

# Pink News: Be aware of radiation-induced breast cancer risk

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In October - the National Breast Cancer Awareness Month, women are encouraged to receive annual breast cancer screening. Many women may not be aware though that mammography screening by itself can cause breast cancer. The radiation induced breast cancer risk is particularly higher from the newly approved screening instruments.

The U.S. Food and Drug Administration has reportedly approved two new screening methods - breast-specific gamma imaging (BSGI) and positron emission mammography (PEM), which University of Colorado-Denver professor Dr. Edward Hendrick said need more research to ascertain its efficacy and safety.

Dr. Hendrick reported online Aug 24, 2010 in Radiology that both BSGI and PEM are linked with much higher breast cancer risk per screening than the risks associated with the mammography currently used and the cancer risk from the new methods is also found in other radiosensitive organs.

The breast cancer screening used today has already been known to boost breast cancer risk.

Dr. Samuel S. Epstein, professor emeritus of Environmental and Occupational Medicine at the University of Illinois School of Public Health says on his website [preventcancer.com](http://preventcancer.com) postmenopausal women who undergo annual screening for a ten-year period would receive exposure to about 10 rads of radiation for each breast.

According to Dr. Epstein, each rad results in one cancer case in every 100 premenstrual women. A woman with exposure to 10 rads or receiving 10 screenings in 10 years would have a 10 percent risk of developing breast cancer, or 10 percent of women would develop the disease.

The risk of breast cancer from mammography is four times higher among women who carry A-T gene. The [foodconsumer.org/.../pink\\_radiation\\_b...](http://foodconsumer.org/.../pink_radiation_b...)

radiation-induced breast cancer accounts for 20 percent of all breast cancers annually in the United States.

Dr. Hendrick reported that two-view digital mammography and screen-film mammography are associated with lifetime attributable risks (LARS) of fatal breast cancer of 1.3 and 1.7 cases per 100,000 women ages 40 at exposure and less than one case per one million women aged 80 years at exposure. The average LARS of fatal breast cancer associated with annual screening digital or screen-film mammography for women aged 40 to 80 are 20 to 25 cases per 100,000 women.

In comparison, a single BSGi study or screening is estimated to have an LAR of fatal cancer that is 20 to 30 times that of digital mammography in women ages 40 years of age. For a single PEM study, the LAR of fatal breast cancer is estimated at 23 times higher than that of digital mammography in women aged 40 years.

“The age-specific risk of radiation-induced cancer death from a single PEM study compared with that from a single digital mammogram is more than 20 times greater at age 40 years, more than 75 times greater at 60 years, and more than 175 times greater at age 80 years,” Dr. Hendrick noted.

Unlike mammography currently used, which mostly only affects breasts, BSGI and PEM irradiate all body organs, which means that the radiation employed in the new screening instruments will raise cancer risk in other organs.

Dr. Hendrick concluded “The results indicate that BSGI and PEM are not good candidate procedures for breast cancer screening because of the associated higher risks for cancer induction per study compared with the risks associated with existing modalities such as mammography, breast ultrasound and breast MRI.”

More reports will be published in the National Breast Cancer Awareness to help men and women better understand the risk of breast cancer and how to prevent the disease, which is diagnosed in more than 175,000 women and kills about 50,000 each year in the United States.

Stay tuned.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/20736332>

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