

## Fighting breast cancer with 3D mammography

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Breast cancer is the most common cancer in ladies worldwide and also in India. It is the leading cause of cancer mortality worldwide. This is in spite of the fact that it is one of the most treatable malignancies and is potentially curable if detected early. Hence it is pertinent that people follow the screening guidelines for breast cancer.

Breast cancer screening is done for asymptomatic individuals so as to detect any lesions which are very small. The advantage of same being that the disease, if there, is picked up at an early stage, that it is treated with minimal modalities of treatment and is potentially curable. Mammogram is a traditional tool for breast cancer screening which involves x-ray of the breast. It is recommended to start at the age of 40 and do it annually in any lady with an average risk of breast cancer.

A new addition to this screening modality is 3D mammography also known as tomo synthesis. It is different from conventional Mammogram by virtue, that it takes multiple images from different angles in the breast and create a three dimensional image of the breast tissue. In contrast the conventional Mammogram just takes two images of each breast and give the view regarding the same. By virtue of multiple images taken in 3D Mammogram, when this modality is combined with the conventional Mammogram there is about 40% increase in detection rate of early breast cancer as per different studies.

As the screening of breast through Mammogram starts at the age of 40, but in individuals with high risk for breast cancer (example with hereditary mutations, with strong family history) the screening starts at earlier age, when the breast tissue is dense. Conventional Mammogram is not a good modality of screening in individual with dense breast tissue. 3D Mammogram scores over the conventional Mammogram for patient who are young or have a dense breast tissue in which lesions can be missed because of the density of the breast tissue. Also the requirements of follow up scans are reduced with 3 D mammogram. The modality is safe, though there is more radiation exposure as compared to 2D, but difference is minimal. Also 3D Mammogram take slightly more time than a conventional 2D Mammogram, but it is hardly noticeable.

In all, 3D Mammogram is very effective tool for breast cancer screening and can be adopted by any lady undergoing breast cancer screening. It is especially helpful in young or with ladies with dense breast.

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