BRCA1 and BRCA2 genes: What You Need to Know

What does it mean to carry a BRCA1 or BRCA2 gene mutation?
Mutations in the BRCA1 and BRCA2 genes cause a cancer predisposition condition called Hereditary Breast and Ovarian Cancer (HBOC) syndrome.

What is my risk for cancer if I have a BRCA1 or BRCA2 mutation?
If you have a BRCA1 or BRCA2 mutation, you have an increased risk of getting certain types of cancer. However, not everyone who has a gene mutation will develop cancer.

BRCA1 gene mutations:
- A woman with a BRCA1 gene mutation has a 50-85% chance of developing breast cancer. In comparison, women in the general population have a 10-12% risk for breast cancer.
- A woman with a BRCA1 gene mutation and a history of breast cancer has a 40-60% chance of developing a second primary breast cancer.
- A woman with a BRCA1 gene mutation has a 20-54% chance of developing ovarian cancer. In comparison, women in the general population have a 1-2% risk for ovarian cancer.
- Men who have a BRCA1 gene mutation may have a slightly increased risk for breast and prostate cancer, although these risks are not well defined.

BRCA2 gene mutations:
- A woman with a BRCA2 gene mutation has a 50-85% chance of developing breast cancer. In comparison, women in the general population have a 10-12% risk for breast cancer.
- A woman with a BRCA2 gene mutation and a history of breast cancer has a 40-60% chance of developing a second primary breast cancer. A woman with a BRCA2 gene mutation has a 10-27% chance of developing ovarian cancer. In comparison, women in the general population have a 1-2% risk for ovarian cancer.
- A man with a BRCA2 gene mutation has about a 6-10% risk of developing breast cancer. In comparison, men in the general population have a less than 1% chance of developing breast cancer.
- A man with a BRCA2 gene mutation also has a slightly increased chance of developing prostate cancer.
- There may also be a slightly increased chance of developing other cancers, such as pancreatic cancer.

What is the chance that I will pass a BRCA1 or BRCA2 mutation to my child?
Both men and women who have a BRCA1 or BRCA2 gene mutation have a 50% chance of passing it on to their child.