**BARD1**

The *BARD1* gene is a tumor suppressor gene. Tumor suppressor genes slow down cell division, repair DNA mistakes, or tell cells when to die. When they don't work properly, cells can grow out of control, which can lead to cancer. The primary role of *BARD1* is stabilizing and assisting the *BRCA1* gene in repairing damaged DNA before a cell divides to make copies of itself.

Like most genes, each person has two copies of the *BARD1* gene: one inherited from each parent. A mutation in a single *BARD1* gene inherited from either parent is known to increase risk of breast cancer over a lifetime.

**How common are mutations in the BARD1 gene?**

Mutations in the *BARD1* gene are rare—the exact frequency is not yet known. Studies to establish the frequency of *BARD1* mutations are ongoing.

**How mutations in this gene impact risk**

**Women**

If a woman has a mutation in the *BARD1* gene, her chance of developing breast cancer is greater than that of the average US woman. This does not mean that she has a diagnosis of cancer or that she will definitely develop cancer in her lifetime.

<table>
<thead>
<tr>
<th>Cancer by age 80</th>
<th>Average US woman</th>
<th>With BARD1 mutation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>10%</td>
<td>Elevated</td>
</tr>
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</table>

_Elevated: Risk is increased, but further research may clarify the exact risk figure._

**Men**

If a man has a mutation in the *BARD1* gene, his chance of developing cancer is not known to be increased.

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Additional information
Research on the BARD1 gene is ongoing, especially research related to its impact on ovarian cancer risk.

Screening guidelines
Below is a summary of screening guidelines from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) established by experts at the National Comprehensive Cancer Network (NCCN). Because there are no published NCCN Guidelines® specific to women with BARD1 mutations, these guidelines are for women who have the same breast cancer risk as the average US woman. However, if you have a mutation in this gene, your healthcare provider may recommend additional screening and risk reduction options, such as earlier and more frequent screening, screening with breast MRI, and medications to reduce the risk of breast cancer.

Women
Breast cancer

- Starting at age 25: Breast awareness - Women should be familiar with their breasts and promptly report changes to their healthcare provider.
- Between ages 25-39: Breast exam, risk assessment, and risk reduction counseling by your provider every 1-3 years.
- Starting at age 40: Breast exam, risk assessment, and risk reduction counseling by your provider and mammogram every year. Your provider may discuss screening with tomosynthesis.

Useful resources

FORCE
Providing support, education, research, and resources for survivors and people at increased risk of cancer due to an inherited mutation or family history of cancer.

www.facingourrisk.org

Bright Pink
Focused on the prevention and early detection of breast and ovarian cancer in young women, while providing support for high-risk individuals.

www.brightpink.org

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