

# Screening Mammography

“Breast cancer is the 2<sup>nd</sup> most commonly diagnosed malignancy among women in the U.S” (Odle, 2016). The average woman at risk of developing breast cancer in the United States sometime in her life is 12%. This means 1 in 8 are at chance of being diagnosed with breast cancer (ACS, 2017). The American Cancer Society estimates that there will be about 266, 120 new cases of invasive breast cancer diagnosed in women in 2018 (ACS, 2018). Mammography is the leading modality that is capable of viewing underlying breast tissue and is the only one approved by the U.S. Food and Drug Administration. It is recommended by the American Cancer Society that screening mammography begins at age 45 years for women of average risk for breast cancer due to evidence showing breast cancer increases at age 45 and risk of harm (biopsies due to false positives and over-diagnosing) lessens (ACS, 2017).. This presentation will discuss the benefits with screening mammography, as well as possible risks that may be associated with it.

## Risks

- Use of ionizing radiation
  - ❖ harmful if overexposed<sup>1</sup>
- False positive results (positive result that later led to being negative for breast Ca)
  - ❖ prompt recalls, follow-up imaging, follow-up office visits, biopsy procedures<sup>2</sup>
- Over-diagnosing (diagnosis of breast Ca that would never cause symptoms or lead to death)
  - ❖ may lead to over treatment or unnecessary treatments such as: mastectomies, chemotherapy<sup>2</sup>, or lumpectomy



Normal  
mammogram



Benign cyst  
(not cancer)



Breast  
calcifications



Breast  
cancer

National Cancer.(2017). Retrieved from [intentblog.com/breast-cancer-being-aware-and-being-a-help/](http://intentblog.com/breast-cancer-being-aware-and-being-a-help/) Institute

## Benefits

- Most reliable screening study to detect breast cancer<sup>3</sup>
- Detects breast cancer at an early stage
  - ❖ reduces mortality from disease and reduces incidence of advanced disease
- Visualizes tumors that are too small to be felt
- No evidence showing that exposure of ionizing radiation leads to cancer
- Use of low dose x-ray
- Advancements in technology

## Conclusion

Screening mammography is a great diagnostic tool that is used to detect breast cancer at an early stage, and although the risks may potentially be harmful, the benefits of saving and reducing breast cancer are far greater. With the guidelines of screening mammography beginning at age 45, has reduced outcomes of harmful risks from occurring and increased findings of breast cancer.

## References

1. Bushing, S. (2017). *Radiologic science for technologists: physics, biology, and protection*. St. Louis, MI: Elsevier, Inc.
- 2.. Odle, T. (2016). Breast cancer screening benefits: Research and controversies. *Radiologic Technology*. 87, 529M-543M. Retrieved from [library.clarksoncollege.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=115107278&site=ehost-live](http://library.clarksoncollege.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=115107278&site=ehost-live)
3. American Cancer Society. (2017). About Breast Cancer. *American Cancer Society*. Retrieved from <https://www.cancer.org/cancer/breast-cancer/about/what-is-breast-cancer.html>