BRCA Research Saves Lives

BRCA1 and BRCA2 (breast cancer susceptibility) are genes that help prevent breast cancer from developing. They are responsible for repairing defects in our DNA and maintaining our genes, which can prevent tumors from forming. When they are functioning properly, they are considered to be tumor suppressors. When mutations occur in the BRCA genes, their function is disrupted. They cannot effectively repair DNA damage, and defects accumulate, making cells more prone to cancer.

Mutations in BRCA are often inherited and people who have them are at increased risk for breast cancer—called inherited breast cancer. But BRCA mutations can also occur sporadically (not inherited). 15-25% of inherited breast cancers are a result of BRCA mutations; however, not all people with the BRCA mutation will get breast cancer.

Chances of Developing Breast cancer by Age 70

<table>
<thead>
<tr>
<th>BRCA1 Mutation</th>
<th>BRCA2 Mutation</th>
<th>No BRCA Mutation</th>
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<tbody>
<tr>
<td>6 in 10</td>
<td>4 in 10</td>
<td>1 in 10</td>
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Learn more about BRCA and breast cancer http://sgk.mn/Zq4Kmy

Our Research Investment

More than $53 million in over 130 research grants and 30 clinical trials focused on BRCA mutations in breast cancer

What We’re Investigating

- Developing new ways to prevent breast cancer in BRCA mutation carriers, including new drugs, hormone therapies and dietary approaches
- Identifying environmental or hormonal factors that may contribute to breast cancer risk in women with the BRCA mutation
- Understanding how BRCA mutations lead to both inherited and sporadic (not inherited) breast cancer so that targets for new drugs can be identified

What We’ve Learned from Komen-funded research

- Different populations have different BRCA mutations, which may affect their relative risk of developing breast cancer.
- Women from the Bahamas appear to be twice as likely to have a BRCA1 mutation than the general population.
- Newly identified risk factors may help predict which women with the BRCA mutation will get breast cancer.

Read about breast cancer survivor Terri Swain's experience and thoughts on genetic testing for BRCA mutations in our Chronicles of Hope series. http://sgk.mn/1tgjVtH

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