BARD1 gene

Associated Syndrome Name: *BARD1*-associated cancer risk (Women only)

BARD1 Summary Cancer Risk Table

CANCER	GENETIC CANCER RISK
Breast	High Risk

BARD1 gene Overview

BARD1-associated cancer risk (Women only) [1, 2, 3, 4, 5]

- Women with *BARD1* mutations have a risk for breast cancer that is significantly increased over the 12.5% risk for women in the general population of the United States. Most studies have found that the risk is approximately doubled, with some studies suggesting that the risk could be much higher in certain populations or in women with a family history of breast cancer.
- Studies have also shown that breast cancers in women with *BARD1* mutations are more likely to be Triple Negative Breast Cancer (TNBC). This type of breast cancer lacks estrogen and progesterone receptors, and does not express Her2. It can be more aggressive than other types of breast cancer.
- At this time, there are no known cancer risks for men due to mutations in *BARD1*.
- Although there is an increased risk for cancer in women with mutations in *BARD1*, there are interventions that may reduce these risks. Guidelines from the National Comprehensive Cancer Network (NCCN) that may apply are listed below. Since information about the cancer risks associated with *BARD1* mutations is relatively new, and there is still some uncertainty about the best ways to reduce these risks, it may be appropriate to interpret these results in consultation with cancer genetics experts in this emerging area of knowledge.

BARD1 gene Cancer Risk Table

CANCER TYPE	AGE RANGE	CANCER RISK	RISK FOR GENERAL POPULATION
Female Breast	To age 80[2, 3, 6, 7, 8]	22%, with a particularly increased risk for triple negative breast cancer (TNBC)	10.8%

BARD1 Cancer Risk Management Table

The overview of medical management options provided is a summary of professional society guidelines. The most recent version of each guideline should be consulted for more detailed and up-to-date information before developing a treatment plan for a particular patient.

This overview is provided for informational purposes only and does not constitute a recommendation. While the medical society guidelines summarized herein provide important and useful information, medical management decisions for any particular patient should be made in consultation between that patient and his or her healthcare provider and may differ from society guidelines based on a complete understanding of the patient's personal medical history, surgeries and other treatments.

CANCER TYPE	PROCEDURE	AGE TO BEGIN	FREQUENCY (UNLESS OTHERWISE INDICATED BY FINDINGS)
Female Breast	Breast awareness - Women should be familiar with their breasts and promptly report changes to their healthcare provider. Periodic, consistent breast self-examination (BSE) may facilitate breast awareness.[9]	18 years	NA

CANCER TYPE	PROCEDURE	AGE TO BEGIN	FREQUENCY (UNLESS OTHERWISE INDICATED BY FINDINGS)
	Clinical encounter, including clinical breast exam, ongoing risk assessment and risk-reduction counseling[9]	25 years, or 5 to 10 years younger than the earliest age of breast cancer diagnosis in the family	Every 6 to 12 months
	Mammography and consideration of breast MRI with and without contrast[9]	Age 40, or modified to a younger age based on the family history of breast cancer	Annually
	Consider additional risk-reduction strategies.[9, 10]	Individualized	NA
For Patients With A Cancer Diagnosis	For patients with a gene mutation and a diagnosis of cancer, targeted therapies may be available as a treatment option for certain tumor types (e.g., PARP-inhibitors).[11]	NA	NA

Information for Family Members

The following information for Family Members will appear as part of the MMT for a patient found to have a mutation in the BARD1 gene.

This patient's relatives are at risk for carrying the same mutation(s) and associated cancer risks as this patient. Cancer risks for females and males who have this/these mutation(s) are provided below.

Family members should talk to a healthcare provider about genetic testing. Close relatives such as parents, children, brothers and sisters have the highest chance of having the same mutation(s) as this patient. Other more distant relatives such as cousins, aunts, uncles, and grandparents also have a chance of carrying the same mutation(s). Testing of at-risk relatives can identify those family members with the same mutation(s) who may benefit from surveillance and early intervention.

At this time, there are no known cancer risks for men due to mutations in *BARD1.*

References

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Last Updated on 03-Jun-2025