

Hereditary Breast Cancer Testing

REFERENCE GUIDE



August 2018

There is no room for doubt when it comes to making important life impacting healthcare decisions. By providing advanced confirmation genetic testing for hereditary breast cancer, we can help you make more informed and reliable healthcare decisions with your patients.

The more accurate the results,
the more insight you have to
better treat your patients.



American Society of Breast Surgeons

Breast surgeons and other trained cancer-liaison staff with in-depth knowledge of genetic testing indications, implications, and limitations can provide genetic testing services and recommendations to their patients. Testing qualified patients can include *BRCA1* and *BRCA2* only, or additional genes (i.e. panel testing) related to hereditary breast cancer so long as it is within guidelines and the provider sees fit and feels comfortable with recommendations.

Adapted from ASBrS Consensus Guideline, September 2016

Why Is Genetic Testing Important?

KEY BENEFITS

Identifying patients with a genetic predisposition to cancer can allow informed recommendations and personalized medical management that significantly decrease cancer risks and improve overall survival rates.

Option to modify frequency and initial age of mammogram and breast MRI

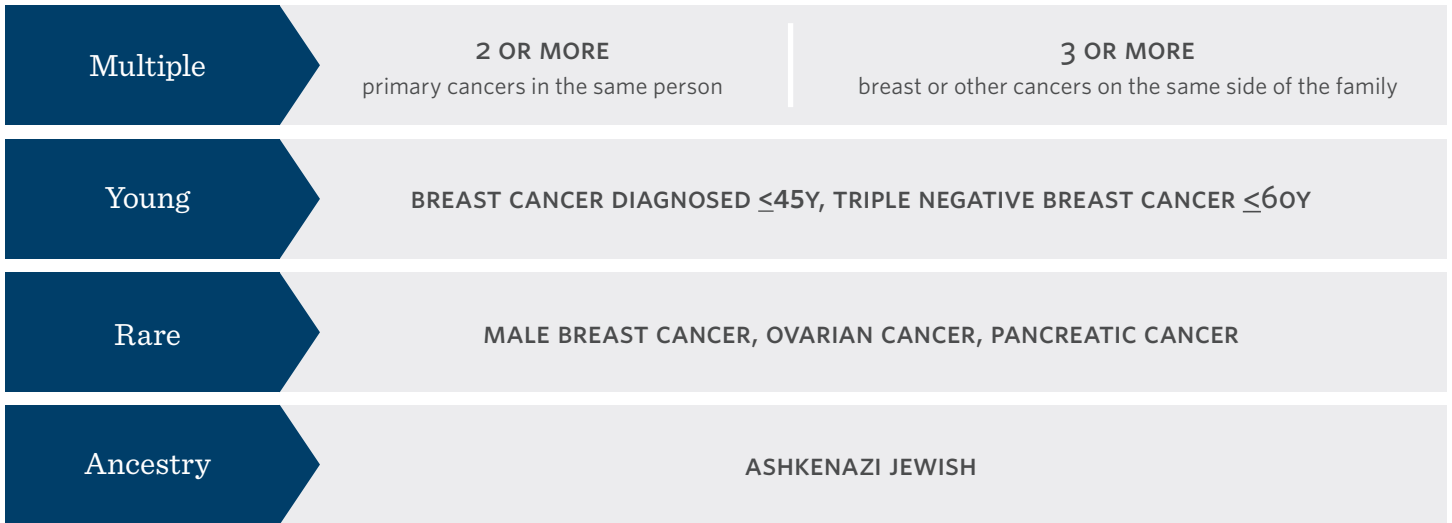
Consideration of prophylactic mastectomy or other risk-reducing measures, as appropriate

Option to tailor treatments (e.g. PARP inhibitors for *BRCA1/BRCA2*)

Identify at-risk family members

Identify Patients Who May Need Genetic Testing

If your patient or their family members have any of the following signs* for hereditary cancer, consider genetic testing:

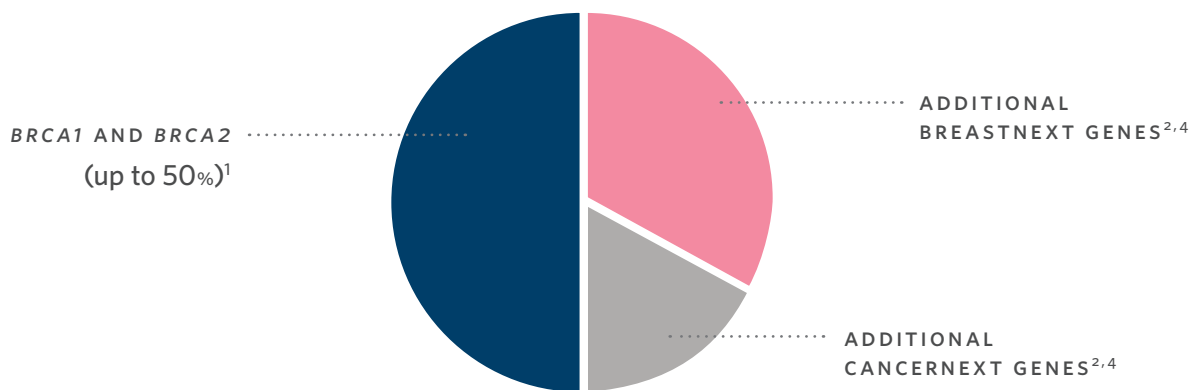


* Adapted from published genetic testing guidelines

Known Causes of Hereditary Breast Cancer

ORDERING THE RIGHT TEST CAN PROVIDE THE MOST ACCURATE AND COMPREHENSIVE ANSWERS

Over 246,000 cases of breast cancer are diagnosed each year and 5-10% of those are hereditary. *BRCA1/2* accounts for about half of hereditary breast cancer cases, but only tells part of the story.



Ambry collaborated in a study of >65,000 patients with breast cancer, demonstrating that *ATM*, *BARD1*, *CHEK2*, and *RAD51D* are established moderate risk genes (odds ratio >2). These genes are available on BreastNext.²

Additionally, our study of >34,000 individuals revealed that 22% of patients identified to have Lynch syndrome, only met NCCN[®] guidelines for *BRCA1/2* genetic testing.³ Therefore, CancerNext may identify unexpected hereditary cancer syndromes, which may have significant implications for medical management.

1. Castéra L, et al. *Eur J Hum Genet.*, 2014.
2. Couch F, et al. *JAMA Oncol.*, 2017.

3. Espenschied C, et al. *J Clin Oncol.*, 2017.
4. Ambry internal data

Finding Answers Through Quality Genetic Testing

Ambry's hereditary breast cancer testing options:

| Test | Description | Average Turnaround Time* |
|------------|--|--------------------------|
| BRCAPlus | NCCN® management guidelines available for all genes | 8.2 calendar days |
| BreastNext | Offering more information to identify and manage hereditary breast cancer NCCN® management guidelines available for most genes | 10.2 calendar days |
| CancerNext | Comprehensive panel covering a broad range of tumor types, giving you more information to make better treatment and management decisions NCCN® management guidelines available for most genes | 11.5 calendar days |

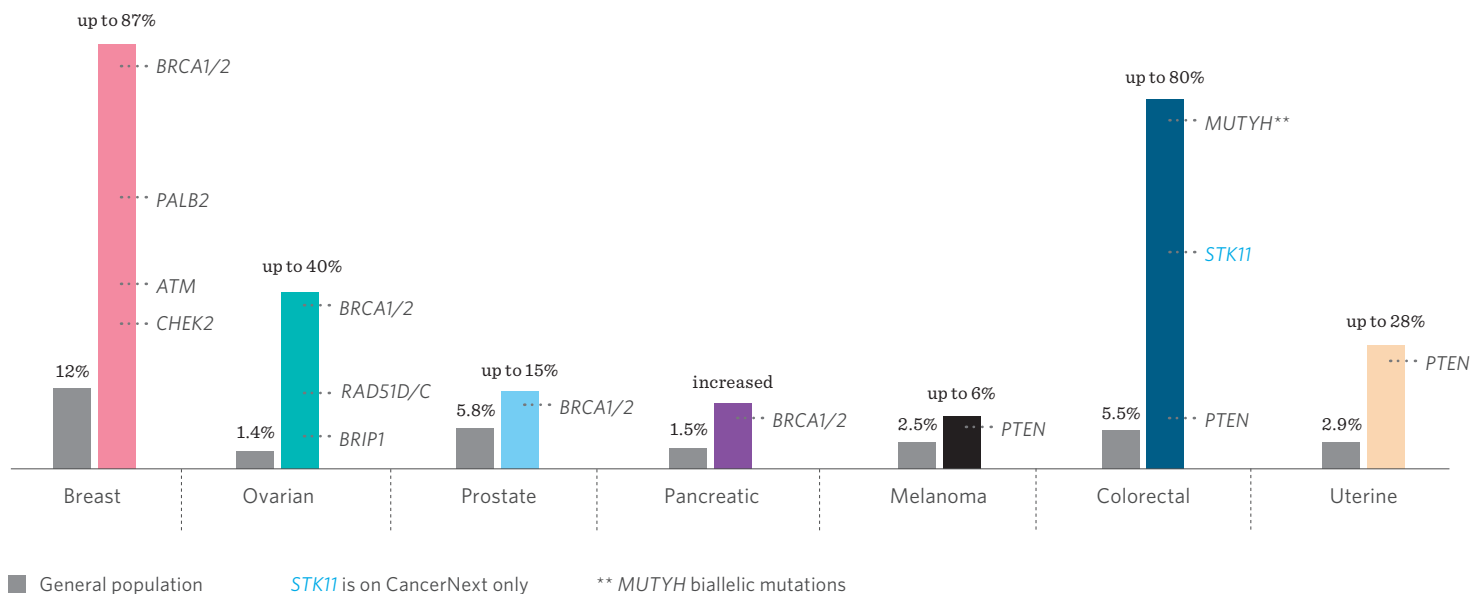
* Ambry's turnaround time represents the time that it takes for Ambry to perform the requested testing. When all necessary clinical and family history information is provided with the sample, results are typically completed within 14 days. We will notify you in the unusual event that results will take longer than 21 days.



LEARN MORE about your patient's breast cancer risk and better understand the impact of single nucleotide polymorphisms (SNPs) by opting into **AmbryScore**, a remaining lifetime breast cancer risk calculation. AmbryScore can only be ordered in addition to select multigene panels, including BreastNext and CancerNext, for eligible patients. Visit our website for more detailed information and eligibility criteria: ambrygen.com/ambryscore

Breast Cancer Genes and Associated Risks

POTENTIAL LIFETIME CANCER RISKS FOR PATIENTS WITH A HEREDITARY CANCER SYNDROME



Ambry continually participates in important game-changing studies to expand our knowledge of hereditary cancers. Please visit our website to see the most updated lists of genes included on our panels and additional testing options available: ambrygen.com/hereditary-cancer-panels

Over 1 Million Tests Completed

MOVING SCIENCE FORWARD

Purposeful Confirmatory Testing

Many labs validate their tests based on certain limited studies. That's why we participated and led the largest study of its kind (20,000 cases) guiding us to utilize confirmatory testing when we see specific well-defined thresholds. Our mission is to get it right the first time.

Understanding Disease Better Through Free Data Sharing

Identifying an individual's genetic information is nothing new—it's what we do with it that is unique. When labs share genomic information, we can together accelerate the understanding of human disease. Through AmbryShare, we leverage de-identified information to collaborate with others and help people everywhere find answers.

Free Testing for Family Members

We offer specific site analysis (SSA) at no additional cost for family members following single gene or multigene panel testing of the first family member (proband) within 90 days of the original Ambry report date.

Ambry's Translational Genomics (ATG) Lab

As an advanced diagnostic lab, it's our responsibility to ensure the results you get from us are accurate and that classification is as complete and robust as possible. Our ATG lab is a unique laboratory that provides an additional service at no additional cost for you and your patients to generate more precise data potentially bringing clarity to some variants of unknown significance (VUS). This helps to actively drive down the rate of VUS results and can give you an increased understanding of your patient's results, so you can better provide medical management recommendations and improve health outcomes.

About Ambry



Just as no two fingerprints are alike, the way disease presents itself in every individual is different. Since 1999, our mission has always been about understanding disease better, so treatments and cures can be found faster. Every sample that arrives in our lab is viewed as a person with a life and a story that is unique to only them. By providing advanced confirmation genetic testing for inherited and non-inherited diseases, we can help you make more informed and responsible treatment decisions with your patients.