Module 3
Recommendations for patients with Dense Breasts on Mammography

• Intended Learning Outcomes
  – Know MCC recommendations for dense breasts
  – Understand recommendations for supplemental screening in women with dense breasts
  – Counsel patients regarding screening imaging and clinical guidelines based on their personal risk profile for breast cancer
Michigan Cancer Consortium
Screening Guidelines for Early Detection of Breast Cancer
May 2014

The Michigan Cancer Consortium supports the breast cancer screening guidelines for women at average and increased risk as recommended by the American Cancer Society (2014)\(^1\) and the National Comprehensive Cancer Network (NCCN) Clinical Practice Guidelines in Oncology for Breast Cancer Screening and Diagnosis (V2.2013)\(^2\).

1. Recommendations for Breast Cancer Screening – Average Risk for Breast Cancer

<table>
<thead>
<tr>
<th>Screening Exam</th>
<th>Interval</th>
<th>Age to Begin</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast Awareness/Breast Self Exam,(^1,2,5)</td>
<td>Optional</td>
<td>Mid 20’s</td>
<td>See NOTE*</td>
</tr>
<tr>
<td>Clinical Breast Exam (CBE),(^1,2)</td>
<td>Every three (3) years</td>
<td>Age 25-39</td>
<td>CBE should be part of a periodic health exam</td>
</tr>
<tr>
<td></td>
<td>Annually</td>
<td>Age 40</td>
<td></td>
</tr>
<tr>
<td>Mammography,(^1,2,5)</td>
<td>Annually</td>
<td>Age 40</td>
<td>Yearly exams should continue for as long as a woman is in good health.</td>
</tr>
</tbody>
</table>

*NOTE*: Breast Awareness/Breast Self Exam
- Breast self exam (BSE) is an option for women starting in their 20s. Women should be informed about the benefits and limitations of BSE\(^1\).
- Women should be familiar with their breasts and promptly report changes to their healthcare provider. Periodic, consistent BSE may facilitate breast self awareness. Premenopausal women may find BSE most informative when performed at the end of menses.\(^2\)
## MCC GUIDELINES

### II. Recommendations for Breast Cancer Screening – Increased Risk for Breast Cancer

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Screening Exam</th>
<th>Interval</th>
<th>Age to Begin</th>
<th>Additional Information</th>
</tr>
</thead>
</table>
| Known Genetic predisposition (e.g. BRCA) or pedigree suggestive of predisposition including Hereditary Breast and Ovarian Cancer Syndrome and untested 1st degree relative of BRCA case | CBE            | 6-12 months    | Age 25       | * See Note Breast Self-Awareness
Consider risk reduction strategies
(See NCCN Breast Cancer Risk Reduction Guidelines)                                  |
|                                                                             | Mammogram      | Annual         | ≥ age 30     | (Controversial between age 25 and 30)                                                    |
|                                                                             | MRI            | Annual         | Age 25       | Referral to genetic counselor                                                               |
| High Breast Cancer Risk (> 20% lifetime risk) ¹ ²                          | CBE            | 6-12 months    | Age Risk is Identified                      | * See Note Breast Self-Awareness
Consider referral to genetic counselor
Consider risk reduction strategies
(See NCCN Breast Cancer Risk Reduction Guidelines)                     |
|                                                                             | Mammogram      | Annual         | Age ≥ 30     |                                                                                            |
| Prior thoracic radiation therapy between ages of 10-30 ²                    | CBE            | 6-12 months    | Begin 8-10 years after Radiation Therapy or age 40, whichever occurs first.              | * See Note Breast Self-Awareness
As above, no earlier than age 25                                        |
|                                                                             | Mammogram      | Annual         | As above, no earlier than age 25            |                                                                                            |
|                                                                             | MRI            | Annual         | As above, no earlier than age 25            |                                                                                            |
| Personal History of Breast Cancer ¹                                           | CBE            | 6-12 months    | Post Diagnosis                               | * See Note Breast Self-Awareness
See NCCN Breast Cancer Guidelines Surveillance Section                      |
|                                                                             | Mammogram      | Annual         | Post Diagnosis                               |                                                                                            |
| Moderate Breast Cancer Risk (15% - 20% lifetime risk) ¹                     | CBE            | 6-12 months    | Age risk is identified                       | * See Note Breast Self-Awareness
Consider risk reduction strategies
(See NCCN Breast Cancer Risk Reduction Guidelines)                     |
|                                                                             | Mammogram      | Annual         | Post diagnosis                               |                                                                                            |
| Personal history of atypical hyperplasia or Lobular Carcinoma In Situ (LCIS) ² | CBE            | 6-12 months    | Post diagnosis                               | * See Note Breast Self-Awareness
Consider risk reduction strategies
(See NCCN Breast Cancer Risk Reduction Guidelines)                     |
|                                                                             | Mammogram      | Annual         | Post diagnosis                               |                                                                                            |
| Women ≥ 35 with 5-year risk of invasive breast cancer ≥ 1.7% ²             | CBE            | 6-12 months    | ≥ 35                                           | * See Note Breast Self-Awareness
Consider risk reduction strategies
(See NCCN Breast Cancer Risk Reduction Guidelines)                     |
|                                                                             | Mammogram      | Annual         |                                               |                                                                                            |
MCC GUIDELINES

Addendum 1: Breast Awareness/Breast Self-Exam

- Breast self-exam (BSE) is an option for women starting in their 20s. Women should be informed about the benefits and limitations of BSE. (ACS 2003, 2009)
- Women should be familiar with their breasts and promptly report changes to their healthcare provider. Periodic, consistent BSE may facilitate breast self-awareness. Pre-menopausal women may find BSE most informative when performed at the end of menses. (NCCN Clinical Practice Guidelines in Oncology for Breast Cancer Screening and Diagnosis V. 2.2013).

Addendum 2: Mammography Screening and Breast Cancer Mortality

- Women should be counseled regarding potential benefits, risks, and limitations of breast screening.
- Screening mammography has been shown to result in a significant decrease in breast cancer mortality for women age 39 and older in a meta-analysis of 9 combined randomized controlled trials and multiple subsequent case controlled studies. Despite differing opinions regarding the age to begin mammography screening and frequency, all major organizations recommend regular screening mammograms including: American Cancer Society, National Comprehensive Cancer Network, the U.S. Preventative Task Force, American College of Radiology, American College of Surgeons, American College of Obstetrics and Gynecology, American College of Physicians and American Academy of Family Physicians.
- Since the implementation of screening mammography and advancements in treatment the U.S. mortality rate has declined by 33% over the past 20 years.

Addendum 3: Breast Density

- Approximately 50% of women will be found to have dense breasts as determined by BI-RADS classification.
- Breast density has a two-fold effect on mammographic screening:
  - High breast density is known to result in decreased mammographic sensitivity for the detection of breast cancer.
  - Women with dense breasts are at moderately increased risk for breast cancer compared to women of average breast density and this risk is felt to be greatest for the small subset of women (approximately 10%) with extremely dense breasts. The magnitude is in the range of a relative risk of 1.2–2.1 for heterogeneously dense and extremely dense breasts respectively.
- The NCCN, USPSTF, ACS, ACOG, ACR do not recommend routine supplemental screening for women with dense breasts without other risk factors since such screening is not validated to result in a decrease in mortality. If supplementary screening is desired, preliminary evidence suggests that MRI is more sensitive than ultrasound for cancer detection.
Dense Breasts
General Recommendations

– Density is a relatively minor risk factor (1.2 – 2.1 x)
– SUPPLEMENTARY SCREENING
  • Insufficient evidence support
  • Offers modest increased cancer detection in average risk women (US~3–4 cases/1000 women) Generally small, invasive and node negative. (MR not studied in average risk/dense breasts)
  • Downside: false positive studies – additional imaging and biopsies (US: Biopsy= cancer in only 5–7%)

– No proven reduction in death from Breast Cancer (US/MR/MBI)
– Modify risk factors that can be controlled:
  • BMI
  • Exercise
  • Alcohol intake
Dense Breasts
General Recommendations

• **Supplemental screening is NOT supported in women with average risk factors**
  – NCCN: insufficient evidence to support it in absence of other risk factors
  – ACOG (2014 Committee Consensus)
  – ACS (2014)
  – USPSTF (2015 Draft Statement)
  – Cochrane Review
Estimate Patient Risk Profile

YES = HIGH RISK

- Genetic predisposition, BRCA mutation, rare syndromes
- >20% lifetime risk per risk models
- Thoracic radiation age 10-30
- 1st degree untested relative of genetic high risk person

NO

Next slide

Annual screening with digital mammogram ≥ age 30

Annual screening with MRI ≥ age 25

**screening ultrasound if MRI cannot be performed

Consider referral for genetic counseling

Consider medications for breast cancer risk reduction
Estimate Patient Risk Profile

Is she at intermediate risk for breast cancer?
Personal history of breast cancer
Prior biopsy-LCIS or atypia
Moderate BC risk (15-20%) per risk models

YES = INTERMEDIATE RISK

Annual mammogram ≥ age 40
(with tomosynthesis if available)
CBE ≥ 40 annual

Supplementary screening—No current clear guidelines
Discussion with patient re: benefits and risks
Ultrasound, MRI

NO
Next slide
Estimate Patient Risk Profile

Average/ Low risk
No other risk factors besides increased density

Reassure patient—density small risk
Annual mammogram > 40 (with tomosynthesis if available)
CBE annually ≥ 40
Breast cancer risk reduction counseling
**(BMI, exercise, alcohol)**
Recommendations for Intermediate Risk Women

- 15–20% lifetime risk based on models
- Personal h/o breast cancer
- LCIS or atypia on prior biopsy
- 5 year risk >1.7% by Gail model

- Annual mammogram ≥ 40
- Supplementary studies less clear cut:
  - ACR/SBI appropriateness criteria:
    - MRI ‘is usually appropriate’
    - US ‘may be appropriate’
    - If dense breasts raise a woman’s risk to this level with other risk factors, supplementary screening should be considered
Breast Cancer Risk Factors

#1—Being **female**
Increasing **age**.

**Genetic**: 5–10% of breast cancers are hereditary (gene mutations) BRCA 1 and 2 most common

**Rare genetic syndromes**— Cowden’s, Li Fraumeni etc

**Previous chest wall radiation** age 10–30

**Lobular carcinoma in situ**— 7 to 11 x risk

**Personal history** of breast cancer:
Approximately 3–4 x risk of a second cancer.

**Proliferative lesions with atypia** 3½ to 5 x risk

**1st degree relative** with breast cancer
(mother, sister or daughter)

**Dense breasts** 1.2 x (Heterogeneously dense) 2.1x (Extremely dense)

**Race**: Caucasian—slightly more likely to develop breast cancer than African–American women, but African–American women are more likely to die of breast cancer

**Benign proliferative lesions** – 1.5 to 2 x normal.

**Early menarche** (before age 12) or late menopause (after age 55) – longer lifetime exposure to hormones

**Lifestyle-related risk factors** include:
Combined HRT, >1 alcoholic drink/day, overweight or obese, physical inactivity
Breast and Cervical Cancer Control Navigation Program (BCCCNPNP)

- Low income patients—uninsured or underinsured
- Large deductibles or out of pocket expenses
- May be eligible for funding of mammograms or supplemental screening
- To find out if your low-income patient is eligible for the program or to find a BCCCNP agency nearest you call 1-800-922-MAMM (6266)
### Summary recommendations

<table>
<thead>
<tr>
<th>Risk Level</th>
<th>Clinical recommendations</th>
<th>Imaging recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Risk</td>
<td>CBE ≥ 25 q 6-12 mo</td>
<td>Annual mammo ≥ 30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Annual MRI ≥ 25</td>
</tr>
<tr>
<td>Intermediate Risk</td>
<td>CBE ≥ 40 q 6-12 mo</td>
<td>Annual mammo ≥ 40</td>
</tr>
<tr>
<td></td>
<td>or when risk diagnosed</td>
<td>+/- Suppl. Screening</td>
</tr>
<tr>
<td>Low/Average Risk</td>
<td>CBE ≥ 40 annual</td>
<td>Annual mammo ≥ 40</td>
</tr>
<tr>
<td></td>
<td>CBE 25-39 q 3 years</td>
<td></td>
</tr>
</tbody>
</table>
For Providers: ‘Go to’ web Links

• MCC provider resources and density worksheet
  www.michigancancer.org/Resources/BreastPV.html

• NCCN Breast Cancer Screening Guidelines
  www.NCCN.org

• NCI BC risk assessment tool
  www.cancer.gov/bcrisktool

• American College of Obstetrics and Gynecology 2015 Density Policy statement
  www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Gynecologic-Practice/Management-of-Women-With-Dense-Breasts-Diagnosed-by-Mammography
For Providers: ‘Go to’ web Links

ACR/SBI website  www.acr.org

English Brochure:

Spanish Brochure:

ACS breast density fact sheet

California Breast density group website www.breastdensity.info

Pittsburgh Breast density website www.densebreast-info.org
For Patients: ‘Go to’ web Links

ACS breast density fact sheet

National Cancer Institute BC risk assessment tool:
http://www.cancer.gov/bcrisktool/

ACR/SBI website
www.acr.org
www.mammographysaveslives.org

ACR/SBI website
English Brochure:

Spanish Brochure:
For Patients: ‘Go to’ web Links

- California Breast density group website
  - www.breastdensity.info

- Pittsburgh density website
  - www.densebreast-info.org
Bibliography


Berg WA, Et Al, Combined Screening With Ultrasound And Mammography Vs. Mammography Alone In Women At Elevated Risk Of Breast Cancer JAMA, 2008; 299, 2151–2163


• Rhodes DR. Molecular Breast Imaging At Reduced Radiation Dose For Supplemental Screening In Mammographically Dense Breasts AJR 2015; 204:241–251

• National Comprehensive Cancer Network NCCN Guidelines V.1.2014 Breast Cancer Screening and Diagnosis