

Breast Cancer in Younger Women

Sarah Jacobs, B.S., R.T.(R)(M)(CT)



Contributions by:
Louise Miller, R.T.(R)(M)(ARRT), CRT(M), FSBI, FNCBC

MAMMOGRAPHY
EDUCATORS

© 2024 Mammography Educators

1

Objectives

- List statistics related to breast cancer diagnosis and mortality rates in younger women
- Define appropriate screening and diagnostic recommendations and guidelines
- Discuss imaging options for this patient population



MAMMOGRAPHY
EDUCATORS

2

Holly's Story



MAMMOGRAPHY
EDUCATORS

3

How Young is “Too Young”?

- Most medical journals and scientific papers regarding breast cancer in younger women refer to persons between the ages of 15-39
- Other documentation refers to women up to the age of 45
- Information regarding the term “young women” is subjective



MAMMOGRAPHY
EDUCATORS

4

Breast Cancer in Younger Women is Becoming More Common



MAMMOGRAPHY
EDUCATORS

5

Statistics: Breast Cancer in Young Women

- About **9%** of all new cases of breast cancer are found in women **under 45**
- Younger people, particularly those **under 35** at the time of their original breast cancer diagnosis, face a higher risk of breast cancer recurrence



MAMMOGRAPHY
EDUCATORS

6

Statistics: Breast Cancer in Young Women

- In Canada:
 - From 1984 to 2019, there as a relative increase of 18% in breast cancer found in women between the ages of 30 to 39
- In the US between 2010 and 2019:
 - Breast cancer among people aged 30 to 39 increased 19.4%
 - Breast cancer among people aged 20-29 increased 5.3%



MAMMOGRAPHY
EDUCATORS

7

Statistics: Breast Cancer in Young Women

- Each year, approximately 85,980 men and women ages 15 to 39 are diagnosed with cancer in the US
- In this age group (15-39), breast cancer is the most common cancer diagnosed



MAMMOGRAPHY
EDUCATORS

8

Statistics: Breast Cancer in Young Women

- Compared to older women, young women generally face more aggressive cancers and lower survival rates
- Breast cancer found in a younger woman is more likely to be hereditary than breast cancer found in older women
- Nearly 80% of young adults find their abnormality themselves



MAMMOGRAPHY
EDUCATORS

9

Factors Contributing to Risk

Biggest risks for the development of breast cancer:

- Sex (Female)
- Reproductive Hormones
 - Average age of menstruation is decreasing (US: 11; Canada: 12)



MAMMOGRAPHY
EDUCATORS

10

Risk Factors

- Ethnicity
- Age at first pregnancy
- Genetic mutations



MAMMOGRAPHY
EDUCATORS

11

Ethnicity and Breast Cancer Incidence

- Note incidence rates of breast cancer among non-Hispanic white patients are just slightly higher than non-Hispanic black patients, but overall similar
- Black women have 40% higher breast cancer death rates than white women despite lower incidence rates

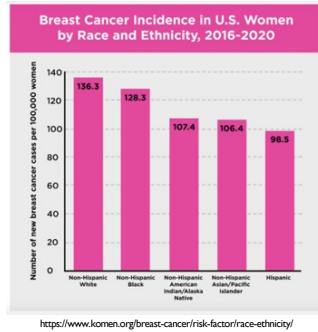
| Race and ethnicity | Lifetime risk of breast cancer |
|--------------------|--------------------------------|
| Non-Hispanic White | 14% |
| Non-Hispanic Black | 12% |



MAMMOGRAPHY
EDUCATORS

12

Ethnicity and Breast Cancer Incidence



MAMMOGRAPHY
EDUCATORS

13

Ethnicity and Breast Cancer Mortality

- In the US alone, there are estimated to be over 42,000 breast cancer related deaths (all ethnic backgrounds)
- Among women under 50, the disparity is even greater: While young women have a higher incidence of aggressive cancers, young Black women have double the mortality rate of young white women
- Black women have a higher risk of triple-negative breast cancer, more than any other racial or ethnic group



MAMMOGRAPHY
EDUCATORS

14

Breast Cancer and Pregnancy

- More women are delaying their first pregnancy
- Getting pregnant for the first time at age 35 or later is a risk factor for breast cancer
- Breast cancer occurs 1 in every 3,000 pregnancies

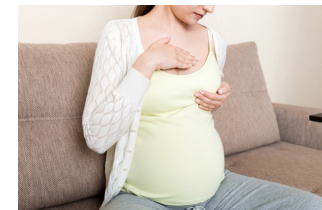


MAMMOGRAPHY
EDUCATORS

15

Breast Cancer and Pregnancy

- Breast cancer is the most common form of cancer in women who are pregnant or have recently given birth
- An estimated 30% or more of all breast cancer in young women is diagnosed in the few years after a woman has had a baby



MAMMOGRAPHY
EDUCATORS

16

Genetic Mutations

- If the patient has BRCA1 or BRCA2 genetic mutations, or had close relatives with these genetic mutations, even if patient hasn't been tested
- Other genetic mutations: TP53, PTEN, STK11, PALB2 and CDHI, other TBD



MAMMOGRAPHY
EDUCATORS

17

Other Factors Contributing to Risk

- Immediate family member diagnosed with breast cancer before age 45
- When patient has less than one close relative diagnosed with breast cancer
- Male relative diagnosed with breast cancer



MAMMOGRAPHY
EDUCATORS

18

Other Factors Contributing to Risk

- Patient has a close relative diagnosed with ovarian cancer
- Ashkenazi Jewish heritage
- Radiation therapy to the breast or chest during childhood or early adulthood



MAMMOGRAPHY
EDUCATORS

19

Other Factors Contributing to Risk

- Personal history of breast cancer or certain other breast abnormalities: LCIS, DCIS, ADH, or ALH
- Li-Fraumeni syndrome, Cowden syndrome, or Bannayan-Riley-Ruvalcaba syndrome, or have had a first-degree relative with one of these syndromes
- Dense breast tissue



MAMMOGRAPHY
EDUCATORS

20

Dense Breast Tissue



MAMMOGRAPHY
EDUCATORS

21

Dense Breast Tissue

More and more patients are learning about dense tissue, and may already know that they have it:

- They don't often know exactly what it is
- Or what it means in terms of screening



MAMMOGRAPHY
EDUCATORS

22

Dense Breast Tissue

Talk to your patients about breast density:

- Breast density is often inherited, but other factors can influence it



Hormone therapy and a low BMI

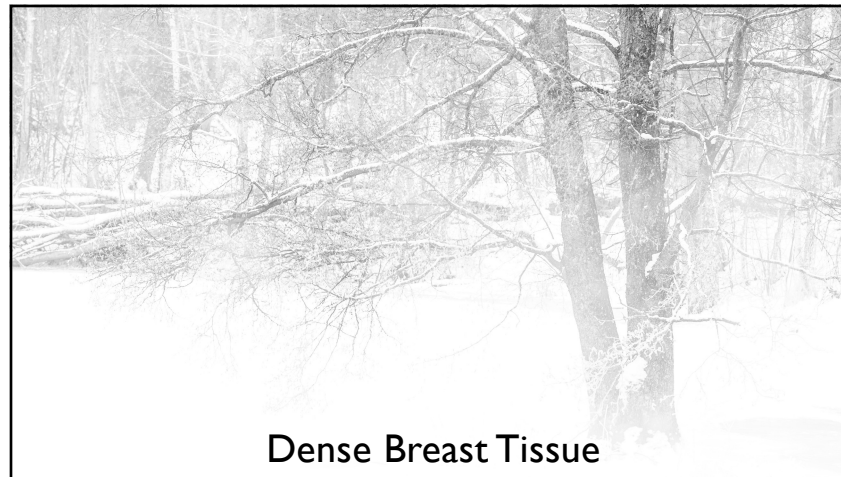


Increased age and having children



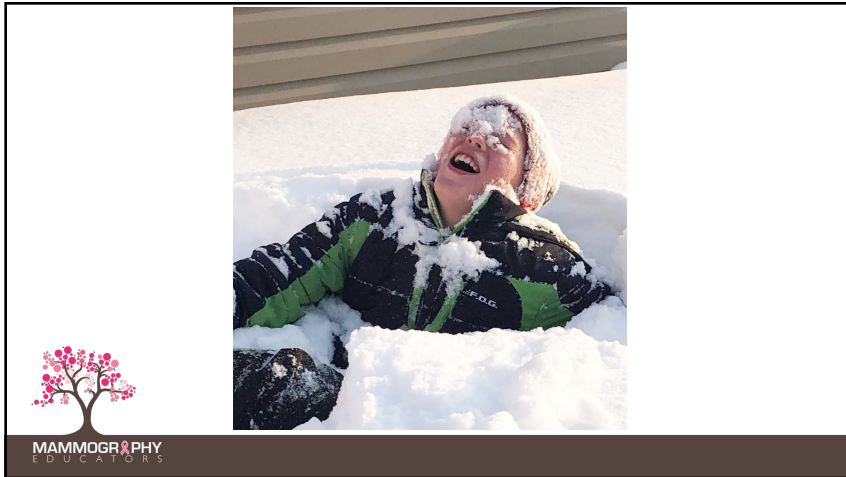
MAMMOGRAPHY
EDUCATORS

23



Dense Breast Tissue

24



25

Social Groups and Breast Cancer Incidence

Lesbian and bisexual women have a higher risk of breast cancer due to the prevalence of other risk factors:

- Fewer childbirths
- Higher alcohol use
- Excess body weight



26

Social Groups and Breast Cancer Incidence

- Transgender women have an increased risk during hormone treatment compared to cisgender men
- Transgender men have a higher risk of breast cancer compared to cisgender men



27

Social Groups and Breast Cancer Incidence

- 10% higher breast cancer risk among bisexual women and 6% higher risk among lesbian women compared to heterosexual cisgender women
- Data mixed, but transgender women appear to be at an increased risk during hormone treatment compared to cisgender men



28

Breast Cancer in 2024

Noninvasive breast cancer:

- DCIS – 56,500 new cases
- LCIS – Women have 7-12 times higher risk of developing invasive cancer in either breast



MAMMOGRAPHY
EDUCATORS

29

Breast Cancer in 2024

- Invasive Breast Cancer
- Invasive Ductal Carcinoma (IDC)
 - 310,720 new cases IDC expected in 2024 in the US
 - IDC Most common type of breast cancer
 - 8 out of 10 breast cancers are IDC
- Invasive Lobular Carcinoma (ILC)
 - 2nd most diagnosed cancer, after IDC, representing 10-15% of invasive breast cancer

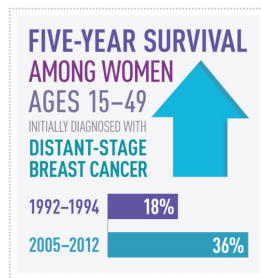


MAMMOGRAPHY
EDUCATORS

30

Breast Cancer in 2024

- Triple Negative Breast Cancer (TNBC)
- Metastatic Breast Cancer



Source: Maritza & et al. Cancer Epidemiology Biomarkers Prev. 2015 June 9; 24(6).

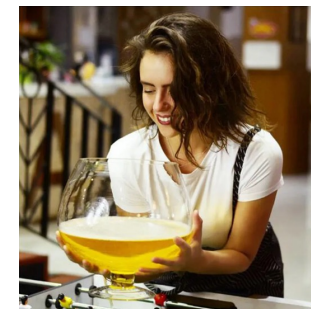


MAMMOGRAPHY
EDUCATORS

31

Breast Cancer Risk Factors We CAN Control

- Maintain a healthy weight
- Exercise
- Limit alcohol
- Plant-forward diet
- Have first child before age 30
- Breastfeed
- Minimize Toxicity



MAMMOGRAPHY
EDUCATORS

32

Breast Cancer Risk Factors We CAN'T Control

- Being female
- Getting older
- Family history
- Genetic mutations
- Dense breast tissue
- Personal history of breast cancer
- Chest wall radiation for childhood cancers



MAMMOGRAPHY
EDUCATORS

33

What is "High Risk"?

Lifetime risk of breast cancer of 20% - 25% or greater



MAMMOGRAPHY
EDUCATORS

34

Assessing Breast Cancer Risk

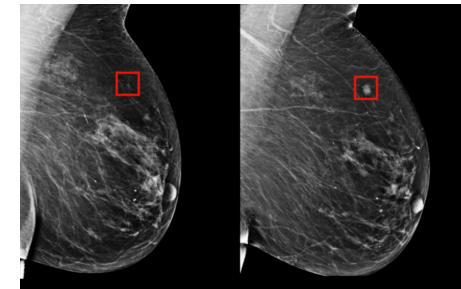


MAMMOGRAPHY
EDUCATORS

35

Assessing Breast Cancer Risk

- EMR
- Risk Assessment
- AI



MAMMOGRAPHY
EDUCATORS

36



37

Current Screening Guidelines

| Group | Start/Frequency | End |
|-----------|---|------------------------------------|
| ACR & SBI | Risk Assessment by 25 / screening annually at age 40 | No end, as long as in good health |
| NCCN | Risk Assessment by 25 / screening annually at age 40 | No end, as long as in good health |
| ACOG | Start age 40 / screening 1-2 years | Until at least age 75 |
| ACS | Start btwn 40-44, annual option, 45-54 annually, 55+ screen 1-2 years | Healthy w/ life expectancy 10+ yrs |
| USPSTF | 40 / screen every 2 years | 74 |

38

Current Screening Guidelines

Annual screen mammograms at age 40:

- Canadian Association of Radiologists (CAR)
- American College of Radiology (ACR)
- Society of Breast Imaging (SBI)

39

Current Screening Guidelines

- May 2023: United States Preventive Services Task Force (USPSTF) updated recommendations to screening mammography at age 40, rather than 50
 - USPSTF has not amended current recommendation for screening frequency (yet)
 - Current recommendation is screening every 2 years

40

Current Screening Guidelines

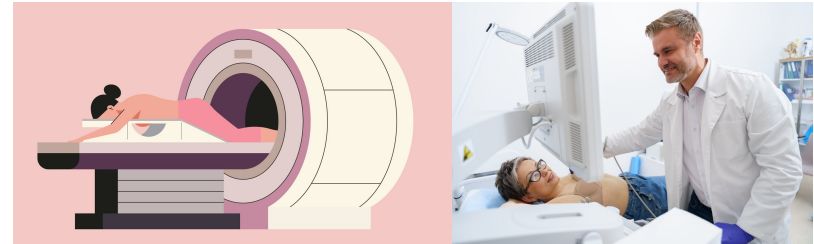
- Based on risk factors such as personal history, breast density and others
- Your patient may benefit from starting screening mammography, US, MRI, etc. earlier than age 40!



MAMMOGRAPHY
EDUCATORS

41

Current Screening Guidelines



MAMMOGRAPHY
EDUCATORS

42

ACR Recommendations on Risk Assessment

Updated May 3, 2023:

“All women especially Black and Ashkenazi Jewish women who are considered high risk, should have a breast cancer risk assessment by the of age 25 to determine if they need to start regular screening earlier than age 40.”



MAMMOGRAPHY
EDUCATORS

43

3 Commonly Used Risk Assessment Models

- Gail
- Tyrer-Cuzick
- Breast Cancer Surveillance Consortium (BCSC)



MAMMOGRAPHY
EDUCATORS

44

Gail Model

- Uses personal medical and reproductive history
- History of first-degree relatives
- Able to estimate the risk of developing invasive breast cancer over the next 5 years and up to age 90



45

Tyrer-Cuzick

- Uses personal and family history to determine risk
- Results display 10-year risk and lifetime risk scores
- Risk scores:
 - Average (less than 15%)
 - Intermediate (15-19%)
 - High (over 20%)



46

Breast Cancer Surveillance Consortium (BCSC)

- Offers a 5-year risk calculation
- Not effective in measuring risk of women under 35 or with a previous dx of breast cancer



47

Risk Models

| Model | Gail | Claus/Ford* | Tyrer-Cuzick/manual |
|-----------------------|---------------------------|---------------------------|-----------------------------|
| Age | Age | Age | Age |
| Reproductive | Reproductive | Reproductive | Reproductive |
| Age menarche | Age menarche | None | Age menarche |
| Age first live birth | Age first live birth | | Age menopause |
| | | | Age first live birth |
| Personal history | Personal history | Personal history | Personal history |
| biopsy | biopsy | None | Biopsy |
| ADH* | ADH* | | Atypical hyperplasia |
| | | | LCIS |
| Family history | Family history | Family history | Family history |
| First degree relative | First degree relative | First degree relative | First degree relative |
| | Second degree relative | Second degree relative | Second degree relative |
| | Age of onset | Age of onset | Age of onset |
| | Ovarian cancer (Ford) | Ovarian cancer | Ovarian cancer |
| | Male breast cancer (Ford) | Male breast cancer (Ford) | Male breast cancer (Manual) |
| Lifestyle | Lifestyle | Lifestyle | Lifestyle |
| None | None | None | BMI* (Tyrer-Cuzick) |

Thompson, Patricia & Stopeck, A. & Alberts, David & Hess, Lisa. (2009). Breast Cancer Prevention. 10.1007/978-3-540-68986-7_14.




48

49

Risk Reporting in Electronic Medical Record (EMR)


- Not a 100% accurate method of determining risk
- Ensures accuracy in risk-related history questions
- Ensures accuracy in documentation
- Inaccuracies may contribute to erroneous risk rates



50

Limited Research and Underrepresentation


- Younger women remain underrepresented in many research studies
- Breast cancer occurs at a much lower rate among young adults than in our older counterparts



51

How Can You Help?

- Get and Stay Educated!
 - Recommendations and guidelines change
 - Ensure your facility is ahead in reporting requirements
- Talk to your family, friends, patients and colleagues about breast cancer risk factors, signs and symptoms



52

How Can You Help?

- Bust the myths!
- Know your facility's resources
- Support organizations



53

Myth vs. Fact

If you don't tell your patient, they may never hear the facts... before it's too late:

- Discuss screening guidelines
- Talk about risk assessment
- Talk about what it means to have dense breasts
- Talk about the importance of self Breast Exams (SBE)
- No family history does not mean your patient isn't at risk



54

Educational Materials

- Educate yourself on what materials your facility offers or needs
- Create educational content in multiple patient languages
- Education on breast density



55

Support Organizations for Young Adults

- Supportorgs.cancer.gov
- StupidCancer.org
- Young Survival Coalition
- Cactus Cancer Society
- Living Beyond Breast Cancer
- Social Media Groups
- Annual Conferences, retreats and YA recreational activities



56

So How Young is “Too Young”?



MAMMOGRAPHY
EDUCATORS

57



MAMMOGRAPHY
EDUCATORS

58



59

References

https://www.sciencedirect.com/journal/09596526/issue/S0959652620033111vm_sourceFor_The_Media&utm_medium=referral&utm_campaign=chm_links&utm_term=.001631

Murthy, V. H. (2020). Together: The Healing Power Of Human Connection in a Sometimes Lonely World. New York, NY: Harper Wave, an imprint of HarperCollins.

Dasil, A. (2020, April 07). 62-year-old hospital worker survives COVID-19 alone in her house.

(n.d.). Retrieved May 27, 2020, from <https://www.mpr.com/story/news/coronavirus>

Internewscast. (2020, March 31). US coronavirus: Workers use forklift to stack bodies in refrigerated truck outside Brooklyn hospital.

A Snapshot of Adolescent and Young Adult Cancers

Archie Bleyer et al., "The distinctive biology of cancer in adolescents and young adults." *Nature Reviews Cancer* 8, no. 4 (2008): 288-298.

Ann H. Partridge et al., "Breast Cancer in Younger Women." *Diseases of the Breast* (4th ed.), in J. Harris (Ed.) (2010): 1073-1083.

Carey K. Anders et al., "Breast Carcinomas Arising at a Young Age: Unique Biology or a Surrogate for Aggressive Intrinsic Subtypes?," *Journal of Clinical Oncology* 29, no. 1 (2011): e18-e20. Available [here](#).

Carey K. Anders et al., "Young Age at Diagnosis Correlates With Worse Prognosis and Defines a Subset of Breast Cancers With Shared Patterns of Gene Expression." *Journal of Clinical Oncology* 26, no. 10 (2008): 3324-3330.

Ruddy, K. et al., "Presentation of breast cancer in young women," *Journal of Clinical Oncology* 27:155 (2009)

(Breast Cancer during Pregnancy," *American Cancer Society*, accessed June 10, 2016.)

Eryn B. Callhan, et al., "Postpartum diagnosis demonstrates a high risk for metastasis and merits an expanded definition of pregnancy-associated breast cancer." *Breast Cancer Res. Treat.* 138 (2013). <https://www.komen.org/breast-cancer/risk-factor/race-ethnicity/>



MAMMOGRAPHY
EDUCATORS

60




61

For questions or more information:

www.mammographyeducators.com
619-663-8269
info@mammographyeducators.com

Services we offer include:

- Onsite Positioning Training
- Assistance with Accreditation & Inspection Processes
- Live Webinars
- Customized Continuing Education Programs



MAMMOGRAPHY EDUCATORS

62