

Mammogram sensitivity depends on menstrual cycle

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Try to schedule your screening mammogram during the first week of your menstrual cycle. It might make breast cancer screening more accurate for pre-menopausal women who choose to have regular mammograms. This recommendation comes from an article published online December 3 in *Radiology* by Diana Miglioretti, PhD, a senior investigator at Group Health Research Institute.

Dr. Miglioretti and her co-authors are working on an issue at the heart of recent controversies about [breast cancer](#) screening mammograms. In November 2009, new recommendations—including that women should discuss with their doctors whether to begin having regular screening mammograms at age 40 or wait till age 50—were issued by the U.S. Preventive Services Task Force, an independent panel of health care providers who generate medical guidelines based on clinical research.

Some facts related to the new recommendations prompted the study by Dr. Miglioretti and colleagues:

- Mammography can detect cancer in women in their 40s.
- But these women are at higher risk than are older women for a false-negative result (missing a cancer that is present) or a false-positive result (recalling a woman for further workup when cancer is not present).

- False positives lead to unnecessary tests, including biopsies.
- Women in their 40s tend to have dense breast tissue, making their mammograms hard to interpret. Dense breast tissue shows up as white on a mammogram and can obscure abnormal findings, which are also white.
- Breast density varies slightly with [menstrual cycle](#).

Dr. Miglioretti's team asked whether mammography conducted at different times in the menstrual cycle, when breast density may be different, is more sensitive for finding breast cancers or more specific for ruling out cancer. They examined 387,218 screening [mammograms](#) from premenopausal women. Of these, 1,283 were linked to an actual case of breast cancer. The data were from the Breast Cancer Surveillance Consortium, a network of research sites nationwide—including Group Health Research Institute, which has collected [breast cancer screening](#) data since 1994.

"Premenopausal women having regular screening mammography could benefit from scheduling their exams during the first week of their menstrual cycle," says Miglioretti. She and her collaborators found that in the first week, when breast tissue may be less dense and not engorged, mammography was more sensitive at detecting cancer. Specificity, which is the ability to reliably recognize the absence of breast cancer, did not change with menstrual cycle.

Miglioretti notes, however, that the increased sensitivity was only for women with a screen in the past two years, who were assumed to be having regular screens, and not for women being screened for the first time. Miglioretti says this result was "surprising," but offers some possible reasons. In general, when first screens find a tumor, it's relatively large. Low breast density is more important for detecting small

tumors, so the menstrual cycle influence might not have been seen for first screens. "Larger tumors may be easier to see later in the menstrual cycle, but this needs to be studied," says Miglioretti. In addition, her findings do not apply to diagnostic mammography: mammography performed to work up a symptom such as a breast lump. If a woman finds a breast lump or has another breast concern, she should contact her doctor right away.

Dr. Miglioretti and her co-authors know that women can't always predict their cycle, but say if they can, scheduling during the first week may have an additional advantage. Many women experience breast tenderness in the second half of their cycle, so avoiding this time could reduce mammography discomfort.

Current recommendations are that women aged 50-74 have a routine screening mammogram every other year. Women are encouraged to consult with their health care providers to find a mammography schedule that fits their family history and personal preferences.

Provided by Group Health Research Institute

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