Hereditary Gynecologic Cancer Testing

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

**Society of Gynecologic Oncology**

SGO recommends that all women diagnosed with epithelial ovarian, Fallopian tube, and peritoneal cancers should receive genetic counseling and consider genetic testing, even in the absence of a family history of cancer.

*Adapted from SGO Clinical Practice Statement, October 2014*

SGO recommends that women diagnosed with endometrial cancer should be assessed for Lynch syndrome. In addition, women with a family history of endometrial and colon cancer should pursue genetic counseling, regardless of whether they have been diagnosed with cancer.

*Adapted from SGO Clinical Practice Statement, March 2014*

**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 surveillance for various cancers
- Consideration of prophylactic oophorectomy 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* of hereditary cancer, consider genetic testing:

<table>
<thead>
<tr>
<th>Multiple</th>
<th>2 OR MORE primary cancers in the same person</th>
<th>3 OR MORE cancers on the same side of the family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young</td>
<td>UTERINE CANCER DIAGNOSED &lt;50Y</td>
<td></td>
</tr>
<tr>
<td>Rare</td>
<td>OVARIAN CANCER</td>
<td></td>
</tr>
<tr>
<td>MSI/IHC</td>
<td>ABNORMAL TUMOR SCREENING</td>
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</table>

Tumors with microsatellite instability (MSI)
Tumors with loss of immunohistochemical (IHC) staining for MLH1, MSH2, MSH6, and/or PMS2

* Adapted from published genetic testing guidelines

Known Causes of Hereditary Ovarian Cancer

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

Over 22,000 cases of ovarian cancer are diagnosed each year, and up to 25% of those are hereditary. BRCA1/2 accounts for over half of hereditary ovarian cancer cases, but only tells part of the story.

**BRCA1 AND BRCA2 (50-75%)**

Updated data from an Ambry collaboration, now including >7,500 patients with ovarian cancer demonstrates that approximately 6% of BRCA1/2 negative patients were identified to have a mutation in another OvaNext gene, which can significantly impact medical management recommendations.

2. Ambry, data on file
Ambry's hereditary gynecologic cancer testing options:

<table>
<thead>
<tr>
<th>Test</th>
<th>Description</th>
<th>Average Turnaround Time*</th>
</tr>
</thead>
<tbody>
<tr>
<td>GYNplus</td>
<td>NCCN® management guidelines available for all genes</td>
<td>11 calendar days</td>
</tr>
<tr>
<td>OvaNext</td>
<td>Offering the most comprehensive testing for gynecologic cancers to increase the chance of identifying and managing hereditary cancer risks NCCN® management guidelines available for most genes</td>
<td>11.5 calendar days</td>
</tr>
<tr>
<td>CancerNext</td>
<td>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</td>
<td>11.5 calendar days</td>
</tr>
</tbody>
</table>

* 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.

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

Gynecologic Cancer Genes and Associated Risks

** Potential lifetime cancer risks for patients with a hereditary cancer syndrome **

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>Gene(s)</th>
<th>Risk (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>BRCA1/2, PALB2, ATM, CHEK2, PTEN</td>
<td>up to 87%</td>
</tr>
<tr>
<td>Ovarian</td>
<td>BRCA1/2, Lynch genes*, PTEN</td>
<td>up to 82%</td>
</tr>
<tr>
<td>Uterine</td>
<td>Lynch genes*, RAD51D/C, BRIP1</td>
<td>up to 60%</td>
</tr>
<tr>
<td>Colorectal</td>
<td>PTEN, BRCA1/2, MUTYH**</td>
<td>up to 82%</td>
</tr>
<tr>
<td>Pancreatic</td>
<td>PTEN, BRCA1/2</td>
<td>increased</td>
</tr>
<tr>
<td>Melanoma</td>
<td>BRCA1/2</td>
<td>up to 6%</td>
</tr>
<tr>
<td>Prostate</td>
<td>PTEN, BRCA1/2</td>
<td>up to 15%</td>
</tr>
</tbody>
</table>

- General population
- Lynch genes: MLH1, MSH2, MSH6, PMS2, EPCAM
- MUTYH biallelic mutations

* This is not a comprehensive list of genes.
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.