Breast Cancer Screening Saves Lives

Since 1990, screening mammography starting at age 40 has helped reduce breast cancer deaths by 35%
While there is general consensus that mammography screening is beneficial for many women, conflicting screening recommendations have led to practice variability.

- Ages to begin and end routine screening
- Screening intervals
- Defining and balancing the benefits of screening with potential harms
- Appropriate use of various modalities
- Issues vary depending on an individual’s risk for breast cancer
## USPSTF 2009 Recommendations

<table>
<thead>
<tr>
<th>Population</th>
<th>Recommendation</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Women, 50-74</td>
<td>The USPSTF recommends biennial screening mammography for women 50-74 years.</td>
<td>B</td>
</tr>
<tr>
<td>Women, &lt; 50</td>
<td>The decision to start regular, biennial screening mammography before the age of 50 years should be an individual one and take patient context into account, including the patient’s values regarding specific benefits and harms.</td>
<td>C</td>
</tr>
<tr>
<td>Women, 75 +</td>
<td>The USPSTF concludes that the current evidence is insufficient to assess the benefits and harms of screening mammography in women 75 years and older.</td>
<td>I</td>
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<tr>
<td>Grade</td>
<td>Definitions</td>
<td>Suggestions for Practice</td>
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<tr>
<td>B</td>
<td>The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.</td>
<td>Offer or provide this service.</td>
</tr>
<tr>
<td>C</td>
<td>The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.</td>
<td>Offer or provide this service for selected patients depending on individual circumstances.</td>
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<tr>
<td>I</td>
<td>The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.</td>
<td>If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.</td>
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*Read the clinical considerations section of USPSTF Recommendation Statement.*
United States Preventive Services Task Force argues that all women who participate in breast cancer screening may potentially experience a false-positive mammogram (as high as 49% of women after 10 years of screening), with resultant additional imaging, biopsies, and psychologic distress.

The burden of these additional tests may be perceived as greater on women aged 40–49 years because they are less likely to experience breast cancer and, therefore, less likely to “benefit” from screening.
Experts who support routine screening for women in their 40s note that although the incidence of cancer is less in the 40–49 year age group than in all women older than 50 years, the incidence of cancer in women in their 50s (1 in 38, or 2.60%) is not much higher than in women in their 40s (1 in 69, or 1.44%).

In addition, women who undergo routine screening mammography in their 40s have comparable mortality reduction compared with women who undergo routine mammography screening in their 50s (16% reduction versus 15% reduction, respectively).

This is of particular importance because each year in the United States breast cancer is diagnosed in approximately 50,000 women younger than 50 years.
Pros and Cons in Brief

- **Benefits**: Less risk of breast cancer death; may find breast cancer early, when most treatable with less extensive surgery or therapy.

- **Risks**: Some women experience mild, temporary discomfort or anxiety during mammography; 10% called back for more imaging; 1–2% may need needle biopsy. The very small radiation dose is equal to a few weeks of natural background radiation.
The USPSTF recommends biennial screening mammography for women 50-74 years.

***See next slide***

The USPSTF concludes that the current evidence is insufficient to assess the benefits and harms of screening mammography in women 75+.

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### USPSTF 2016 Recommendations

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| Women, < 50| The decision to start screening mammography in women prior to age 50 years should be an individual one. Women who place a higher value on the potential benefit than the potential harms may choose to begin biennial screening between the ages of 40 and 49 years.  
  • For women who are at average risk for breast cancer, most of the benefit of mammography results from biennial screening during ages 50 to 74 years. Of all of the age groups, women aged 60 to 69 years are most likely to avoid breast cancer death through mammography screening. While screening mammography in women aged 40 to 49 years may reduce the risk for breast cancer death, the number of deaths averted is smaller than that in older women and the number of false-positive results and unnecessary biopsies is larger. The balance of benefits and harms is likely to improve as women move from their early to late 40s. | C     |
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| Women, < 50| • In addition to false-positive results and unnecessary biopsies, all women undergoing regular screening mammography are at risk for the diagnosis and treatment of noninvasive and invasive breast cancer that would otherwise not have become a threat to their health, or even apparent, during their lifetime (known as “overdiagnosis”). Beginning mammography screening at a younger age and screening more frequently may increase the risk for overdiagnosis and subsequent overtreatment.  
  • Women with a parent, sibling, or child with breast cancer are at higher risk for breast cancer and thus may benefit more than average-risk women from beginning screening in their 40s. | C     |
Current Screening Recommendations

- **American Cancer Society**: Choice @40, annually @45-54, annually or biennial until life expectancy is <10 years
- **American Academy of Family Physicians**: screening <50 should be individualized based on risk factors, 50-74 biennial screening
- **American Congress of Obstetrics and Gynecologists**: annually @40 (currently updating recommendations)
- **American College of Radiology**: annually @40, decision to stop based on an individual basis
- **American Society of Breast Surgeons**: consider @40, annual @45-54, annually or biennial until life expectancy is <10 years
- **National Comprehensive Cancer Network**: annually @40
WARNING!!

- These recommendations are all in average risk women and decisions should be made with their health care professional!!
Emerging Data

Presented at ASBS in April 2016, a review of patients age 40-44, found that half of those patients had an above average risk of breast cancer and would be eligible to begin screening mammography at age 40.

The authors stated, “We believe formal risk assessment is essential for women ages 40-44 in order to identify those who require screening mammography to start at the age of 40, and those who would qualify for screening MRIs and genetic testing.”
For women who are at average risk for breast cancer, most of the benefit of mammography results from biennial screening during ages 50 to 74 years.

Of all of the age groups, women aged 60 to 69 years are most likely to avoid breast cancer death through mammography screening.

Screening mammography in women aged 40 to 49 years may reduce the risk for breast cancer death, the number of deaths averted is smaller than in older women and the number of false-positive results and unnecessary biopsies is larger.

The balance of benefits and harms is likely to improve as women move from their early to late 40s.

Some average-risk women may prefer biennial screening, which maintains most of the benefits of screening while decreasing both the frequency of screening and the potential for additional testing, whereas other women may prefer annual screening because it maximizes cancer detection.
What Increases Risk?

- Personal history of breast cancer
- Family history of breast cancer
- Prior breast biopsies, especially if diagnosed with atypia or LCIS
- Thoracic radiation
However

75% of women diagnosed with breast cancer have no family history or other risk factors
Biennial Screening

- None of the trials were designed to evaluate biennial screening.
- Comparisons have been drawn between women who electively screen annually versus biennially and are inherently biased.
- Two observational studies of screening intervals indicated no breast cancer mortality differences between annual and biennial screening for women 50 years or older, or between annual and triennial screening among women age 40 to 49 years.
Stopping at 75??

- About 26% of cancer deaths occur in women diagnosed after age 74.
- At age 75, the average American woman will live 13 years
## Advocate Christ Medical Center Breast Cancer Census by Age at Diagnosis

<table>
<thead>
<tr>
<th>Age at Diagnosis</th>
<th>2010-2012</th>
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<tbody>
<tr>
<td>20-29</td>
<td>6</td>
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<tr>
<td>30-39</td>
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<tr>
<td>40-49</td>
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<td>70-79</td>
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<tr>
<td>80-89</td>
<td>103</td>
</tr>
<tr>
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<td>19</td>
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</table>
852 diagnosed younger than 70
338 diagnosed at 70 or older
Almost 50% were diagnosed between 40 and 59 years of age
Rates of Mammography Screening

- 71% in commercial plans
- 69% in Medicare plans
- 51% in Medicaid plans

- The Affordable Care Act mandates insurance coverage for annual screening mammography beginning at age 40 with no co-pay of deductible charges. (Congress acted on this in both 2009 and 2015)
THANK YOU