

The Role of BSE in Cancer Detection

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The Role of BSE in Cancer Detection

- Mammography is the most accepted technique for screening and diagnosis of breast cancer.
- However, in some countries, there are limitations with the implementation of this technology.



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The Role of BSE in Cancer Detection

- BSE and CBE can be an important factor in providing detection, education and breast health awareness.



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The Role of BSE in Cancer Detection

- Teach basic BSE technique to medical professionals for facilitating their integration of BSE education while caring for their patient.



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The Role of BSE in Cancer Detection

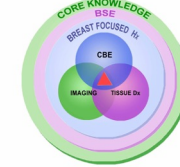
- **Statistics**
- Risk factors
- Technique
 - BSE
 - CBE
- Controversy



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Statistics



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Statistics

- Breast Cancer is the 2nd cause of cancer death among women
- 1 out of 8 women lifetime risk of diagnosed with breast cancer
- Racial disparities are particularly burdensome for black women



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Statistics

- Breast Cancer Incidence
 - Most commonly diagnosed invasive, non-skin cancer in Women
 - Most self-discovered cancer
 - Most controversial cancer



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National Consortium of Breast Cancer, Inc. ©

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Statistics

Breast Cancer is the SECOND
Leading Cause of Cancer Related
Deaths in Women in the
United States in 2023



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Statistics

- 297,790 new cases of invasive breast cancer
- 55,720 new cases of DCIS
- 43,700 with die from breast cancer
- Breast cancer incidence has increased ~0.5% in the last several years



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Statistics

Male Breast Cancer:

- 2800 invasive breast cancers
- 530 men will die from breast cancer
- Lifetime risk of developing breast cancer is 1 in 833



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Statistics

Globally

- 2.3million new cases as of 2020
- 685,00 deaths
- Breast Cancer is the most common cancer worldwide and the continues to have a large impact on global cancer deaths. It has replaced lung cancer as the most commonly diagnosed.



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Global Data Base, NCI, NLM, NIH, GOV, IARC, Arctid

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The Role of BSE in Cancer Detection

- Statistics
- **Risk factors**
- Technique
 - BSE
 - CBE
- Controversy



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Risk Factors

- Female Gender
- Age (Median Age 62)



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Risk Factors

- Obesity
- Early menarche (before 12)
- Late menopause (after 55)
- Having radiation to your chest
- Tobacco use
- Harmful alcohol usage
- Inherited genes
- Race, ethnicity



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Risk Factors

- Other Significant Risk Factors:
 - Personal History of Breast Cancer
 - Family History of Breast Cancer: 5-10%
 - Dense Breasts



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Risk Factors

- Biopsy Confirmed
 - Proliferate Breast Disease
 - Atypical Hyperplasia
 - Ductal Carcinoma in Situ
 - Positive BRAC 1 or 2 Gene Mutation



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Risk Factors

Male Breast Cancer:

- Incidence increases with age
- Obesity
- Family Hx of male or female breast cancer
- BRCA2 gene mutations
- Klinefelter syndrome (chromosomal disorder)
- Testicular disorders

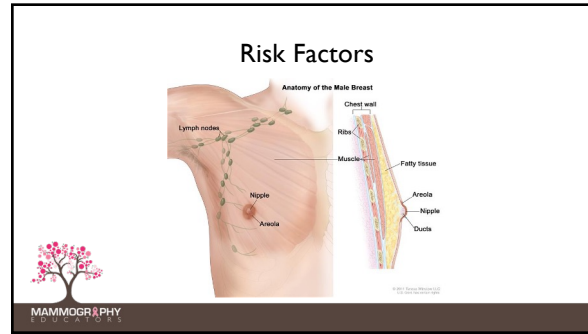


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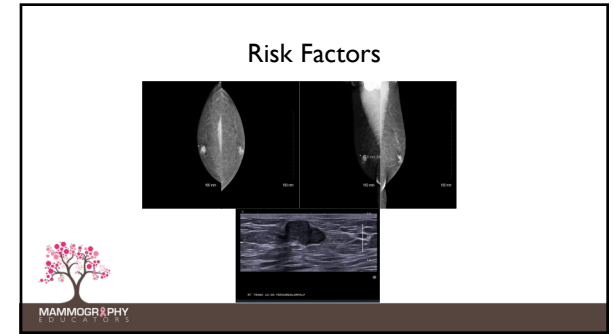
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The Role of BSE in Cancer Detection

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Technique

- Reinforces your health care provider-patient partnership
- Reinforces patient's role in her own health care
- Helps patient recognize changes in her breasts
- Encourages consultation with health care provider

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Technique

Why?

- Early detection is best protection
- Better outcomes and increased longevity

Why Not?

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Technique

It can be considered the "glue" in the process of early detection, performed monthly between the less frequent clinical breast exams and mammograms.

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Technique

- When to perform BSE
- Common Findings on BSE
- How to perform BSE
 - Visual inspection
 - Perimeter
 - Palpation

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Technique

Breast Exam Timing

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Technique

Most common breast changes found on BSE:

- Lump, thickening, swelling
- Dimpling, skin irritation
- Distortion, retraction
- Pain



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Technique

- Scaliness, tenderness of nipple
- Nipple discharge
- Color changes



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Technique

- Any change should be evaluated by healthcare provider
- 80% of breast changes are not malignant
- Must use all techniques, BSE, CBE, Imaging to determine if problem
- Final determination is tissue sampling



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Technique

- Inspection - Look!
- Palpate Breasts - Touch/Feel!



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Technique

Inspection:

- Look At Breasts In A Mirror
 - Breasts Look Alike
 - Breasts Move Alike
 - Nipples Look Alike
 - Nipples Point In Same Direction



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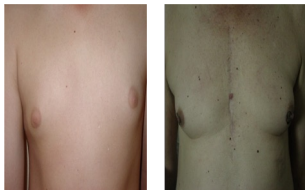
Technique



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Technique



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Technique

- Skin Changes
- Venous Changes
- Nipple Changes
- Breast Symmetry
- Nipple Symmetry



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Technique

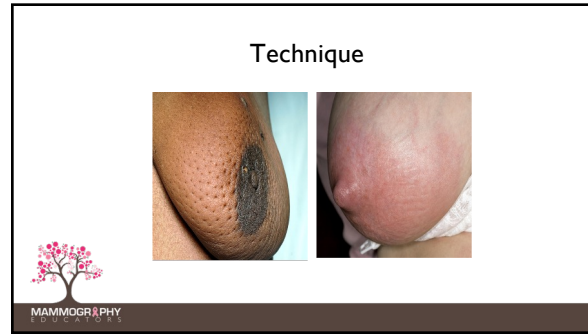


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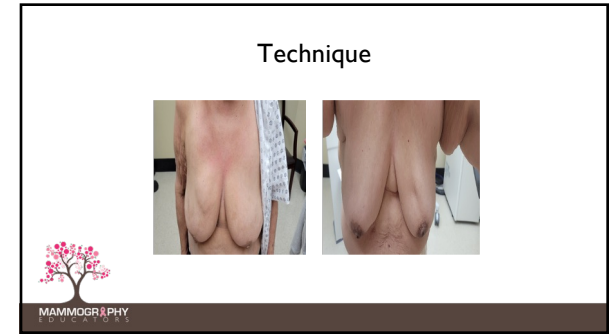
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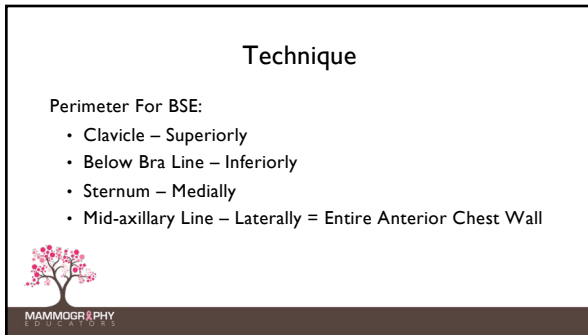
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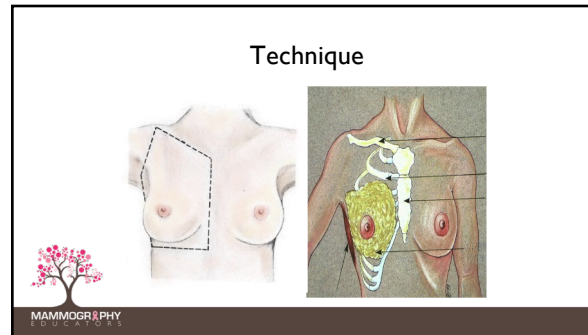
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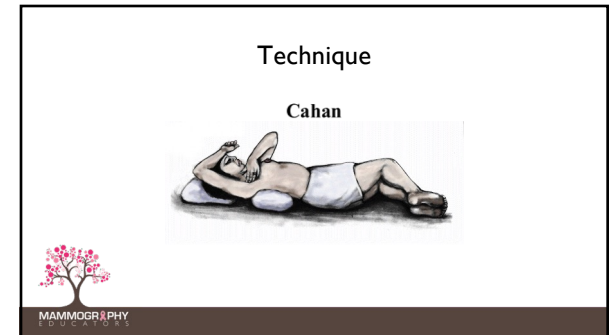
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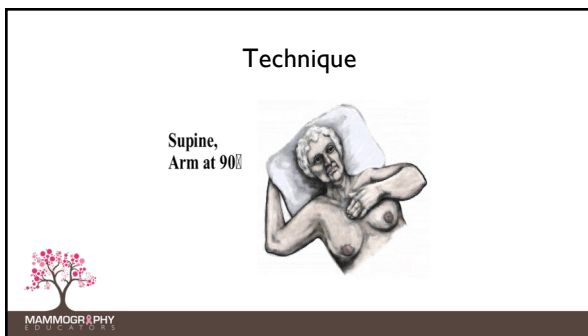
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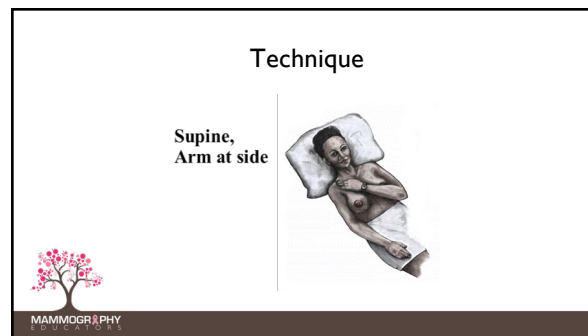
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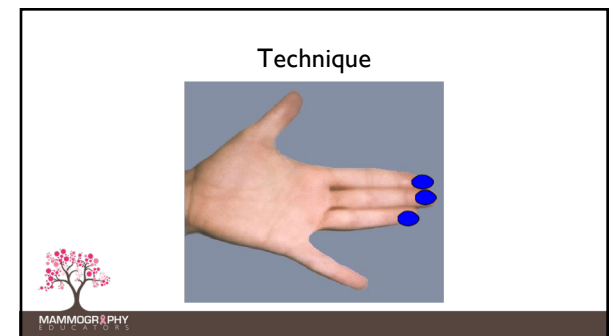
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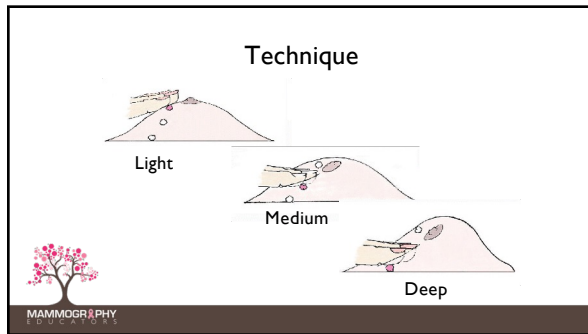
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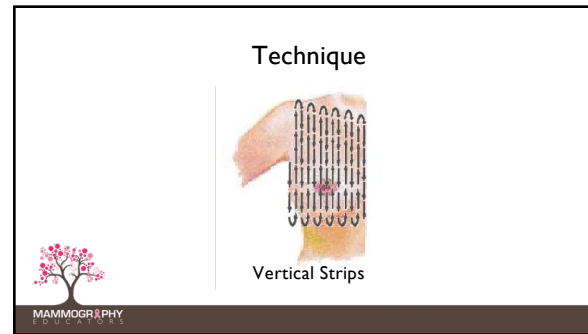
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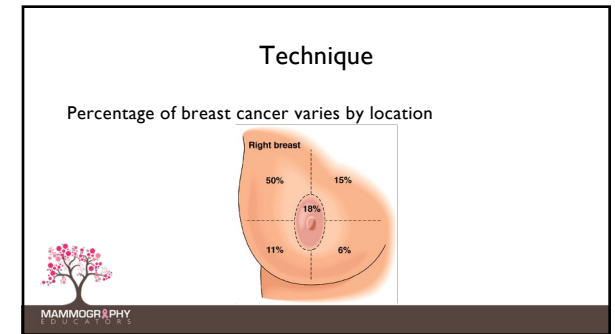
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The Role of BSE in Cancer Detection

- Statistics
- Risk factors
- Technique
 - BSE
 - **CBE**
- Controversy

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Technique

Purpose of clinical breast exam:

- Inspection
- Palpations
- Document objective clinical findings
- Document location of clinical findings
- Plan of action

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Technique

Communicate with your patient:

- Have them describe in own words, chief complaint
- How it was found
- When it was found
- When was last mammogram or breast imaging
- When was last clinical exam

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Technique

Clarify chief complaints:

- Left/Right
- Location(s)
- Unilateral/Bilateral
- Method of discovery

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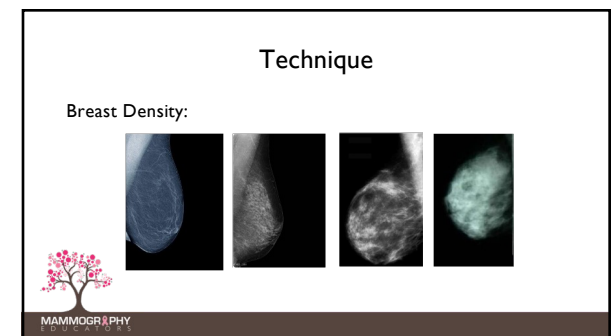
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Technique

- Present/Absent
- Duration
- Hormonal influence (cyclical/non)
- Trauma

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Technique

Patient History:

- Breast surgeries
- Pregnancies
- Menstrual cycle history



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Technique

- Hormones
- Personal or Family hx breast cancer, prostate cancer, skin cancer pancreatic cancer, colon cancer
- Ethnicity



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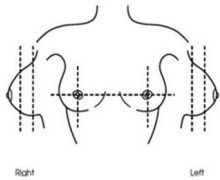
Technique

- The Technique is no different screening vs diagnostic CBE
- However, the documentation of findings is different



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Technique



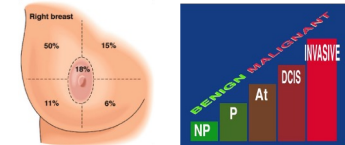
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Technique



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Technique



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Technique



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Technique

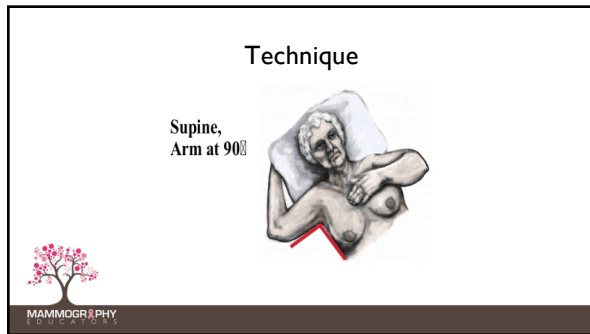


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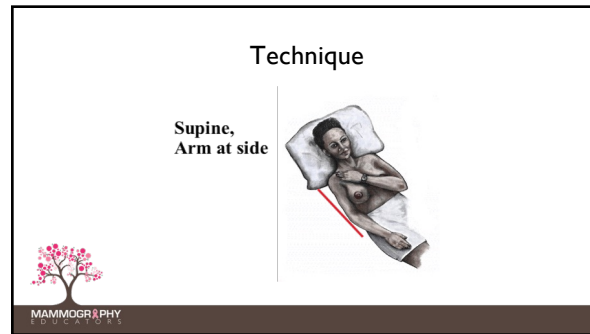
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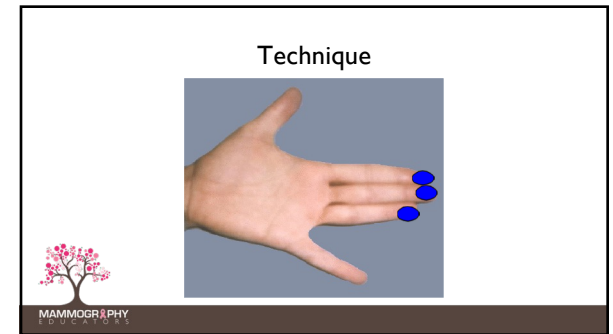
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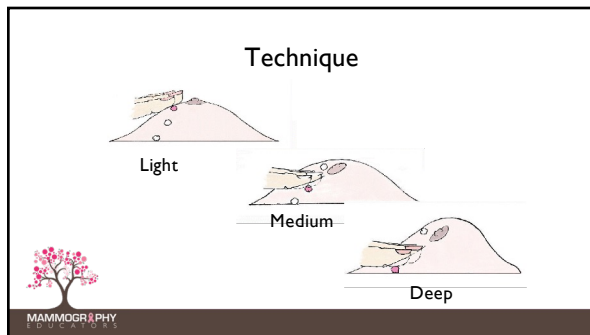
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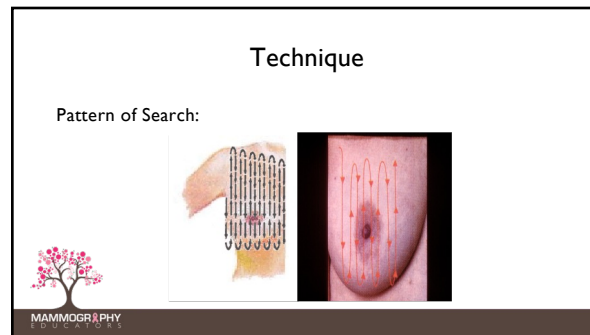
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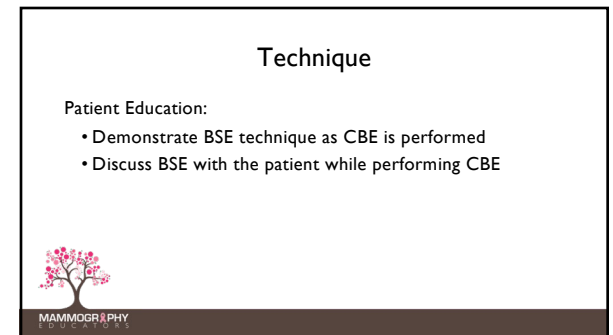
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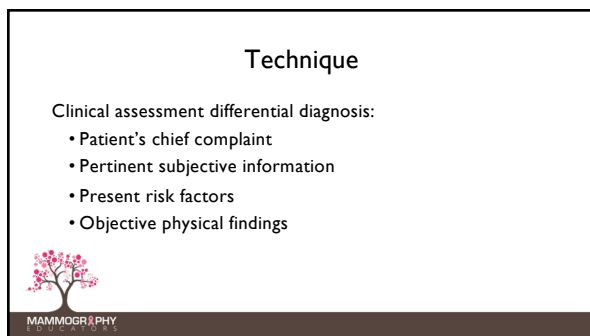
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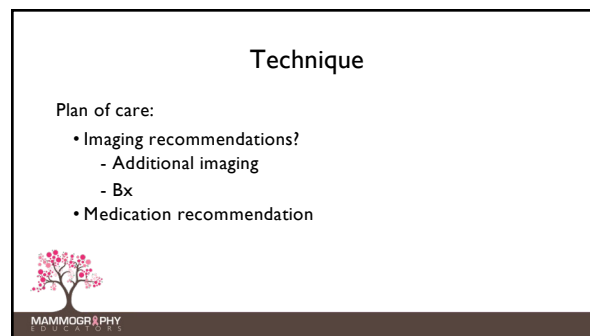
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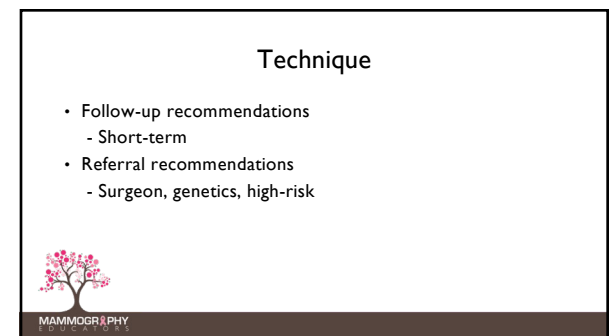
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Technique

Presentation to patient:

- Physical breast exam findings
- Risk assessment
- Clinical assessment
- Plan of care




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The Benefit

- Average size found by untrained BSE/CBE
- Average size found by occasional BSE/CBE
- Average size found by regular BSE/CBE
- Average size found on first mammogram
- Average size found by annual mammogram




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The Role of BSE in Cancer Detection

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- Controversy**




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Controversy

BSE vs BHA
?
CBE vs CBA




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Controversy

- Rebranding:
 - Breast Self Exam → Breast Health Awareness
 - Clinical Breast Exam → Clinical Breast Awareness




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Conflicting Recommendations on BSE/CBE

Women at Average Risk of Breast Cancer	American cancer Society	USPSTF	NCCN
Clinical breast exam	Does not recommend	Insufficient Evidence (Grade I)	Yes as part of annual clinical encounter
Self breast exam	Be familiar with how their breast feel and look normally and report any changes.	Discourage from teaching self breast exam (Grade D)	Breast awareness. Be familiar with breast and report changes immediately.
Qualifiers	Should be offered to high risk women		Maximize early detection (invasive lobular cancers and dense breast tissue)




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Conflicting Recommendations on BSE/CBE

Women at Increased Risk of Breast Cancer	American cancer Society	USPSTF	NCCN
Clinical breast exam	Should be offered along with high risk counseling	Recommendations are for average risk women	Yes as part of Clinical Encounter Medical history Risk assessment CBE
Self breast exam	Be familiar with how their breast feel and look normally and report any changes.	Discourage from teaching self breast exam (Grade D)	Breast awareness- Be familiar with breast and report changes immediately.
Qualifiers		Recommendations are for average risk women	Maximize early detection (invasive lobular cancers and dense breast tissue)




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Controversy

Screening for breast cancer –paradigm shift

- Shift from self breast exam → self breast awareness
- Shanghai study – 2002
 - 266,064 women randomized to SBE instruction vs Control
 - Similar cancer detected and mortality in both groups
 - More benign biopsies in instructional group
- Cochrane review – 2003
 - Women should not perform breast self exam
 - Does not decrease breast cancer specific or overall survival
 - Increased biopsies
 - No RCT




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Controversy

There was no direct evidence that BSE/CBE reduced breast cancer mortality.



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Controversy

BSE began from a theory by an American surgeon William Halsted in the early 1900's, breast cancer is more curable if found early.(1)



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Controversy

- 1950 ACS and NCI introduced a film Breast Self Examination, viewed by 13 million women (2)
- 1951 CCS started distributing the ACS BSE leaflets and generating its own material (3)



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Controversy

1970's BSE was endorsed during the women's health movement, in US, Canada and other countries incorporated as one of the healthy practices.



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Controversy

- US Preventative Service Task Force and Canadian Task Force on Periodic Health Examination found insufficient evidence to recommend the test (4)
- No benefit, led to harm, unnecessary medical visits and increased benign bx
- Does not save lives



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Controversy

BSE are often the only method for early detection of breast cancer in less developed countries who have limited access to medical personnel and imaging (5)



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Controversy

- The majority of cancers were initially identified by patients.
- BSE detect breast cancers.



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Controversy

Comparing five-year survival rates:

- Stages zero and one are 100%
- Stage two is 93%
- Stage three is 72%
- Stage four is 22%



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Controversy

Recommendations against BSEs are mainly based on the results of an outdated Shanghai trial that took place more than 30 years ago.



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Controversy

- Focus on BSA should be instilled
- Don't deny the education
- Empowers women and gives control in deciding what is best for their health
- Low cost
- Minimal reliance on technology



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Controversy

To fully appreciate BSE, more women will need to learn and practice proper technique.



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Controversy

Not all CBEs are equal.



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Controversy

Data from the Canadian National Breast Screening Study 2 (CNBSS-2) trial, five reviews shared the same assessment that well-performed CBE could provide the same effect on mortality reduction as mammography despite its apparently lower sensitivity (40-69% for CBE vs 77-95% for mammography). (6)



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Controversy

Greater sensitivity was recorded among younger and Asian women. Moreover, CBE contributed between 17% and 47% of the shift from advanced to early-stage cancer (6)



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Controversy

CBE more effective tool in detecting cancer:

- Physicians need to first overcome their unease of performing the exam
- This could be explained by many physicians' lack of training in CBE skills



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Controversy

More standardization in CBE techniques among providers could increase its efficacy in detecting malignancies



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Controversy

In the end BSE, CBE and Mammography are the key to early detection.



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