

Why Mammography Matters *Judy Dean MD*

Early detection of breast cancer is vital.

Ask physicians if they would rather treat a patient with a small tumor detected by mammography, or a large tumor detected because of a lump, and you will universally be told small, image-detected cancers are more easily treated, and more likely to be curable. While treatment has become more individualized and sophisticated with the advent of testing for hormone receptors, growth factors, and other assays, we still cannot always cure breast cancer. The earlier cancer is detected and treated, the less treatment is needed, and the more likely the outcome will be a cure. The personal pain, grief, and financial cost of late-stage breast cancer cannot be overstated, so finding breast cancer early still matters.

So why all the recent news stories claiming mammography isn't that helpful? A 2010 publication from Norway suggesting the benefit of mammography is almost negligible was reported on the front page of the New York Times and numerous other papers. Few physicians citing this publication realize the average patient follow-up time in this study was just over 2 years, which is woefully inadequate. (News reports cited the **longest** follow-up of 8 years, which no doubt came from the authors' press release.) Multiple trials of mammography screening have shown significant reductions in breast cancer deaths in screened women, but only after 7 to 10 years of follow-up. This is because even women with advanced breast cancer often survive for some years. Commonly referred to as lead-time bias, the result is that absolutely no benefit from screening would be expected by 2 years.

Also published in 2010 in the journal *Cancer*, a Swedish study with average follow-up time of 16 years showed a 29% reduction in breast cancer deaths among women screened with mammography between the ages of 40 and 49, compared with women offered screening starting at age 50. In Sweden women are recalled for screening every 18 to 24 months, so the women who started at age 40 had on average 6 more mammograms than the women who started mammography at age 50. This earlier start afforded a 29% reduction in breast cancer deaths which persisted even 16 years later. Unfortunately this report did not get much attention in the press.

It's true that mammography does not catch all cancers, so there is plenty of room for improvement in our detection methods. A principal reason mammography misses cancers is overlap of normal dense breast tissue, obscuring small tumors. This problem affects 40 to 50% of women, and can be overcome in most cases by supplementing mammography with whole breast ultrasound. For **very** high risk women screening with MRI may also be appropriate. **Abandoning** breast cancer screening is **not** the answer.

In 2009 the US Preventive Services Task Force made headlines by recommending that mammography should not be routine before age 50, and then only every two years instead of annually. Canadian officials followed suit in 2011. The stated goal of these changes is reduction of the "harms" of mammography, such as recalls for additional imaging, anxiety, and benign biopsies. This is a very paternalistic approach, since women have consistently reported in surveys they prefer additional tests and even biopsy if it means finding cancer earlier. I can't help but wonder to what extent reducing the costs for mammography and resulting biopsies is the real goal of these guidelines.

It has been acknowledged, even by members of the Task Force, that following their recommendations will result in more breast cancer deaths. One study estimates that for U.S. women now aged 30 to 39 years of age, **delaying mammography until age 50 will result in 100,000 preventable breast cancer deaths**. Although more breast cancers occur after age 50 than before, there are actually more years of life lost due to breast cancer because of cancers diagnosed before age 50. Therefore the elimination of routine screening for women in their 40's would have disastrous results; and reducing the frequency of screening to every other year after age 50 will give little opportunity to detect fast-growing cancers before it is too late.

Screening saves lives. Until we have a better early detection test, or can comfortably and reliably cure breast cancer at any stage, women should stay with mammography, a proven life saver.