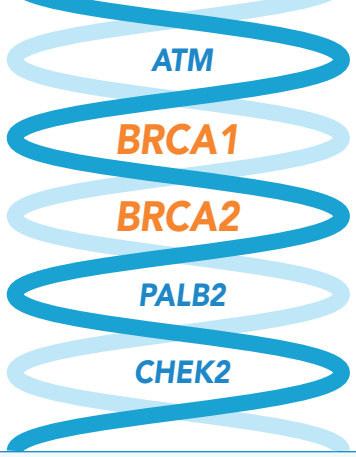
BREAST CANCER: A STORY HALF TOLD
A Focus On Metastatic Disease

UNDERSTANDING HEREDITARY BREAST CANCER

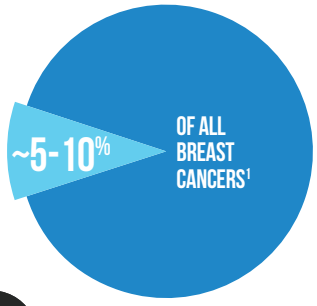
Some breast cancers are hereditary, caused by genes with mutations, or changes, passed down from either parent to their daughters or sons.

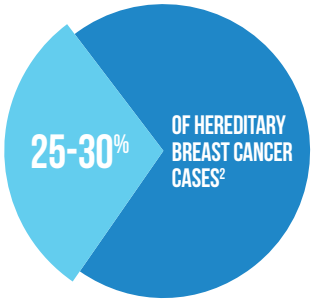
Genetic testing at any stage, even when the disease has spread beyond the breast to other parts of the body, known as metastatic disease, can determine if breast cancer is hereditary. Genetic test results are also an important factor in helping inform treatment decisions.

SOME GENES LINKED TO HEREDITARY BREAST CANCER INCLUDE:



BRCA1 AND *BRCA2* MUTATIONS ARE THE MOST COMMON CAUSE OF HEREDITARY BREAST CANCER, RESPONSIBLE FOR:

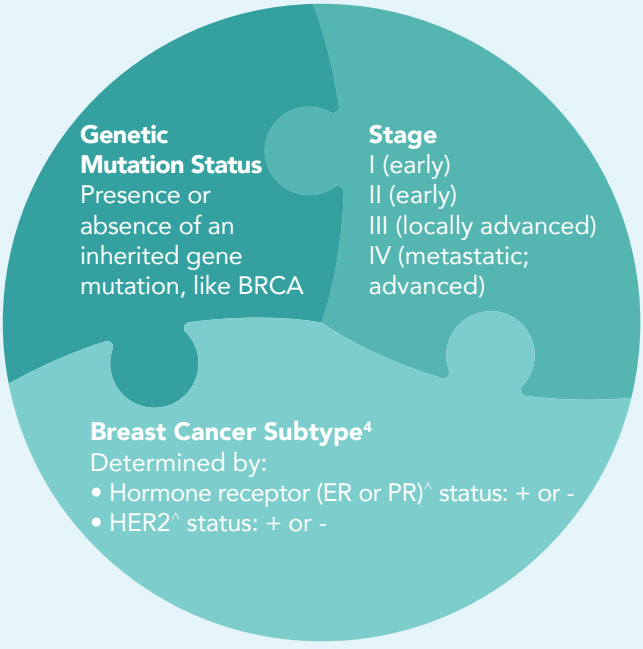




People with inherited BRCA mutations who develop breast cancer are typically diagnosed around **40-45 years of age, approximately 20 years younger** than most others with breast cancer.[3,4]

KNOW THE STATUS

Understanding the **hereditary status, subtype, and stage** of breast cancer can help patients and their physicians make informed decisions:



Any breast cancer at any stage or subtype can also have an inherited gene mutation

^ER: estrogen receptor; PR: progesterone receptor HER2: human epidermal growth factor receptor 2

KNOW THE RISK FACTORS

According to national guidelines, people with any of these **risk factors* should consider speaking with a cancer genetics professional** about getting a blood test to see if their breast cancer is hereditary[5,6]:

AGE
Diagnosed with breast cancer before 50

MULTIPLE BREAST CANCERS
Breast cancer in both breasts or a second breast cancer in the same breast

TRIPLE-NEGATIVE BREAST CANCER
Diagnosed with triple-negative (ER-/PR-/HER2-)^ breast cancer before 60

HERITAGE
Ashkenazi (Eastern European) Jewish, African American, or Hispanic heritage, among others

FAMILY HISTORY
Relatives with breast, ovarian, pancreatic, or prostate cancer, or melanoma

**These are just some of the risk factors that should be considered.*

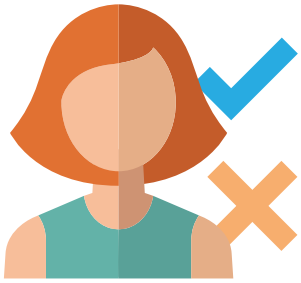
KNOW THE EMOTIONAL IMPACT

It is important to know if breast cancer is hereditary because it can help people living with breast cancer **take control of emotional considerations,** including[7,8]:

THERE IS A **50%** CHANCE

CHILDREN OR SIBLINGS OF A PERSON WITH HEREDITARY BREAST CANCER INHERITED THE SAME MUTATED GENE, INCREASING THEIR RISK OF GETTING BREAST OR OTHER TYPES OF CANCER.[9]

IF, WHEN, AND HOW TO SHARE GENETIC TEST RESULTS WITH LOVED ONES



WHETHER OR NOT TO ENCOURAGE FAMILY MEMBERS TO BE TESTED

ANXIETY ABOUT THE POTENTIAL HEALTH AND EMOTIONAL IMPACT ON FAMILY

Speaking with a **genetic counselor, doctor, or nurse navigator** can help people with breast cancer, including those with metastatic disease, make decisions about genetic testing.

These individuals can also help people who test positive for a hereditary mutation feel empowered, cope with the results and determine a treatment plan.

Learn how to start the conversation about genetic testing and more about hereditary breast cancers at www.StoryHalfTold.com.

References:

1. Arpino G, Pensabene M, Condello C, et al. Tumor characteristics and prognosis in familial breast cancer. *BMC Cancer*. 2016;16(1):924.
2. Kleibl Z, Kristensen VN. Women at high risk of breast cancer: molecular characteristics, clinical presentation and management. *The Breast*. 2016;28:136-144.
3. Kim R, Peterson A, Isherwood A, et al. Incidence of germline BRCA1- and BRCA2-mutated breast cancer in the US [abstract]. In: Proceedings of the 2016 San Antonio Breast Cancer Symposium; 2016 Dec 6-10; San Antonio, TX.
4. American Cancer Society. Breast cancer facts & figures 2017-2018. https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/breast-cancer-facts-and-figures/breast-cancer-facts-and-figures-2017-2018.pdf. Accessed May 8, 2018.
5. Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Genetic/Familial High Risk Assessment: Breast and Ovarian V.1.2018. © National Comprehensive Cancer Network, Inc. 2018. All rights reserved. Accessed October 3, 2017. To view the most recent and complete version of the guideline, go online to NCCN.org. NCCN makes no warranties of any kind whatsoever regarding their content, use or application and disclaims any responsibility for their application or use in any way.
6. National Cancer Institute. Genetics of breast and gynecologic cancers (PDQ®) - health professional version. https://www.cancer.gov/types/breast/hp/breast-ovarian-genetics-pdq#link/_113_toc. Accessed May 8, 2018.
7. O'Neill SC, Mays D, Patenaude AF. Women's concerns about the emotional impact of awareness of heritable breast cancer risk and its implications for their children. *J Community Genet*. 2015;6:55-62.
8. Gallo AM, Angst DB, Knafl KA. Disclosure of genetic information within families. *Am J Nurs*. 2009;109(4):65-69.
9. National Cancer Institute. BRCA mutations: Cancer risk and genetic testing. https://www.cancer.gov/about-cancer/causes-prevention/genetics/brca-fact-sheet. Accessed May 8, 2018.

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