

High-Risk Breast Screening Intervals: Review for Health Professionals

Position Statement

The High-Risk Clinic recommends that patients at hereditary high risk for breast cancer receive **both an annual mammogram and an annual breast MRI**. Current evidence does not demonstrate that scheduling these examinations exactly six months apart is superior to ensuring that both tests are completed yearly.

Background

Some breast screening programs recommend alternating mammography and breast MRI every six months. The rationale for this practice originates from simulation models rather than prospective clinical studies.

The recommendation to alternate mammogram and MRI every six months was derived from simulation modeling using an assumed cohort in which all BRCA1 and BRCA2 mutation carriers began screening at age 25 and no women underwent risk-reducing mastectomy, salpingo-oophorectomy, or chemoprevention.^{9, 10} While these models suggested potential benefits to alternating imaging modalities, the benefit of this practice has not been demonstrated in real-world clinical settings.

Evidence from Clinical Practice

Wang et al. evaluated breast cancer screening timing in a genetic high-risk screening clinic within a comprehensive cancer center.¹ The study found:

- The average age at BRCA diagnosis was approximately 48 years.
- Many patients had already undergone mammography at the time of BRCA diagnosis.
- Following a strict alternating schedule would often require delaying an initial MRI for six months after a mammogram.
- Four of five cancers detected during the study were identified on the first MRI performed within one month of the clinic visit.
- The authors concluded that MRI should not be delayed solely to maintain a six-month interval between mammography and MRI.

These findings are particularly applicable because they reflect the clinical context seen in many hereditary cancer screening programs, where patients often enter surveillance later in life, rather than beginning screening at age 25 as studied in simulation models.

Clinical Implications

For patients newly identified as high hereditary risk:

- Annual mammography and annual MRI remain the gold standard for screening.
- MRI should not be unnecessarily delayed to achieve a six-month interval following a mammogram.
- Timely initiation of MRI after high-risk identification may be more important than adherence to an alternating schedule.
- The priority should be ensuring completion of both recommended screening modalities each year.

References

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2. Cott Chubiz JE, Lee JM, Gilmore ME, et al. **Cost-effectiveness of alternating magnetic resonance imaging and digital mammography screening in BRCA1 and BRCA2 gene mutation carriers.** *Cancer*. 2013;119(6):1266-1276. doi:10.1002/cncr.27864
3. Lowry KP, Lee JM, Kong CY, et al. **Annual screening strategies in BRCA1 and BRCA2 gene mutation carriers: A comparative effectiveness analysis.** *Cancer*. 2012;118(8):2021-2030. doi:10.1002/cncr.26424