

About Genes

Genes are in every cell in our bodies. Genes are made of DNA, which gives instructions to cells about how to grow and work together. We have two copies of each gene in each cell—one from our mother and one from our father. When genes work properly, they help keep cancer cells from developing. If one copy of a gene has a mutation, the gene cannot work correctly. This raises the risk for certain cancers.

The *BRIP1* gene helps fix mistakes in the DNA in our cells. When *BRIP1* is not working right, the DNA mistakes can allow cancer to develop. When a woman inherits a copy of *BRIP1* that does not work right, her risk to get ovarian cancer is higher than average.

BRIP1 Mutations and Cancer Risks

Ovarian Cancer. About 1 in 100 women will get ovarian cancer in their lifetime. About 6 in 100 women with a *BRIP1* gene mutation will get ovarian cancer.

Breast Cancer in Women. About 1 in 10 women get breast cancer during their lifetime. It is not known if women with a *BRIP1* gene mutation have a higher risk for breast cancer.

Other Cancers. For now, *BRIP1* gene mutations are not known to cause higher risk of other cancers. Researchers are still studying *BRIP1* to learn more.

*Do you have questions about your risk for cancer?
Our doctors and genetic counselors can help find the
cancer screening plan you need.*

**Call Huntsman Cancer Institute's Family Cancer
Assessment Clinic to learn more: 801-587-9555.**

*Learn cancer screening recommendations
for the general population.*

Visit www.huntsmancancer.org/prevention

Recommendations

WOMEN

Age 45–50. If you want no more children, think about surgery to remove your ovaries and fallopian tubes. This surgery lowers your risk of getting cancer.

If there is a history of ovarian cancer at a young age in your family, you may want this surgery before age 45. Talk with your doctor about the benefits and risks of this surgery.

Screening for ovarian cancer by ultrasound or blood CA-125 tests may not be reliable. Talk with your doctor about these screening methods.

MEN

Men can carry the *BRIP1* mutation. They do not have a known higher risk for getting cancer. They can pass these mutations to their children.

KIDS AND SIBLINGS

Siblings and children of people with a *BRIP1* mutation have a 1 in 2 chance of also having the mutation. Genetic counseling and testing are recommended for them when they are adults.

People in the family who test negative for the *BRIP1* mutation are thought to have the same risk for ovarian and breast cancer as the general population, if they have no other risk factors. They should follow general cancer screening guidelines.

It is important to know which side of the family carries the *BRIP1* mutation. This allows those relatives to know about their cancer risk. A genetic counselor can help you know who in your family should be tested.

Fanconi Anemia

Fanconi anemia (FA) is a condition that includes physical abnormalities, fatigue, frequent infections, progressive bone marrow failure, and a high risk for cancer. People are at risk to have FA if both of their parents have *BRIP1* gene mutations. If two people with *BRIP1* mutations have a child, the risk their child will have FA is 1 in 4.