

# Mammograms may harm young BRCA mutation carriers

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NEW YORK (Reuters Health) – Due to the risk of radiation-induced breast cancer, mammographic screening in young BRCA mutation carriers may have a net harmful effect, according to a report in the Journal of the National Cancer Institute.

Mammographic screening is recommended to begin as early as 25 to 30 years of age in carriers of the BRCA1 or BRCA2 mutation, which increase the risk of developing breast cancer. However, it's not clear what reduction in breast cancer mortality is needed with screening to offset the risks of radiation exposure, Dr. Amy Berrington de Gonzalez, from Johns Hopkins Bloomberg School of Public Health, Baltimore, and colleagues explain.

Using data from 22 pedigree studies of 8139 subjects, the research team estimates that for BRCA1 mutation carriers, annual mammographic screening starting at 25 to 29 years of age would confer a lifetime risk of radiation-induced breast cancer mortality of 26 per 10,000 women. With annual screening starting from 30 to 34 years and from 35 to 39 years, the risk fell to 20 and 13 per 10,000, respectively.

To overcome these risks, beginning annual screening in the three age groups: 25 to 29 years; 30 to 34 years; and 35 to 39 years old, would need to reduce breast cancer mortality by 51 percent, 12 percent, and 4 percent, respectively, the investigators calculate.

"Estimates were similar for BRCA2 mutation carriers," they report.

Given that mammographic screening is thought to reduce breast cancer mortality by no more than 25 percent in young women, the authors believe that the harms of annual screening would outweigh the benefits in women between 25 and 29 years of age and probably also in those from 30 to 34 years. Only in older women is a net benefit likely to be apparent.

Without actual data, these estimates can be used to guide the decision-making process of weighting the benefits of early mammographic screening against the radiation risks in young women with a BRCA mutation, the authors conclude.

SOURCE: Journal of the National Cancer Institute, February 4, 2009.