

## Hereditary Breast and Ovarian Cancer

### RED FLAGS — ONE OR MORE OF THE FOLLOWING:

Personal history of early-age-onset breast cancer ( $\leq 50$  years of age)

Personal history of 2 or more primary cancers, such as:

- Breast and ovarian
- Bilateral breast primaries

Two or more clearly separate ipsilateral breast primaries

Personal history of ovarian cancer

Family history of 2 or more breast cancer primaries or breast and ovarian cancer in close relatives (first-, second-, or third- degree relatives) on the same side of the family (maternal or paternal)

Family history of ovarian cancer in 1 or more individuals on same side of family

Personal or family history of male breast cancer

Individual from an at-risk population, such as an Ashkenazi (Eastern European) Jewish woman with breast or ovarian cancer at any age

Individual from a family with a known mutation in a breast cancer susceptibility gene (eg, BRCA1, BRCA2, p53, or PTEN)

Clustering of breast cancer on same side of the family with 1 or more of the following cancers:

- Thyroid
- Sarcoma
- Adrenocortical carcinoma
- Endometrial cancer
- Pancreatic cancer
- Brain tumors
- Dermatologic manifestations
- Leukemia/lymphoma

### Clinical Pearls:

- The maternal and paternal sides of the family should be considered independently.
- Individuals with a limited family structure (eg, fewer than 2 first- or second-degree relatives or female relatives surviving beyond 45 years of age in either lineage) may have an underestimated probability of a familial mutation.
- Other cancers that have been reported in some hereditary breast and ovarian cancer families include prostate and pancreatic cancers and melanoma.

### DEFINITIONS

- First-degree relative: *parent, sibling, child*
- Second-degree relative: *aunt, uncle, niece, nephew, grandparents*
- Third-degree relative: *first cousin, great aunts, great uncles*

## Hereditary Colorectal Cancer

### RED FLAGS:

Personal history of early-age-onset colorectal cancer (< 50 years of age)

Personal or family history of multiple colorectal carcinomas

Personal or family history of polyposis (> 10 adenomas) in the same individual

Personal history or family history of more than 1 hereditary non-polyposis colorectal cancer (HNPCC)-related cancer (eg, colon and uterine cancer) in the same individual

Personal history of an HNPCC-related cancer and:

- One or more first-degree relative with HNPCC-related cancer prior to age 50
- Two or more first- or second-degree relatives with an HNPCC-related cancer diagnosed at any age

Personal or family history of a hereditary syndrome associated with cancer (eg, HNPCC, FAP, MYH-associated polyposis, Peutz-Jeghers syndrome, juvenile polyposis) with or without a known mutation

HNPCC (also known as Lynch syndrome)-related cancers include:

- Colorectal
- Endometrial
- Ovarian
- Duodenal/small bowel
- Stomach
- Sebaceous adenomas or sebaceous carcinomas
- Ureteral/Renal pelvis
- Hepatobiliary/pancreatic
- Brain tumors (particularly glioblastomas)

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