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Clinician Management Resource for *BRCA1*

This overview of clinical management guidelines is based on this patient's positive test result for a *BRCA1* gene mutation. Unless otherwise stated, medical management guidelines used here are limited to those issued by the National Comprehensive Cancer Network® (NCCN®)[1] in the U.S. Please consult the referenced guideline for complete details and further information.

Clinical correlation with the patient's past medical history, treatments, surgeries and family history may lead to changes in clinical management decisions; therefore, other management recommendations may be considered. Genetic testing results and medical society guidelines help inform medical management decisions but do not constitute formal recommendations. Discussions of medical management decisions and individualized treatment plans should be made in consultation between each patient and his or her healthcare provider, and may change over time.

SCREENING/SURGICAL CONSIDERATIONS[1]	AGE TO START	FREQUENCY
Female Breast Cancer		
Breast awareness* • Women should be familiar with their breasts and promptly report changes to their healthcare provider.	18 years old	Periodic and consistent
Clinical Breast Exam	25 years old	Every 6-12 months
Breast Screening** • Breast MRI with contrast • Mammography with consideration of tomosynthesis	25-29 years old	Individualized
	30-75 years old	Every 12 months
	>75 years old	Individualized
Discuss option of risk-reducing mastectomy	Individualized	N/A
Consider options for risk reduction agents	Individualized	Individualized
Ovarian Cancer		
Recommend risk-reducing salpingo-oophorectomy (RRSO)^	Typically 35 to 40 years old, and upon completion of child bearing	N/A
If RRSO not elected, transvaginal ultrasound combined with serum CA-125, although of uncertain benefit, may be considered	30-35 years old	Clinician's discretion
Consider investigational imaging and screening studies, when available in the context of a clinical trial	Individualized	Individualized
Consider options for risk reduction agents	Individualized	Individualized

* Breast self exam (BSE) may facilitate breast self awareness. Premenopausal women may find BSE most informative when performed at the end of menses.

** Women treated for breast cancer, and have not undergone bilateral mastectomy: follow screening as described

^ Limited data suggest that there may be a slight increased risk of serous uterine cancer among women with a *BRCA1* mutation. The clinical significance of these findings is unclear. Further evaluation of the risk of serous uterine cancer in the BRCA population needs to be undertaken. The provider and patient should discuss the risks and benefits of concurrent hysterectomy at the time of RRSO for women with a *BRCA1* mutation prior to surgery. Women who undergo hysterectomy at the time of RRSO are candidates for estrogen alone hormone replacement therapy, which is associated with a decreased risk of breast cancer compared to combined estrogen and progeterone, which is required when the uterus is left in situ (Chlebowski R, *et al.* JAMA Oncol 2015; 1:296-305).

1. Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Genetic/Familial High-Risk Assessment: Breast, Ovarian, and Pancreatic. V1. 2021. © National Comprehensive Cancer Network, Inc. 2020. All rights reserved. Accessed September 22, 2020. To view the most recent and complete version of the guideline, go online to NCCN.org. NCCN makes no warranties of any kind whatsoever regarding their content, use or application and disclaims any responsibility for their application or use in any way.

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SCREENING/SURGICAL CONSIDERATIONS[1]	AGE TO START	FREQUENCY
Male Breast Cancer		
Breast self-exam training and education	35 years old	Periodic and consistent
Clinical breast exam	35 years old	Every 12 months
Consider mammogram screening in men with gynecomastia	50 years or 10 years before the earliest known male breast cancer in the family (whichever comes first)	Every 12 months
Prostate Cancer		
Consider prostate cancer screening	40 years old	Clinician's discretion
Melanoma		
General risk management, such as annual full-body skin examination and minimizing UV exposure	Individualized	Annual, or shorter intervals if indicated
Pancreatic Cancer		
For individuals with exocrine pancreatic cancer in >1 first-or second-degree relative on the same side of the family as the identified pathogenic/likely pathogenic germline variant, consider pancreatic cancer screening.ˆ	50 years (or 10 years younger than the earliest exocrine pancreatic cancer diagnosis in the family)	Annually (with consideration of shorter intervals if worrisome abnormalities seen on screening)
Other		
Consider investigational imaging and screening studies, when available (eg, novel imaging technologies, more frequent screening intervals) in the context of a clinical trial		
For individuals of reproductive age, advise about options for prenatal diagnosis and assisted reproduction including pre-implantation genetic diagnosis. Discussion should include known risks, limitations, and benefits of these technologies.		

ˆ For individuals considering pancreatic cancer screening, the Guidelines recommends that screening be performed in experienced high-volume centers, ideally under research conditions. The Guidelines recommends that such screening only take place after an in-depth discussion about the potential limitations to screening, including cost, the high incidence of pancreatic abnormalities, and uncertainties about the potential benefits of pancreatic cancer screening.

The Guidelines recommends that screening be considered using annual contrast-enhanced MRI/MRCP and/or EUS, with consideration of shorter screening intervals for individuals found to have worrisome abnormalities on screening. The Guidelines emphasizes that most small cystic lesions found on screening will not warrant biopsy, surgical resection, or any other intervention. The panel does not currently recommend pancreatic cancer screening in the absence of a close family history of exocrine pancreatic cancer.

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