Keeping Abreast of Breast Imaging Guidelines

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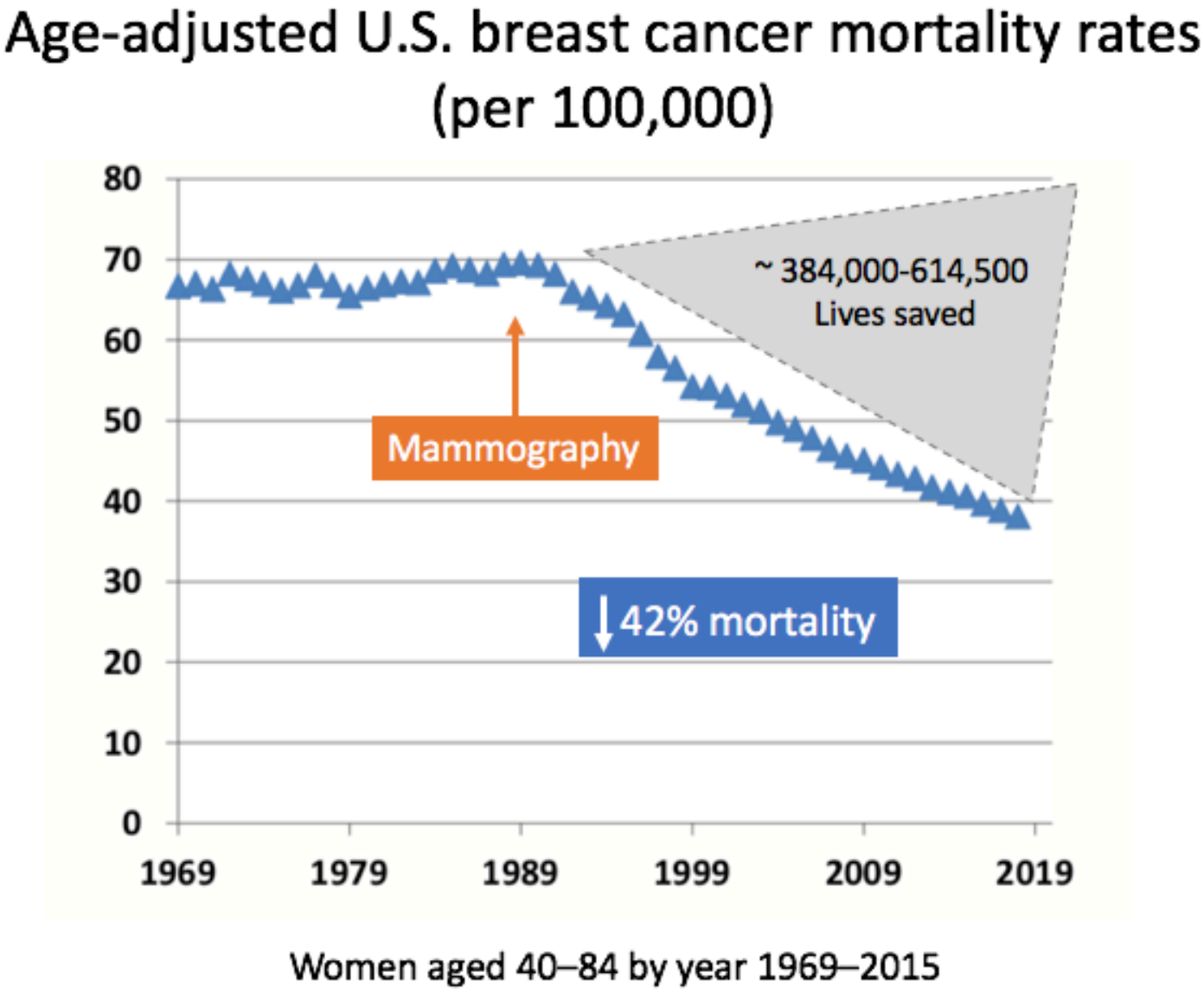
Breast Cancer by the Numbers

- In 2020, over 325,000 women will be diagnosed with breast cancer.
- An estimated 42,170 will die from breast cancer this year.
- 75% of women who get breast cancer are of “average risk” – with no family history of the disease or other high risk factors.

Early Detection Saves Lives

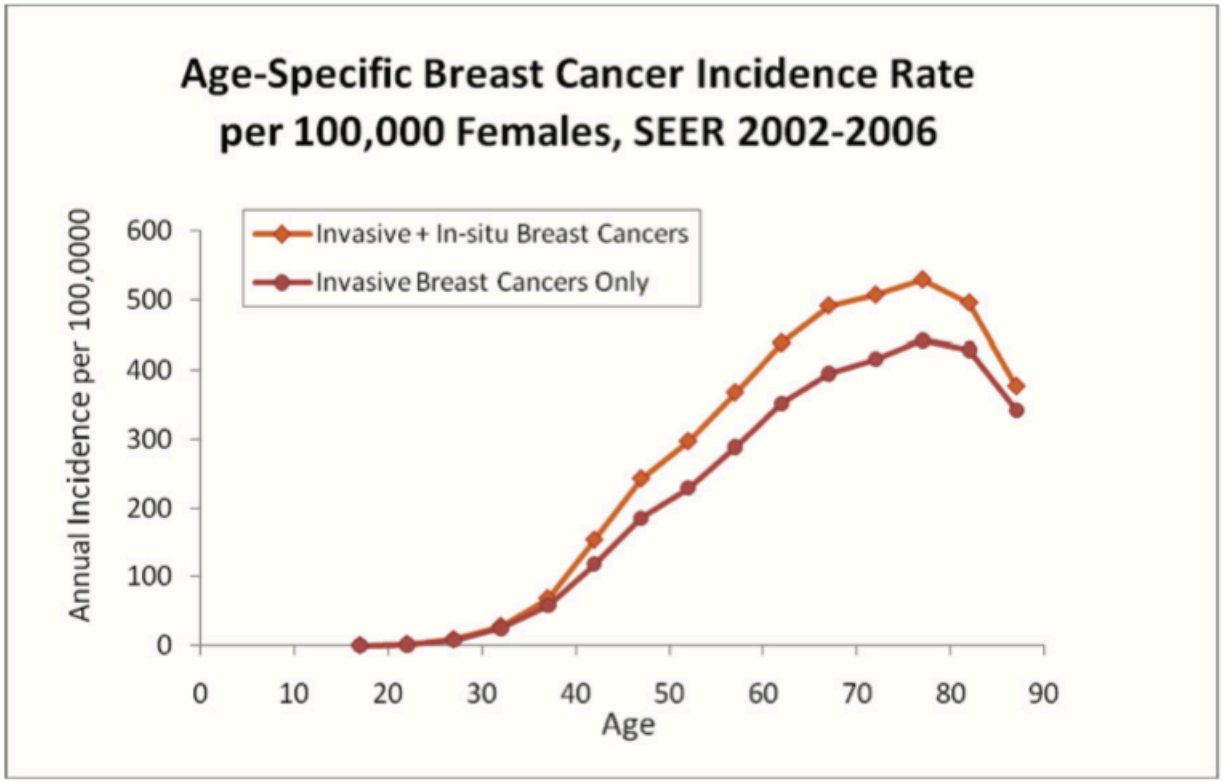


Early Detection Saves Lives

- Starting yearly mammograms at age 40 has helped cut breast cancer deaths by more than 40%.
- Mammograms can find tumors too small to be felt.
- Small cancers are easier and less costly to treat, and have a better chance for cure.

Screening Guidelines

- The American College of Radiology and the Society of Breast Imaging recommend that women of average risk for breast cancer have yearly mammograms starting at age 40.
- 1 in 6 breast cancers are found in women ages 40-49.



When to Stop Screening

There is a potential benefit to screening mammography as long as a woman:

- Is in good health
- Expects to live at least 5 to 10 years
- Would seek treatment if a cancer is found

Alternative Screening Guidelines

- American Cancer Society guidelines recommend that women start regular mammograms no later than age 45 and that those who want to start at age 40 should have insured-access to mammograms.
- U.S. Preventive Services Task Force recommendations do not call for routine mammograms for women ages 40-49 and recommend screening every other year for ages 50-74.
  - Published analysis shows that these guidelines would miss approximately a third of cancers and result in 6,500-10,000 additional breast cancer deaths each year.
  - The federal government has barred Medicare and private insurance companies from basing mammography coverage on these USPSTF recommendations.

Screening Starts at 40

- The most lives are saved from breast cancer when women get screened every year, starting at age 40.

- By not getting annual mammograms starting at age 40, you increase your chances of dying from breast cancer and the likelihood that you will experience more extensive treatment for any cancers found.

Risk Assessment

- All women should have a risk assessment by age 30 to see if they are at increased risk - particularly black and Jewish women.

- Tyrer-Cuzick model (IBIS tool) – most consistently accurate risk assessment model.

Tyrer-Cuzick Risk Assessment

Estimates the likelihood of a woman developing breast cancer in 10 years and over the course of her lifetime based on the following risk factors:

- Age
- Body mass index
- Age at menarche
- Obstetric history
- Age at menopause
- History of benign breast conditions that increase breast cancer risk (ADH, ALH, LCIS)
- History of ovarian cancer
- Use of hormone replacement therapy
- Family history (breast and ovarian cancer, Ashkenazi inheritance, genetic testing)

High Risk Screening Guidelines

- Who is considered “high risk”?
  - Calculated lifetime risk of 20% or more
  - Known genetic mutation - BRCA 1 or BRCA 2
  - First degree relative with BRCA 1 or BRCA 2
  - Hereditary cancer syndromes
    - Lynch, Li-Fraumeni, Cowden, Peutz-Jeghers
  - History of chest radiation therapy before age 30
- High-risk patients should begin annual screening mammography by age 30 but not before the age of 25.
  - 10 years earlier than the age of diagnosis of a first-degree relative
- Supplemental screening with contrast-enhanced breast MRI

Breast MRI Screening

- Who else should get screening breast MRI?
  - Personal history of breast cancer and dense breasts
  - Breast cancer diagnosed before age 50
  - History of atypia (ADH, ALH, LCIS) at biopsy

- Ultrasound should be considered if women cannot undergo MRI.

Services Performed at BCH

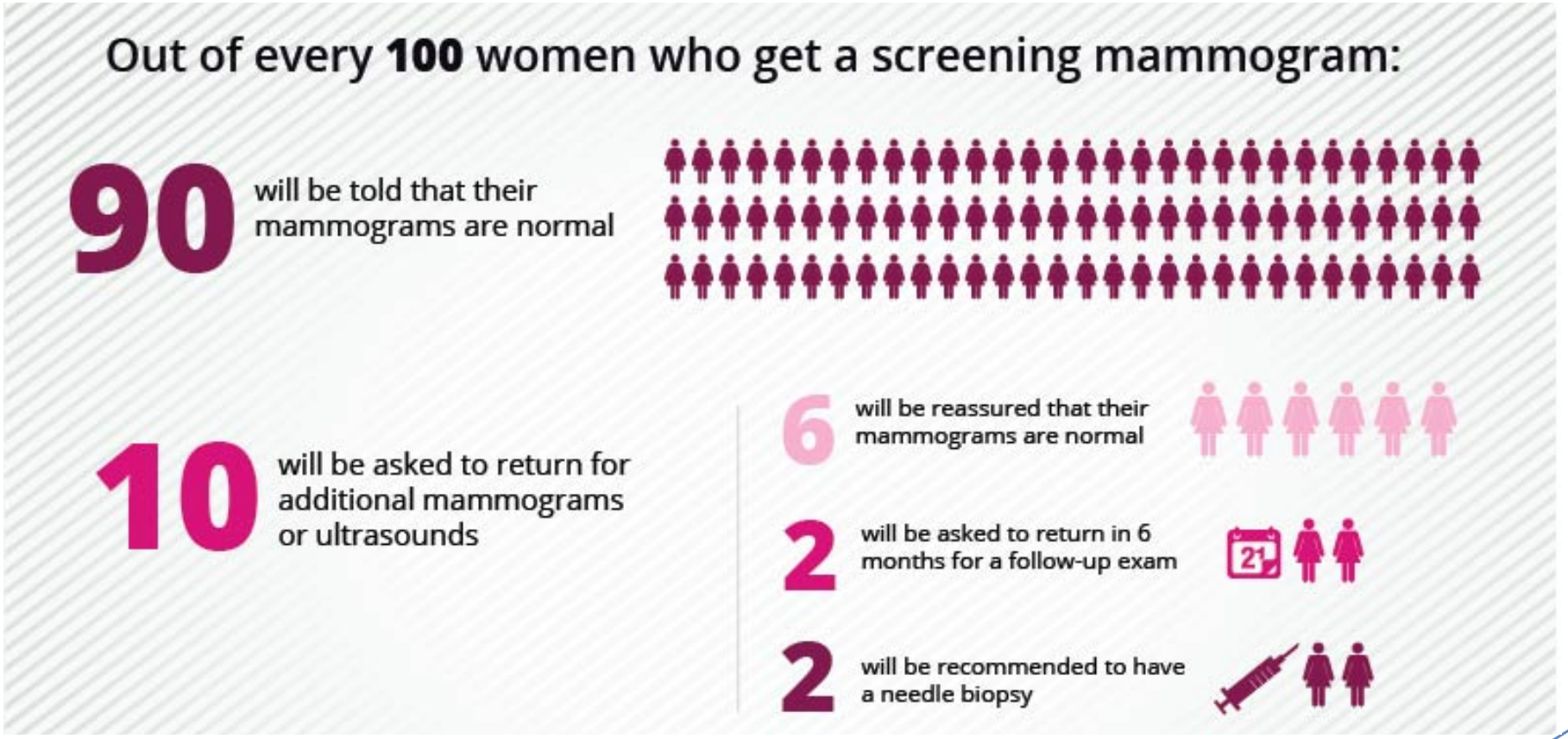
- Digital screening and diagnostic mammography
- Tomosynthesis or “3D” mammography
- Screening whole-breast ultrasound
- Diagnostic breast ultrasound
- Screening and diagnostic breast MRI
- Mammography, ultrasound and MRI-guided breast biopsies

Screening versus Diagnostic

Modalities: Mammography, Ultrasound, MRI

- Screening:
  - Performed in asymptomatic patients to look for hidden breast cancers that are too small to feel
  - Reviewed by a radiologist after the exam
- Diagnostic:
  - Performed in women experiencing symptoms
  - Follow-up to an abnormal screening exam
  - Reviewed by a radiologist at the time of exam with additional imaging done immediately, if needed

Screening Mammograms



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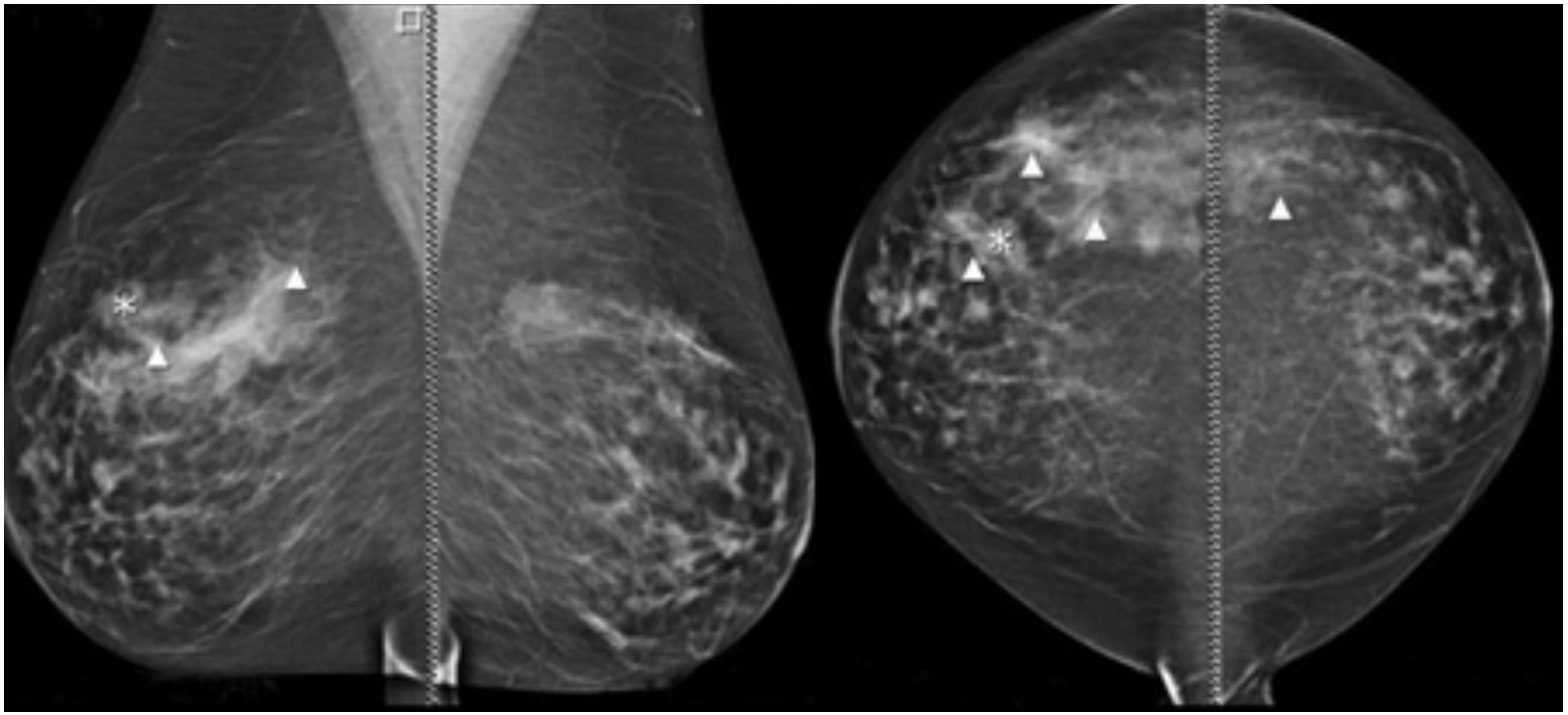
Screening Digital Mammography

- Low-dose x-rays converted to digital images
- 2 standard views of each breast
  - Mediolateral oblique (MLO), craniocaudal (CC)

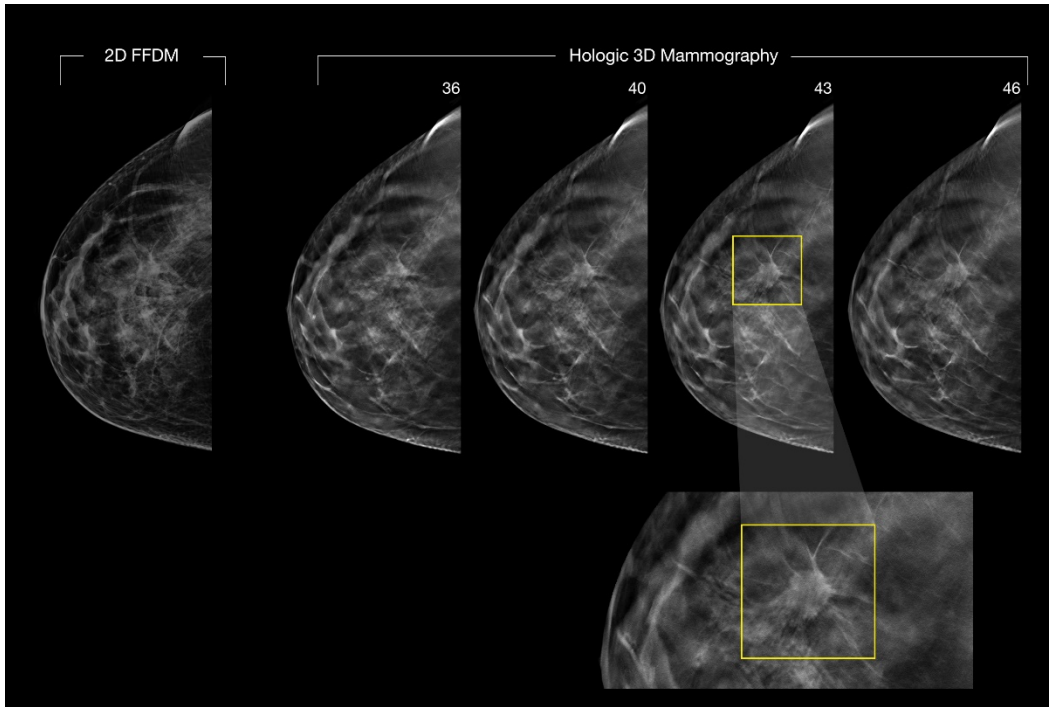
Computer-aided detection (CAD)

- Computer software searches for abnormal area of density, mass or calcifications that may indicate presence of cancer.
- Highlights areas on images, alerting the radiologist to carefully assess these areas.



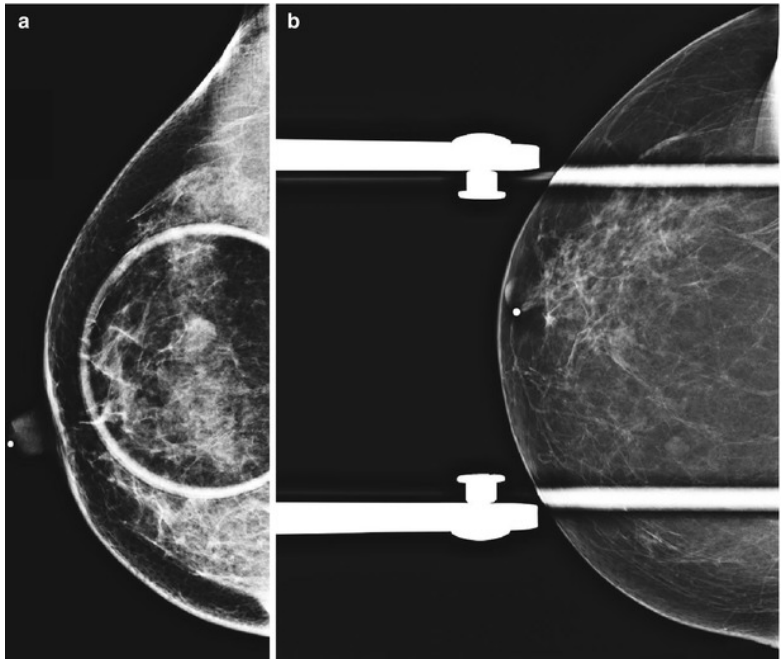
Digital Tomosynthesis

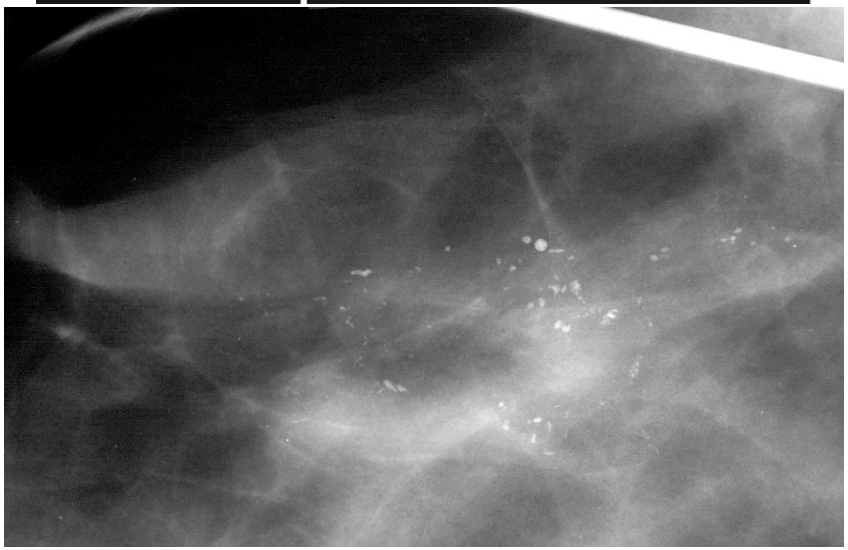
- X-ray tube sweeps in an arc over the breast taking multiple low dose x-ray images
- Reconstructs multiple 2D images into 1 mm slices to create a “3D” image
- Improves breast cancer detection rates
- Decreases need for call backs and biopsies



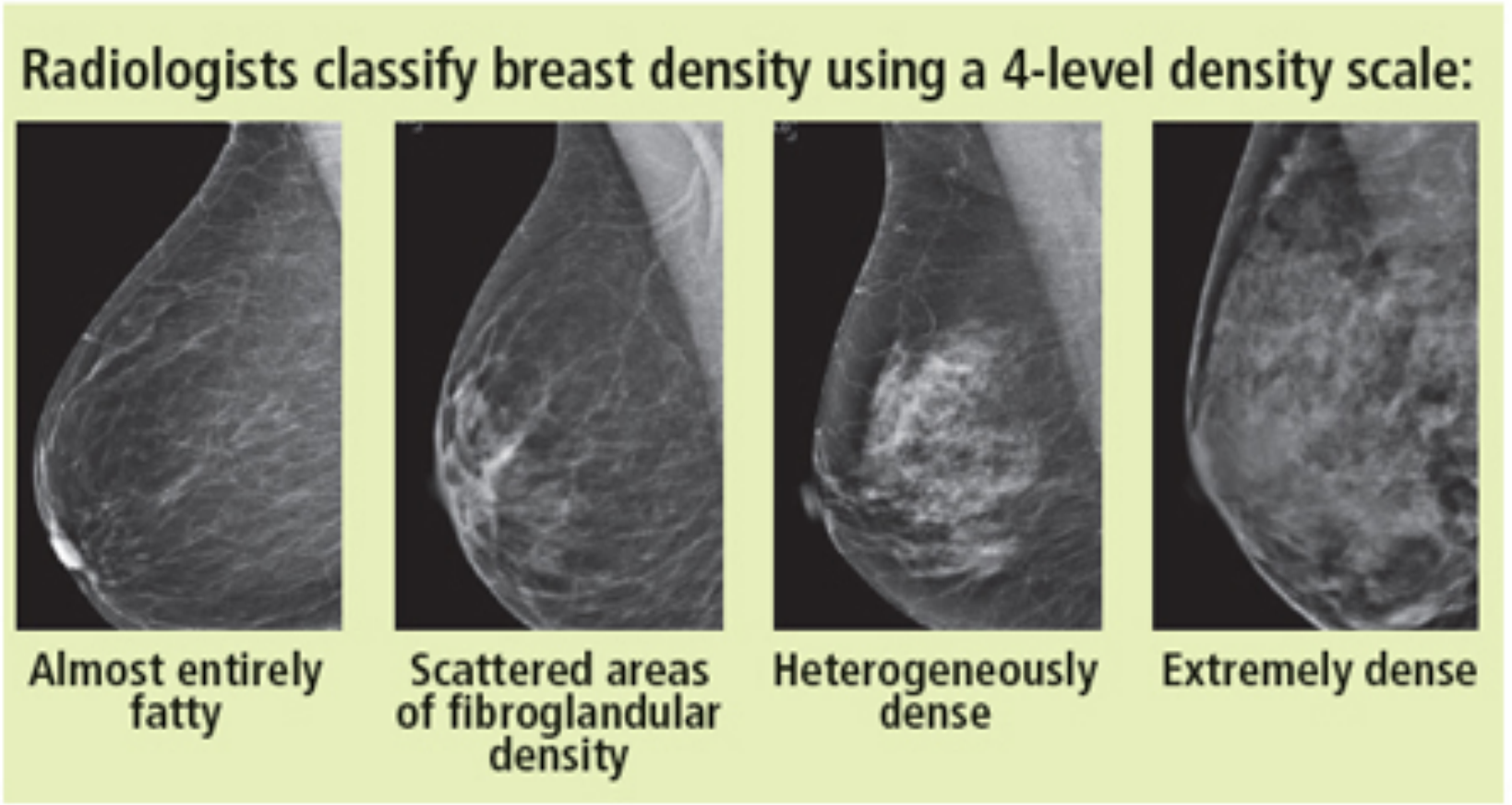
Diagnostic Mammography

- Additional views requested by radiologist
  - Spot compression
  - Magnification
  - Exaggerated
  - Rolled
  - Cleavage
- 2D and 3D





Breast Density



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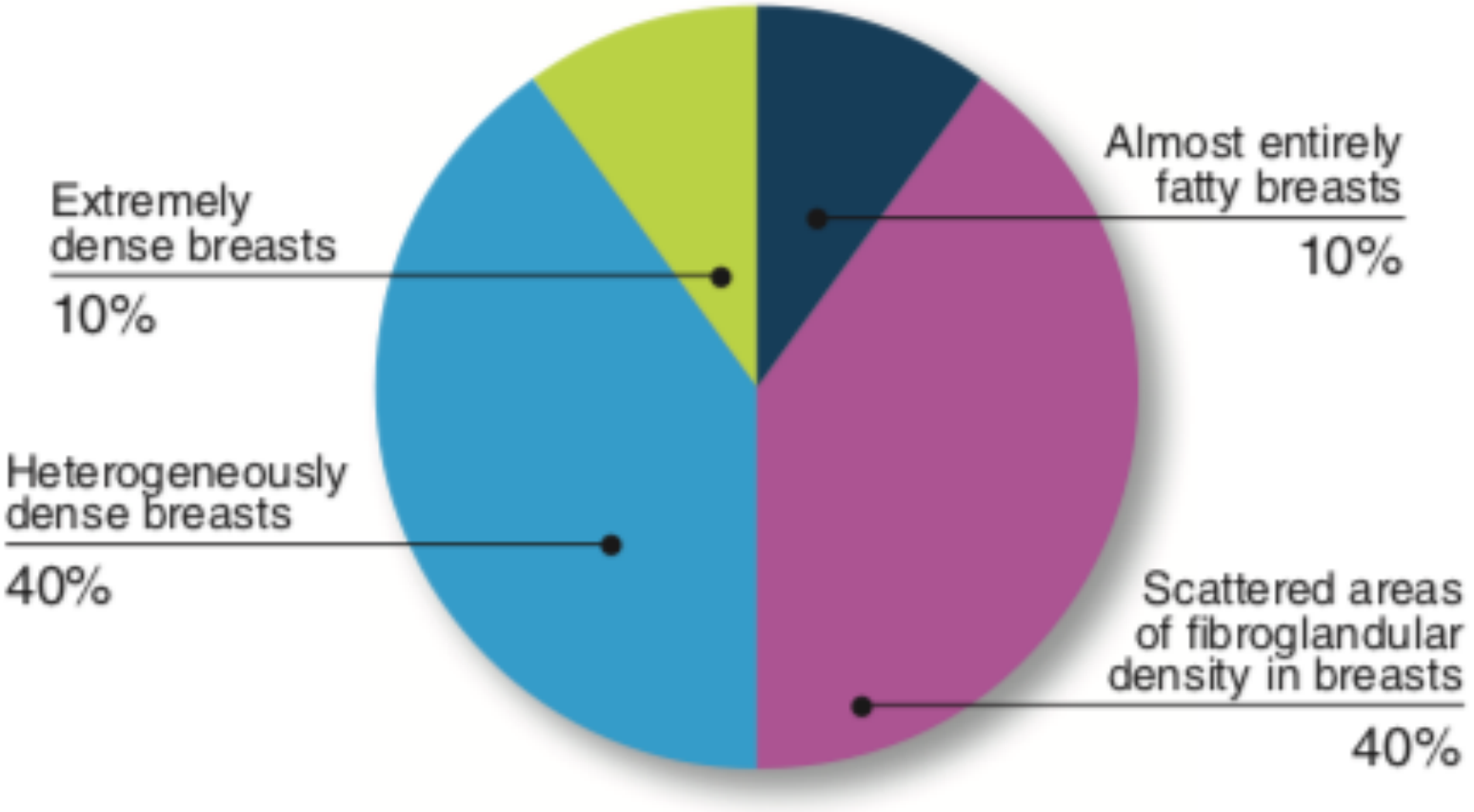
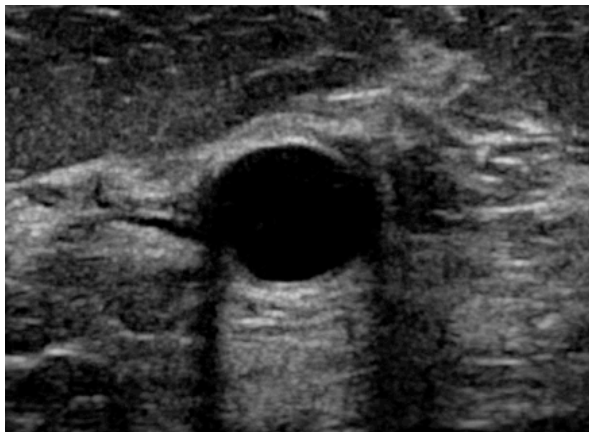
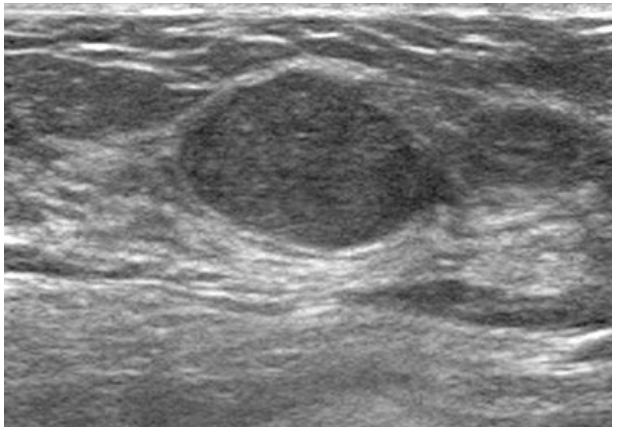
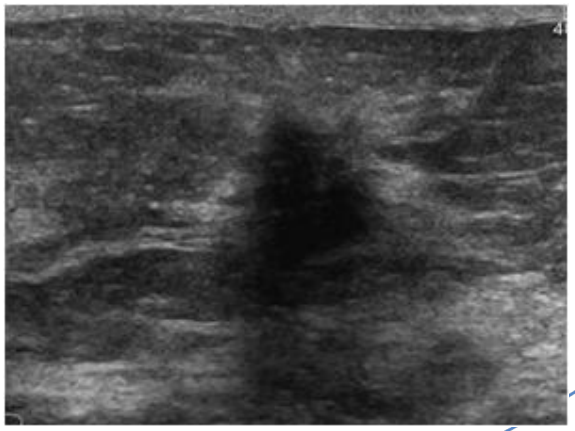


Diagnostic Ultrasound

- Uses sound waves to produce images
- Determine the nature of a breast abnormality - solid versus cystic
- Doppler ultrasound used to assess blood supply to breast lesions





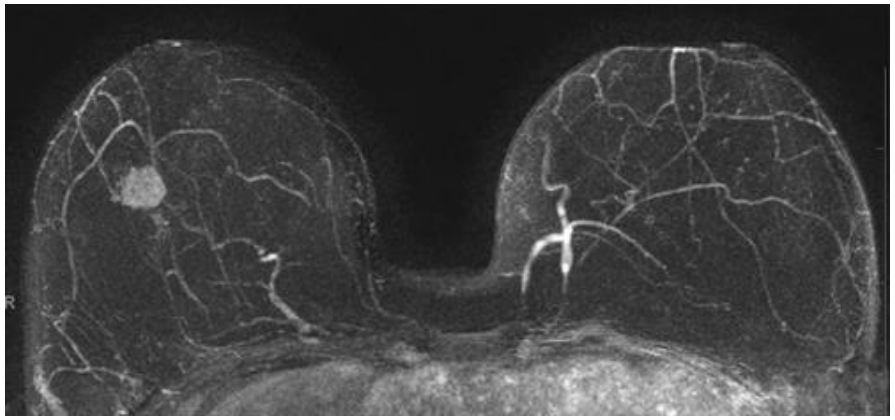


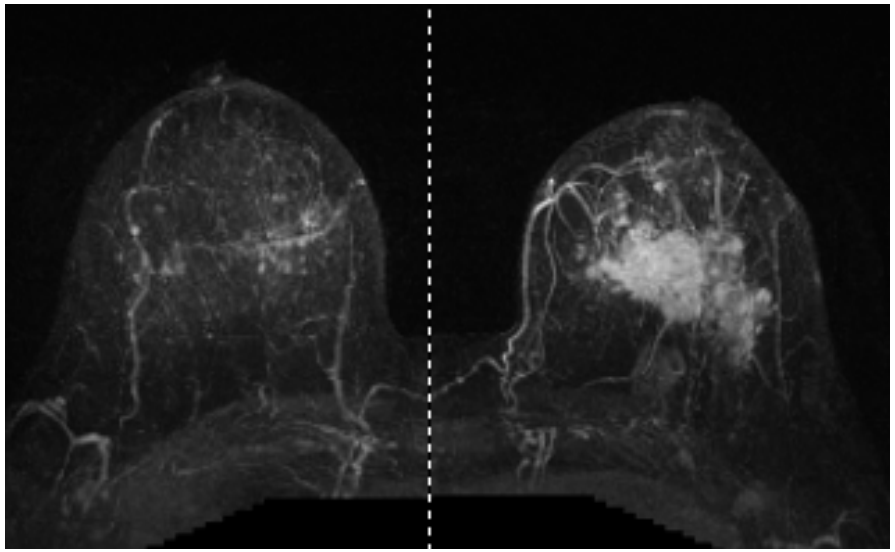
Screening Whole Breast Ultrasound

- Hand-held versus automated breast ultrasound
  - BCH offers technologist-performed handheld screening
- Ideally done at same appointment as screening mammogram
- May find more cancers than mammography alone in women with dense breasts
- No compression, no radiation
- Supplement to annual mammography, not a replacement!

Contrast-enhanced Breast MRI

- Uses magnetic fields to produce very detailed, cross-sectional images
  - Screening for high risk women
  - Staging breast cancer
  - Problem-solving
    - Nipple discharge
    - Metastatic cancer
- Drawbacks
  - Gadolinium IV contrast
  - More false positives
  - Expensive and not always covered by insurance





Screening During COVID-19

- Keeping up with medical care will help ensure your health in the future – don't delay cancer screenings!
- Share concerns about scheduling exam with your doctor to discuss your individual risk and decide together when it is safe to return to care.
- BCH Safety Protocols:
  - Patients screened for symptoms at entry
  - Universal masking of healthcare workers, patients and visitors
  - Physical distancing in entry, waiting room, work areas
  - Minimized time in waiting rooms
  - Rooms and equipment decontaminated between patients

Summary

- Screening mammography is a proven life saver!
  - 40% reduction in breast cancer death with regular screening
  - Most lives saved with ANNUAL SCREENING at AGE 40
  - Don’t delay due to COVID-19
- Know your risk
  - High risk patients benefit from earlier screening and supplemental screening
- Become familiar with the different imaging modalities and services offered at BCH.

Resources

- MammographySavesLives.org
- EndTheConfusion.org
- RadiologyInfo.org

MammographySavesLives®

... one of them may be yours

Thank You!

Questions?

Boulder Community Health

Spotting All the Signs of Breast Cancer

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