



Breast Cancer Medical Genetics

Quick Reference

Version 1.2026

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Disclaimer: This quick reference is intended to support, not replace, clinical judgment. Clinicians should use independent medical judgment, in consultation with the patient, and consider individual clinical circumstances when making decisions regarding genetic testing and referral. Eligibility criteria, testing pathways, and referral processes may change over time. Clinicians should refer to the Hereditary Cancer Clinic and provincial resources for the most current information.

Purpose

This quick reference is intended to support clinicians in facilitating timely and appropriate access to hereditary cancer genetic assessment and testing for patients with breast cancer. It provides a centralized resource that collates key provincial guidance, referral information, and supporting resources to improve accessibility and ease of use.

Target Population

This quick reference applies to adult male and female patients with breast cancer who may be eligible for hereditary cancer genetic assessment and/or genetic testing.

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1. Mainstreaming Eligibility Criteria

The HCC mainstreaming criteria represent a subset of patients with breast cancer who are eligible for clinician-initiated genetic testing, based primarily on personal cancer history. Patients who do not meet these criteria may still be eligible for hereditary cancer assessment and genetic testing through the HCC based on their family history.

Patients **are eligible** for the Hereditary Cancer Clinic (HCC) mainstreaming process if they have a history of ductal carcinoma in situ (DCIS) or invasive breast cancer and meet any of the following criteria:

- Diagnosed at ≤ 35 years of age.
- Triple negative breast cancer (TNBC) diagnosed at ≤ 65 years of age.
- Two breast primaries, both diagnosed at ≤ 60 years of age, or at least one diagnosed ≤ 50 years of age.

- Male breast cancer, diagnosed at any age.
- Personal history of both breast and ovarian cancer.
- Personal history of both breast and pancreatic cancer.*
- Breast cancer and a first-degree relative meeting any HCC mainstreaming criterion, including ovarian cancer only (by patient report).
- Previous negative BRCA1/BRCA2 testing through Medical Genetics in Alberta, provided prior testing was limited to BRCA1/2 (i.e., before the multigene hereditary breast/ovarian cancer [HBOC] panel was introduced in Alberta in February 2017).

Patients **are not eligible** for the HCC mainstreaming process if they:

- Have a history of any breast pathology other than listed above (e.g., lobular carcinoma in situ [LCIS], benign tumours).
- Elect private (self-pay) genetic testing.

Patients should be referred to the HCC if:

- There is a known gene mutation in the family.
- They have a suspected cancer predisposition syndrome.
- They have a family history of cancer suggestive of a hereditary cancer syndrome that does not meet the HCC mainstreaming criteria, but which meets HCC criteria (see [Alberta Referral Directory](#)).
- Private-pay genetic testing identifies a pathogenic or likely pathogenic variant. Please do not refer patients if private-pay testing identifies a variant of uncertain significance (VUS).

For more information: Available on Alberta Health Services (AHS) Insite (AHS employee login required)
[Hereditary Cancer Clinic – Breast Cancer Genetic Testing Eligibility](#)

2. Considerations Prior to Ordering Mainstreaming Genetic Testing

Prior to ordering hereditary cancer genetic testing, clinicians should discuss the following with patients:

- Benefits of genetic testing, including its potential to inform cancer treatment and management, cancer risk assessment, and identification of at-risk family members.
- Possible test results, including a positive result, a negative result, or a VUS.
- Limitations of genetic testing, including that a negative result does not exclude an underlying hereditary cancer predisposition; a positive result does not guarantee that cancer will develop and

* For patients with a personal history of both breast and pancreatic cancer, order both the hereditary breast/ovarian/prostate panel and the pancreatic panel.

may not explain the patient's cancer diagnosis; and a VUS may be identified, the clinical significance of which is uncertain.

- Expected timeline and follow-up, including that test results are typically available within 3-4 months after the laboratory receives the blood sample; patients with positive or VUS results will be offered follow-up with a genetic counsellor, whereas patients with negative results will receive a standard result letter from the HCC Mainstreaming Hub.
- Expedited genetic testing may be available when results are expected to impact immediate surgical or medical management. The typical turnaround time for expedited testing is approximately 4 weeks.

For more information: Available on AHS Insite (AHS employee login required) [Hereditary Cancer and Genetic Testing after a Cancer Diagnosis – Pre-test Counselling Checklist](#)

3. Provincially Funded Genetic Testing

The current Alberta hereditary Breast/Ovarian/Prostate Cancer Panel is available through the Alberta Precision Laboratories (APL) Test Directory – [Breast/Ovarian/Prostate Cancer Panel](#) (Connect Care test code: LAB12566). Refer to the APL Test Directory for the current list of genes included in the panel.

For more information: Available on AHS Insite (AHS employee login required) [Hereditary Cancer Gene Mutation and Genetic Testing After a Cancer Diagnosis Overview](#)

4. Who May Refer

Participating clinicians (i.e., oncologists and surgeons) who have completed the HCC mainstreaming orientation process may order hereditary cancer genetic testing through the mainstreaming pathway.

Clinicians interested in participating in the mainstreaming program should contact the HCC Hub (HCC.Hub@ahs.ca) for additional information and orientation requirements.

5. General Referral Notes

Referral destination:

- Patients living in Red Deer or south of Red Deer should be referred to the Calgary Hereditary Cancer Clinic (CGY RRDTC HEREDITARY CANCER) in Connect Care
- Patients living north of Red Deer should be referred to the Edmonton Hereditary Cancer Clinic (EDM STO MSB CLINICAL GENETICS) in Connect Care.

Reason for referral:

- The appropriate referral destination is the same for both pathways; however, the reason for referral differs:

- Mainstreaming pathway: “Mainstream genetic testing” (the default option in the Mainstreaming SmartSet).
- Traditional hereditary cancer referral: “Hereditary cancer”.

6. Ordering Mainstreaming Genetic Testing in Connect Care

For patients eligible for HCC mainstreaming, clinicians should:

- In the Visit tab of the open encounter, use the Genetics Mainstreaming Care Model SmartSet in Connect Care to initiate ordering:
 - Complete the appropriate hereditary cancer genetic test requisition, selecting the applicable HCC mainstreaming eligibility criterion and indicating whether rush testing is required. Ensure the HCC Hub is copied on the test result.
 - Complete an ambulatory referral to Genetics & Metabolics using the appropriate regional referral pathway (see Section 5). For mainstreaming patients, the referral reason "Mainstream genetic testing" is populated automatically.
- See the next section regarding referrals for patients who are not eligible for HCC mainstreaming.

For more information: Available on AHS Insite (AHS employee login required) [Ordering Mainstreaming Genetic Testing on Connect Care - Breast](#)

7. Referrals Outside of Mainstreaming

- Clinicians using Connect Care should place an order for Ambulatory Referral to Genetics & Metabolics using the appropriate regional referral pathway (see Section 5) and document the reason for referral as “Hereditary cancer.”
- Clinicians not using Connect Care should complete the applicable [Calgary](#) or [Edmonton](#) HCC referral form.
- Referral forms, clinic contact information, and additional referral guidance are available through the Alberta Referral Directory (search "Hereditary Cancer Clinic").

8. Private Genetic Testing Considerations

- Patients who do not meet eligibility criteria for provincially funded hereditary cancer genetic testing are less likely to carry a hereditary cancer gene mutation. Their cancer risk assessment and screening recommendations should still be based on family history. However, these patients can consider private-pay genetic testing options if they are interested.
- Private-pay genetic testing options are continually changing, and not all private-pay genetic testing companies offer valid or medically useful genetic test results. Patients and clinicians should review available options carefully before proceeding with testing.

- Most medically useful genetic testing must be ordered by a health-care provider. Genetic counselling and testing are available in some non-AHS genetics clinics in Alberta, as well as private companies such as Dynacare, Genescreen, Genolife, and Genomicare.
- Private-pay genetic testing is available through the [Screen Project](#), a long-standing initiative through Women's College Hospital in Toronto. Any Canadian can access private-pay hereditary cancer testing by participating in this study, which is evaluating the benefits of population-based genetic testing.
- Patients found to have a mutation or pathogenic variant in a hereditary cancer gene through private-pay genetic testing should be referred to the HCC for interpretation and genetic counselling. Please note, if clinical-grade genetic testing has been purchased, AHS will not usually fund confirmatory testing.

9. Clinical Support and Contact Information

Clinicians seeking additional information or support may contact:

Mainstreaming HCC Hub (for questions related to the mainstreaming pathway)

- ☎ Telephone at (403) 943-9979
- ✉ Email at HCC.hub@ahs.ca

Hereditary Cancer Clinics (for questions outside of mainstreaming)

- ✉ Email at HCC.Calgary@ahs.ca
- ✉ Email at HCC.Edmonton@ahs.ca

Additional information regarding hereditary cancer services and referral pathways is available through the [Clinical & Metabolic Genetics Program](#) website and the [Alberta Referral Directory](#).

10. Patient Resources

The following AHS resources are publicly available to support patients undergoing hereditary cancer genetic assessment and testing:

- [Considering Genetic Testing After a Cancer Diagnosis \(video\)](#)
- [Hereditary Cancer & Genetic Tests After a Cancer Diagnosis](#)
- [Genetic Testing for Hereditary Cancer](#)

About this Quick Reference

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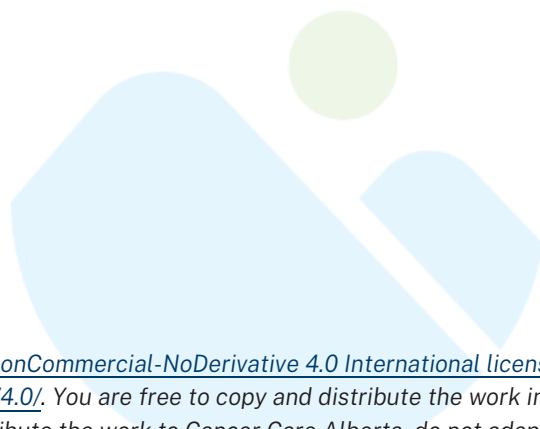
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Revision history and maintenance

This quick reference was originally developed in September 2026 and will be reviewed in 2028 to ensure it remains current. Updates will be made as needed, including between scheduled reviews if important new evidence or changes in practice are identified. Please contact GURU to suggest updates or report outdated content.

Abbreviations

AHS, Alberta Health Services; APL, Alberta Precision Laboratories; DCIS, ductal carcinoma in situ; HCC, Hereditary Cancer Clinic; LCIS, lobular carcinoma in situ; TNBC, triple negative breast cancer; VUS, variant of uncertain significance.



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