental exposure risk factors](#)
- [Gene changes](#)
- [Known causes of cancer in teens](#)

Lifestyle-related and environmental exposure risk factors

In older adults, many cancers are linked to lifestyle-related risk factors such as smoking, having excess body weight, eating an unhealthy diet, not getting enough exercise, and drinking too much alcohol.

Exposures to things in the environment, such as radon, air pollution, asbestos, or radiation during medical tests or procedures, also play a role in some adult cancers. These types of risk factors usually take many years to influence cancer risk, so they are not thought to play much of a role in cancers in children or teens.

Gene changes

Cancer occurs as a result of changes (mutations) in the [genes](#)¹ inside our cells. Genes, which are made of DNA, control nearly everything our cells do. Some genes affect when our cells grow, divide into new cells, and die. Changes in certain genes can cause cells to grow out of control, which can sometimes lead to cancer.

Some people inherit a gene mutation from a parent that increases their risk of certain cancers. In people who inherit such a mutation, this can sometimes lead to cancer earlier in life than would normally be expected, even in the teen years. But most cancers are not caused by inherited gene changes.

We know some of the causes of gene changes that can lead to adult cancers (such as the lifestyle-related and environmental risk factors mentioned above), but the reasons for gene changes that cause most cancers in teens are not known. Many are likely to just be random events that sometimes happen inside a cell, without having an outside cause.

Known causes of cancer in teens

Still, there are some known causes of cancer in teens. For instance:

- Exposure to [ultraviolet \(UV\) light](#)² from the sun or from tanning beds can increase the risk of [melanoma](#)³.
- Treatment with chemotherapy or radiation therapy for a childhood cancer can increase the risk of getting a [second cancer](#)⁴, especially [leukemia](#)⁵, later on.
- Infection with [human immunodeficiency virus \(HIV\)](#)⁶ can raise the risk of [non-Hodgkin lymphoma](#)⁷ and some other cancers.

But these and other known risk factors probably account for only a small portion of cancers in teens overall.

Hyperlinks

1. www.cancer.org/cancer/understanding-cancer/genes-and-cancer.html
2. www.cancer.org/cancer/risk-prevention/radiation-exposure.html
3. www.cancer.org/cancer/types/melanoma-skin-cancer.html
4. www.cancer.org/cancer/survivorship/long-term-health-concerns/second-cancers-in-adults.html
5. www.cancer.org/cancer/types/leukemia.html
6. www.cancer.org/cancer/risk-prevention/infections/hiv-infection-aids.html
7. www.cancer.org/cancer/types/non-hodgkin-lymphoma.html

References

American Cancer Society. *Cancer Facts & Figures 2020*. Atlanta, GA. Special Section: Cancer in Adolescents and Young Adults. American Cancer Society. 2020.

Bleyer A. Young adult oncology: The patients and their survival challenges. *CA Cancer J Clin*. 2007;57:242-255.

Last Revised: May 23, 2024

Written by

The American Cancer Society medical and editorial content team
(<https://www.cancer.org/cancer/acs-medical-content-and-news-staff.html>)

Our team is made up of doctors and oncology certified nurses with deep knowledge of cancer care as well as editors and translators with extensive experience in medical writing.

American Cancer Society medical information is copyrighted material. For reprint requests, please see our Content Usage Policy (www.cancer.org/about-us/policies/content-usage.html).

cancer.org | 1.800.227.2345