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Risk Factors and Causes of Childhood Cancer

A risk factor is anything that increases the chances of getting a disease such as cancer. Different cancers have different risk factors.

- [Lifestyle-related risk factors](#)
- [Environmental risk factors](#)
- [Changes in genes](#)

Lifestyle-related risk factors

In adults, lifestyle-related risk factors, such as smoking, having excess body weight, not getting enough exercise, eating an unhealthy diet, and drinking alcohol play a major role in many types of cancer. But **lifestyle factors usually take many years to influence cancer risk, and they are not thought to play much of a role in childhood cancers.**

Environmental risk factors

A few environmental factors, such as [radiation exposure](#)¹, have been linked with some types of childhood cancers. Some studies have also suggested that some parental exposures (such as smoking) might increase a child's risk of certain cancers, but more studies are needed to explore these possible links. So far, most childhood cancers have not been shown to have environmental causes.

Changes in genes

In recent years, scientists have learned a great deal about how certain changes in the

DNA inside our cells can cause them to become cancer cells. DNA is the chemical that makes up our **genes**, which control nearly everything our cells do. We usually look like our parents because they are the source of our DNA. But DNA affects more than just how we look. It also influences our risks for developing certain diseases, including some kinds of cancer.

Some genes control when our cells grow, divide into new cells, fix themselves, or die.

Cancers can be caused by DNA changes (mutations) that affect these kinds of genes. For example, a mutation might keep a gene that normally tells a cell to grow to be turned on all the time. This might lead to the cell growing out of control.

Inherited versus acquired gene mutations

Some children inherit DNA changes (mutations) from a parent that increase their risk of certain types of cancer. These changes are present in every cell of the child's body, and they can often be tested for in the DNA of blood cells or other body cells.

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References

Aplan PD, Shern JF, Khan J. Chapter 3: Molecular and Genetic Basis of Childhood Cancer. In: Pizzo PA, Poplack DG, eds.

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