

Belgian guideline for diagnostic testing criteria for Hereditary Breast and Ovarian Cancer (HBOC) gene panel analysis *

I. Woman with breast cancer + one of the following:

- diagnosed \leq 40yrs
- diagnosed $<$ 50yrs and one relative with bilateral breast cancer, or breast cancer $<$ 50yrs, or prostate cancer diagnosed $<$ 60yrs
- a first or second degree relative with male breast cancer, ovarian cancer, pancreatic adenocarcinoma, or metastatic prostate cancer
- bilateral breast cancer if the first cancer was diagnosed $<$ 50yrs
- triple negative breast cancer $<$ 60yrs
- HER2 negative (hormone receptor-negative or hormone receptor-positive) breast cancer eligible for PARP-inhibitors: in high-risk (neo)adjuvant setting or metastatic setting
- ovarian cancer or pancreatic adenocarcinoma at any age
- \geq 3 individuals with breast cancer and/or prostate cancer, one is a first degree relative of the other two (excluding male transmitters if father is not affected) and one diagnosed at an early age ($<$ 60yrs)
- individual of ethnicity associated with a higher frequency of specific mutations (e.g., Ashkenazi Jewish): eligible for founder mutation testing
- other family situations with a priori chance of mutation $>$ 10% according to BRCAPRO or Evans criteria or Manchester score
- test more than one affected relative if criteria remain positive after excluding the negative case as a phenocopy

II. Women with high grade epithelial ovarian cancer at any age (excluding mucinous ovarian cancer)

III. Male with breast cancer

IV. Family history only

- first degree unaffected relative of any of the above on a case-by-case basis
- testing of unaffected family members should only be considered when no affected family member is available and then the unaffected family member with the highest probability of mutation should be tested

* The minimal set of genes which are required for breast and ovarian cancer risk testing includes: BRCA1, BRCA2, PALB2, BARD1, BRIP1, RAD51C, RAD51D, ATM, CHEK2, TP53, MLH1, MSH2 and MSH6 genes Narod S. Which genes for hereditary breast cancer? N Engl J Med 2021; 384:471-473

The guidelines were prepared by an ad hoc working group of the BeSHG/College on HBOC testing criteria (12/01/18) and are regularly updated by the College of Genetics and Rare Diseases (Version June/23).