TEMPUS | ONCOLOGY

Indications for Testing — Hereditary Cancer

Guidelines are developed to determine patients to consider for hereditary cancer testing. The list of indications for germline testing below are based on these guidelines, broken up by cancer type.

BREAST CANCER

When to consider testing:

- Early-onset breast cancer (diagnosed ≤45 years of age)
- Triple negative (ER-/PR-/HER2/neu-) breast cancer diagnosed at any age
- Bilateral or multiple primary breast cancers
- Lobular breast cancer with a personal or family history of diffuse gastric cancer
- To aid in treatment decisions
- Male breast cancer at any age
- Close relative with male breast cancer
- Ashkenazi Jewish ancestry with breast cancer at any age
- 2 or more cases of breast, or prostate cancer in the family diagnosed at any age
- 3 or more total diagnoses of breast cancer in the patient and/or family

UROLOGIC CANCERS

When to consider testing:

- Metastatic, regional (node positive), or high-risk localized prostate cancer (diagnosed at any age)
- Ashkenazi Jewish ancestry with prostate cancer at any age
- Personal history prostate cancer and any of the following cancers: male breast, exocrine pancreatic, colorectal, gastric, melanoma, pancreatic, upper tract urothelial, glioblastoma, biliary tract, and small intestinal
- Father or brother with a prostate cancer diagnosed ≤60 years of age
- Personal history of prostate cancer and ≥1 family member(s) with breast, colorectal, or endometrial cancer (diagnosed ≤50 years of age) and/or male breast, ovarian, exocrine pancreatic, or metastatic, regional, high-risk prostate cancer (diagnosed at any age)
- Tumor testing showing mismatch repair deficiency (MSI-High, loss of MMR expression by IHC)

GASTROINTESTINAL CANCERS

When to consider testing:

- Pancreatic cancer diagnosed at any age
- Close relative with pancreatic cancer
- Colorectal cancer at any age
- Multiple primary cancers in one person (e.g. two primary colorectal cancers or colorectal and endometrial cancer)
- 3 or more family members with colorectal, endometrial, ovarian, and/or stomach cancer
- Tumor testing showing mismatch repair deficiency (MSI-High, loss of MMR expression by IHC)
- 10 or more GI polyps over one's lifetime (adenomatous, hamartomatous, and/or other types of polyps)

GYNECOLOGIC CANCERS

When to consider testing:

- Ovarian, fallopian tube, or primary peritoneal cancer at any age
- Close relative with ovarian cancer
- Early-onset endometrial cancer (diagnosed <50 years of age)
- Multiple primary cancers in one person (e.g. endometrial & colorectal cancer)
- 3 or more family members with colorectal, uterine, ovarian, and/or stomach cancer
- Tumor testing showing mismatch repair deficiency (MSI-High, loss of MMR expression by IHC)

These indications for testing are based on current guidelines.
Please contact Tempus or consult applicable guidelines for further information.

Other Considerations for Testing:

- Individuals with any blood relative with a known pathogenic/likely pathogenic variant in a cancer susceptibility gene
- A mutation identified on tumor genomic testing that has clinical implications if also identified in the germline
- Family history of cancer:
  - 3 or more family members with colorectal, endometrial, ovarian, and/or stomach cancer
  - 3 or more family members with breast, ovarian, pancreatic, and/or prostate cancer
- An affected or unaffected individual who otherwise does not meet other testing criteria but who has a probability of >5% of a BRCA1/2 pathogenic variant based on prior probability models (eg, Tyrer-Cuzick, BRCAPro, CanRisk)
- An individual with a ≥5% risk of having an MMR gene pathogenic variant based on predictive models (i.e. PREMM5, MMRpro, MMRpredict)