

## Should I consider genetic counseling for childhood cancer?

**At Kaiser Permanente, our goal is to help your child beat cancer and thrive. One way to help take care of your child is to look for genetic risk factors that could guide cancer care.**

Childhood cancer is not just one disease. There are many types of cancer and it can be found in different places in the body. The most common cancer in children is leukemia, a type of blood cancer. Other childhood cancers include lymphomas, brain tumors, and tumors of the muscles, bone and skin. Childhood cancer is not usually triggered by lifestyle or exposure to things in the environment. Most cancer in children happens randomly without any known cause.

However, about 1 in 12 childhood cancers are related to mutations (harmful changes) in inherited cancer genes. A mutation in one of these genes puts a child at higher risk for cancer. Finding a mutation may guide treatment after a cancer diagnosis or help predict future cancer risks for the child. It could also help make screening available before another diagnosis or help predict cancer risks for other family members.

It is not always easy to know which cancers are due to inherited risk factors. A child's medical history or the family's cancer history may show signs that an inherited gene mutation might be involved.

Childhood cancer might be related to an inherited cancer gene if:

**There is other cancer in the family:**

- Childhood cancer in two or more relatives
- Cancer in a parent before 50 years old or cancer in a full sibling
- Cancer before 50 in two relatives on the same side of the family (grandparent, aunts, uncles, half-siblings, nieces or nephews)

or

**The child with cancer also has:**

- A birth defect (such as a heart defect, cleft lip, or abnormal kidney)
- Facial features different than other family members
- Intellectual disability, developmental delay, or autism
- Growth issues (such as difficulty gaining weight, or a very small or large head)
- Skin findings (such as a large number of birth marks, unusual lumps or bumps, extreme sun sensitivity)
- Blood problems (such as anemia, low platelets, low white blood cells)
- Immune deficiency (such as IgA deficiency)
- Chromosome condition (such as Down syndrome or a microdeletion)

or

**Parents are related to each other by blood** (e.g., cousins)

You may want to consider genetic counseling if there are signs that suggest an inherited risk factor. A genetic counselor can review the history, how genes are inherited, cancer risk for family members, and genetic testing options. The genetic counselor can also help develop a care plan for inherited cancer risks and offer support to individuals and families. Genetic testing may be offered as part of the visit; however, testing is always optional.

### DID YOU KNOW?

All cancer is caused by genetic changes that happen over time in the body. Cancer starts when enough genetic changes (mutations) build up in a cell and interfere with cell growth. Most mutations that lead to cancer happen by chance during a person's life. However, a person with mutation in an inherited cancer gene already has one genetic change in every cell of their body when they are born. That makes it more likely that cancer will eventually develop.