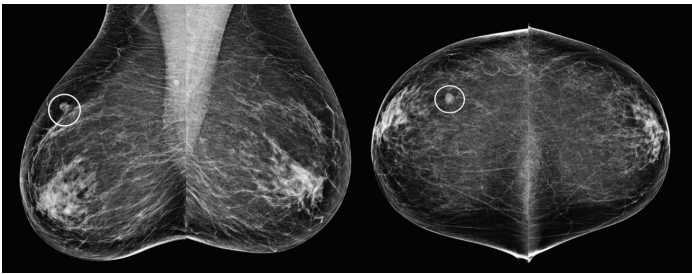


Breast Cancer Risk Assessment Advised by Age 30 for Potential Early/Supplemental Screening

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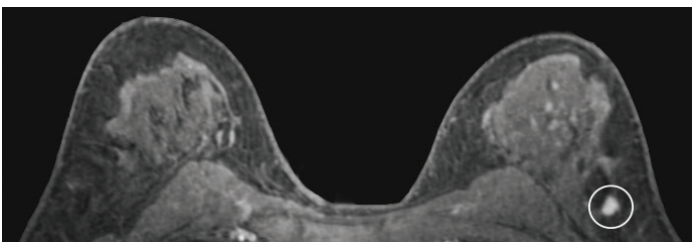
Although breast cancer continues to be the second-leading cause of cancer death among women in the United States, screening mammography has made a significant impact by identifying early, treatable cancers. Since the introduction of widespread mammography screening in the mid-1980s, the U.S. breast cancer mortality rate has declined by as much as 40 percent, after the rate had remained largely unchanged over the previous four-plus decades.



Bilateral screening mammography in an asymptomatic woman detects a 9 mm unsuspected invasive ductal carcinoma in the right upper outer quadrant (circled).

“Screening mammography decreases the number of deaths, extends life expectancy, and results in improved quality of life for women,” says Anne C. Hoyt, MD, UCLA clinical professor of radiology and medical director of breast imaging. “It results in less extensive surgeries, fewer mastectomies, and less frequent or aggressive chemotherapy.” For that reason, Dr. Hoyt notes, there is widespread agreement that for average-risk women, annual screening mammography beginning at age 40 and continuing until the patient has a remaining life expectancy of 5-10 years saves the most lives.

For high-risk women, Dr. Hoyt says, there can be a benefit to beginning annual screening at a younger age, and utilizing supplemental screening approaches. Therefore, the American College of Radiology now recommends that all women — especially black women and women of Ashkenazi Jewish ancestry, two groups known to have higher breast cancer rates — be evaluated for breast cancer risk by age 30 so that those identified as being at elevated risk can benefit from supplemental screening earlier in their lifetimes.



Supplemental screening MRI reveals an unsuspected 6 mm irregular, homogeneously enhancing mass (circle) in the lateral left breast of a 44-year-old woman with an elevated risk for breast cancer and negative screening mammography. Subsequent biopsy showed invasive ductal carcinoma.

Dr. Hoyt explains that the risk assessment weighs many factors, including a family or personal history of breast and/or ovarian cancer, density of breast tissue, ages at first menstrual cycle and first child, and any prior biopsies showing atypia. For women with a genetics-based increased susceptibility, a calculated lifetime risk of 20 percent or higher, or a history of chest or mantle radiation therapy at a young age, annual mammography and supplemental screening with contrast-enhanced breast MRI is usually recommended, beginning at age 30 — or as young as 25 for certain higher-risk cases. “Screening mammography is a proven exam, but it’s imperfect and doesn’t find all breast cancers,” Dr. Hoyt explains.

She notes that compared to traditional two-dimensional mammography, digital breast tomosynthesis — 3D mammography — finds approximately two additional cancers per 1,000 cases, a significant number considering that 2D mammography finds 5-6 per 1,000. In addition to 2- or 3D mammography, high-risk women ideally should undergo annual supplemental MRI screening. “MRI is the most sensitive test for detecting breast cancer,” Dr. Hoyt explains. “Supplemental screening breast MRI picks up 15-16 more cancers than mammography per 1,000 women screened, and when an abnormality is found on an MRI, 20-35 percent of the biopsies show cancer.”

Ultrasound can be helpful as a supplemental screening modality for high-risk women who choose it over MRI — whether because of cost, insurance, the desire to avoid contrast injection, or for medical reasons. But Dr. Hoyt notes that although screening ultrasound detects 3-4 additional cancers per 1,000 patients, the false-positive rate is high.

Dr. Hoyt emphasizes that high-risk women should be counseled on the risks and benefits of early and supplemental screening. Potential risks include radiation exposure, overdiagnosis, false positives and unnecessary biopsies. Dr. Hoyt points out that radiation exposure is minimal and has gotten lower over time; the issue of overdiagnosis tends to be confined to low-grade ductal carcinoma in situ cancers; and although about 10 percent of women are recalled for further evaluation and 1-2 percent end up having a biopsy after a screening mammogram, the complication rate from minimally invasive core needle biopsy is less than 1 percent. “Nearly all women who have had false-positive mammography are still endorsing screening,” Dr. Hoyt notes. 