

# Techniques and Procedure for Breast Cancer Early Diagnosis and Detection

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## ABOUT THE STUDY

Breast cancer remains a significant global health concern, affecting millions of women worldwide. However, the invention of new methods in medical science and increased awareness, early detection and diagnosis have become crucial in saving lives. Detecting breast cancer at an early stage not only enhances the chances of successful treatment but also allows for less invasive and more effective treatment options. In this article, we will explore the importance of breast cancer diagnosis and early detection, along with the methods and strategies employed to identify this disease in its earliest and most treatable stages. Early detection is the key to reducing the impact of breast cancer. When breast cancer is detected at an early stage, the chances of successful treatment and long-term survival significantly increase. According to numerous studies, the five-year survival rate for localized breast cancer is over 90%. However, when breast cancer has spread to distant parts of the body, the survival rate drops to around 27%. This stark difference in survival rates underscores the importance of early detection.

## Breast Self-Examination (BSE)

Breast self-examination involves a woman examining the breasts regularly to identify any changes in size, shape, texture, or the presence of lumps or abnormalities. While BSE is a simple and cost-effective method, it is important to note that it should not replace regular clinical examinations or mammograms. Instead, BSE should be seen as a complementary approach to raise awareness and facilitate early detection.

## Clinical Breast Examination (CBE)

A clinical breast examination is conducted by a healthcare professional who carefully examines the breasts and surrounding areas for any signs of abnormalities, lumps, or changes. This examination helps detect palpable breast lesions that may require further investigation.

## Mammography

Mammography is currently considered the best procedure for breast cancer screening. It is a low-dose X-ray imaging technique

specifically designed to identify abnormalities or tumors in the breast tissue, including those that are too small to be detected by touch.

Mammograms are recommended for women aged 40 and above, and regular screenings can significantly improve the chances of detecting breast cancer in its early stages.

## Breast ultrasound and Magnetic Resonance Imaging (MRI)

Breast ultrasound and MRI are supplemental imaging techniques that may be used in specific cases. Ultrasound uses sound waves to create images of the breast tissue, providing additional information about the nature of detected abnormalities. MRI, on the other hand, uses magnetic fields and radio waves to create detailed images of the breast. These imaging techniques are often utilized when further evaluation is necessary after an abnormal mammogram or physical examination.

## Promoting early detection

To encourage early detection, numerous organizations and healthcare providers actively promote breast cancer awareness campaigns. They emphasize the importance of regular screenings and educate women about the signs and symptoms of breast cancer. Additionally, advancements in technology have allowed for the development of innovative approaches such as mobile mammography units, which bring screening services to underserved areas and communities, ensuring better access to early detection tools.

Breast cancer diagnosis and early detection play a pivotal role in saving lives. Women are encouraged to perform regular breast self-examinations, undergo clinical breast examinations, and adhere to recommended screening guidelines for mammography. By detecting breast cancer in its early stages, healthcare professionals can provide timely treatment, leading to improved outcomes and enhanced survival rates.

Continued efforts to raise awareness, enhance screening technologies, and promote early detection are crucial in the global fight against breast cancer.

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