



MAMMOGRAPHY STUDY BRIEF

Why Mammography?

- According to National Cancer Institute [data](#), since mammography screening became widespread in the mid-1980s, the U.S. breast cancer death rate, unchanged for the previous 50 years, has dropped well over 30 percent.
- In European countries like Denmark and Sweden, where mammography screening programs are more organized, the breast cancer death rate has been cut almost in half over the last 20 years
- A study ([Otto et al](#)) published in *Cancer Epidemiology, Biomarkers & Prevention* shows mammography screening cuts the risk of dying from breast cancer nearly in half.
- A recent [study published in Cancer](#) showed that more than 70 percent of the women who died from breast cancer in their 40's at major Harvard teaching hospitals were among the 20 percent of women who were not being screened. The most rigorous scientific studies have shown that the most lives are saved by screening beginning at age 40.
- A recent [study in the British Medical Journal](#) shows that early detection of breast cancer – as with mammography – significantly improves breast cancer survival. Mammography can detect cancer early when it's most treatable and can be treated less invasively. This also helps preserve quality of life.
- For more information regarding the proven effectiveness of regular mammography screening at reducing breast cancer deaths, please visit www.MammographySavesLives.org.

Why Start Mammograms @ 40

- Every major American medical organization with expertise in breast cancer care, including the [American Congress of Obstetricians and Gynecologists \(ACOG\)](#), [American Cancer Society](#), [American College of Radiology](#), and Society of Breast Imaging recommend that women start getting annual mammograms at age 40
- Screening mammography shows greatest benefit—a 39.6 percent mortality reduction—from annual screening of women 40–84 years old. This screening regimen saves 71 percent more lives than (the USPSTF-recommended regimen of) biennial screening of women 50–74 years old, which had a 23.2 percent mortality reduction. ([Hendrick and Helvie](#))
- By not getting a yearly mammogram after age 40, women increase their odds of dying from breast cancer and that treatment for any advanced cancers ultimately found will be more extensive and more expensive.
- One in six breast cancers occur in women in their 40s.
- The ten year risk for breast cancer in a 40 year old woman is 1 in 69 and only increases with age.
- 40 Percent of all the years of life saved by mammography are for women in their 40s.

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- Women at elevated risk for breast cancer due to family history or other factors should speak with their doctor about starting earlier (than age 40)

Why Not Just Screen High Risk Women (in their 40s) and start at 50 Like the United States Preventative Services Task Force (USPSTF) Says?

- Approximately 75 percent of women diagnosed with breast cancer have no family history of breast cancer or other factors that put them at high risk for developing the disease (so screening only high risk women misses majority of cancers)
- An analysis ([Hendrick and Helvie](#)), published in the *American Journal of Roentgenology*, showed that if USPSTF breast cancer screening guidelines were followed, approximately 6,500 additional women each year in the U.S. would die from breast cancer. It is also likely that thousands more would endure more extensive and expensive treatments than if their cancers were found early by a mammogram.
- The USPSTF science is wrong. The largest ([Hellquist et al](#)) and longest running ([Tabar et al](#)) breast cancer screening studies in history, re-confirmed that regular mammography screening cut breast cancer deaths by roughly a third in all women ages 40 and over (including women ages 40-49). This renders the USPSTF calculations off by half. They used a 15% mortality reduction to calculate how many women needed to be invited to be screened to save a life. With the now re-confirmed 29% (or up) figure, the number to be screened using the USPSTF formula is half of their estimate and well within what they considered acceptable by their formula.
- According to the USPSTF report, even for women 50+, skipping a mammogram every other year would miss up to 30 percent of cancers. .
- A recent [study published in Cancer](#) showed that more than 70 percent of the women who died from breast cancer in their 40's at major Harvard teaching hospitals were among the 20 percent of women who were not being screened. The most rigorous scientific studies have shown that the most lives are saved by screening beginning at age 40 - not waiting until the age of 50.
- The USPSTF did not contain/involve a single breast cancer expert (no oncologist, radiologist, breast surgeon or radiation oncologist) – but did have current or former members of the insurance industry which has a vested interest in not paying for mammograms

“Harms” from Mammograms (Overblown)?

- No one can tell which cancers will never threaten the woman and which will become lethal. So the best medicine remains to find and treat the cancers found so they do not kill more women.
- For every 1,000 women who have a screening mammogram: fewer than 100 are recalled to get more mammography or ultrasound images; 20 or fewer are recommended for a needle biopsy; 5 are diagnosed with breast cancer
- While anxiety over test results is real, most women simply need another mammogram or ultrasound exam to answer questions about their mammogram. A small number will have a benign breast biopsy

(often only a minimally invasive needle biopsy) based on an abnormal screening and subsequent evaluation. However, most women would balk at comparing the anxiety of this with that of *dying* from breast cancer.

- The amount of radiation used in a mammogram is very small. The risk of radiation-induced cancer from a mammography exam is about the same as the risk of cancer from two months of natural background radiation from the soil or atmosphere. The potential benefit of finding cancer early is much greater than the small potential risk of causing cancer.

Concerns Over Including Breast Density Language in Lay Report to Patients

While the ACR is not opposed to including breast parenchymal information in the lay summary, we urge strong consideration of the benefits, possible harms and unintended consequences of doing so:

- Assessment of breast density is not reliably reproducible. When the same mammogram is interpreted by a different physician or the same physician on different occasions, differing density can be reported. If these variations are reported to each woman screened on each occasion, it might result in confusion or undue anxiety over the accuracy of her mammogram.
- For women with fatty breasts, the reporting of this information may convey a false sense of security about negative mammography results. Even women with fatty breasts may have breast cancer undetected by mammography. High-risk women should not be complacent and forego recommended Screening MRI because they have fatty breasts.
- The significance of breast density as a risk factor for breast cancer is controversial. There is no consensus that density per se confers sufficient risk to warrant supplemental screening. For women with dense breasts, receipt of breast density information may create undue anxiety about their risk.
- This may result in demands for additional non-mammography screening – such as MRI or ultrasound. There is no randomized trial data to show that adding either ultrasound or MRI to mammography screening saves lives.
- Ultrasound and MRI can detect malignancies undetected via mammography. Breast MRI is more sensitive than either mammography or ultrasound and can detect malignancies not found when both screening mammography and screening ultrasound are combined. However, MRI and Ultrasound result in additional false positives and increase the number benign breast biopsies.
- Unless supplemental screening is reimbursed by insurers, there may be an unfortunate disparity between women who can afford to pay for the additional screening exam and those who cannot.
- The ACR recommends that all stakeholders proceed with caution on this issue. It might be valuable to review the experience in the state of Connecticut, where a law requiring this communication has been in place long enough to gather and evaluate outcomes and effects.

Does the Radiation from Mammograms Cause Thyroid Cancer (like Dr. Oz said)?

- The amount of radiation that reaches the thyroid during a mammogram is minuscule
- There is no evidence that radiation from mammograms is causing thyroid cancer

Thyroid cancer has gone up equally in men as well – and since very few men would ever get a mammogram – mammography is *not* a cause of increased thyroid cancer diagnoses.