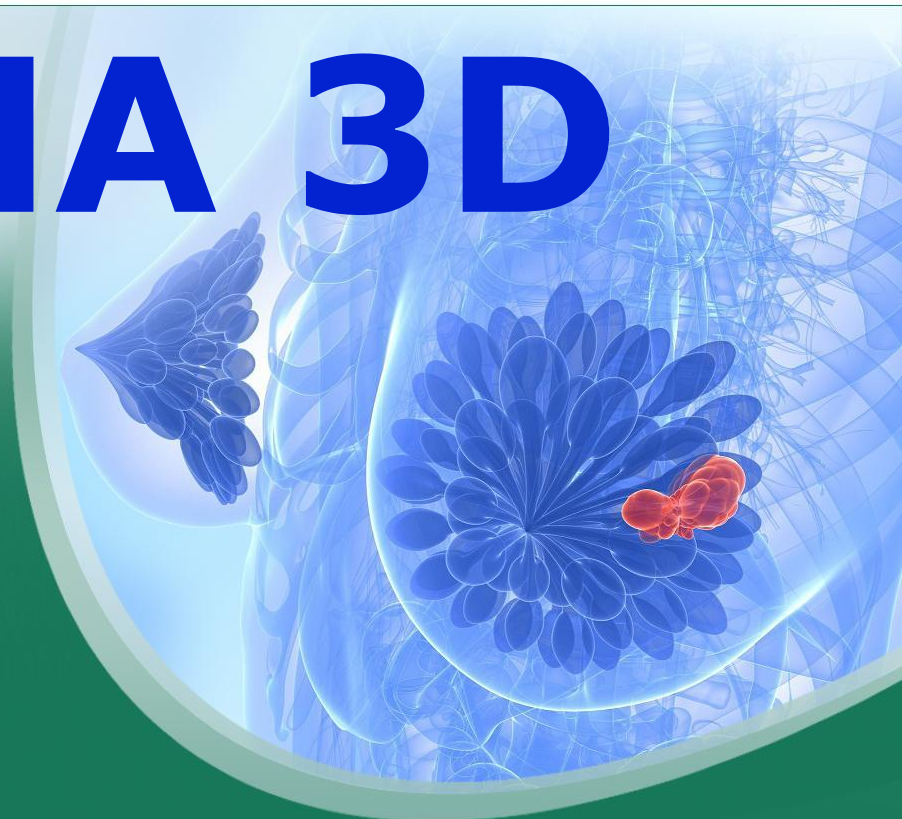


# MEDIMA 3D

**digital X-ray  
tomosynthesis  
mammography  
system**



Breast cancer is made up to 32% of all malignancies in women and is the cause of 18% of all cancer deaths. Today one in eight women Russia may have breast cancer and very often it is due to the incorrect or late diagnosis.

In the great majority of Russian medical institutions mammography is represented by a film or digital mammography systems allowing to obtain an overview plain image of the breast. A plain film may lead to loss of important information, and consequently to a wrong diagnosis.

Digital 3D mammography system "MEDIMA 3D" allows to obtain true three dimensional mammography exams, enabling to have an accurate view of the spatial structure of mammary gland. 3D mammogram provides maximum diagnostic value, reveals the smallest initial lesions, malignancy potential and possible spread of disease.

X-ray digital mammograph "MEDIMA 3D" developed by "Mosrentgenprom" provides 3 types of x-ray image modes:

- 2D mammogram;
- 3D mammogram;
- reconstruction of 2D mammograms from 3D mammograms adjusted for correlation analysis.

Mammograph performs stationary imaging with the patient in lying position that gives sharp images by excluding unintentional patient moves and using circumferential view at 360°.

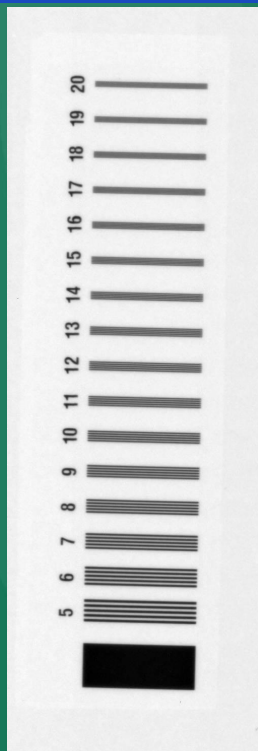
Revolutionary possibilities of the "MEDIMA 3D" provide full comprehensive range of mammographic breast examinations of superior quality, the best diagnostic performance and the highest among available competitors **spatial resolution of 20 pairs of lines per mm.**

# Features

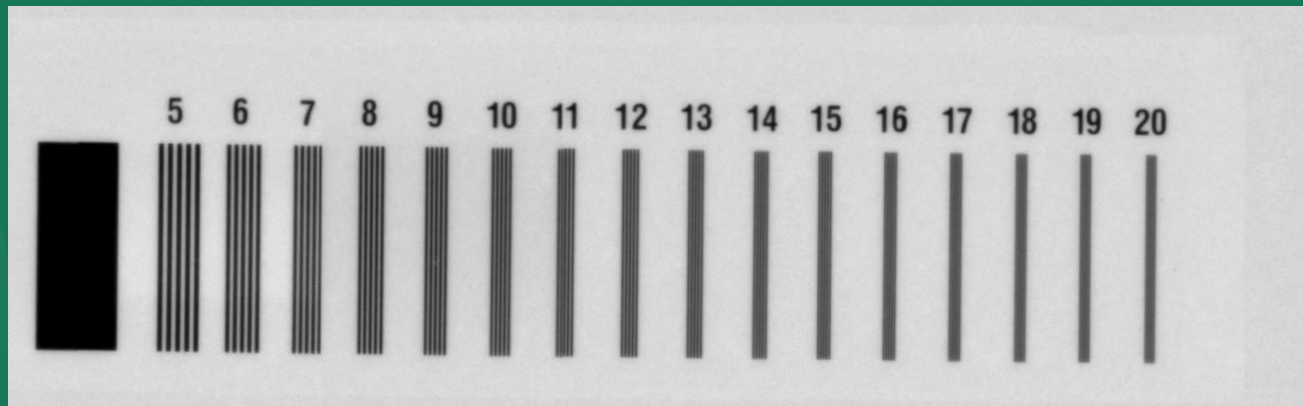
1. Working field – 220 x300 mm.
2. Spatial resolution of 2D mammogram (vertical and horizontal)
  - screening mode – 10 pairs of lines per mm;
  - diagnostic mode – 20 pairs of lines per mm.
3. Pixel size in 3D mammogram (tomosynthesis)
  - screening mode – 54x54x1000  $\mu\text{m}$ ;
  - diagnostic mode – 27x27x500  $\mu\text{m}$ .
4. The mean absorbed dose to mammary gland meets the requirements of *European guidelines for quality assurance in breast cancer screening and diagnosis (Fourth Edition)* as for minimal allowed dose.

# Test pattern

*vertical*



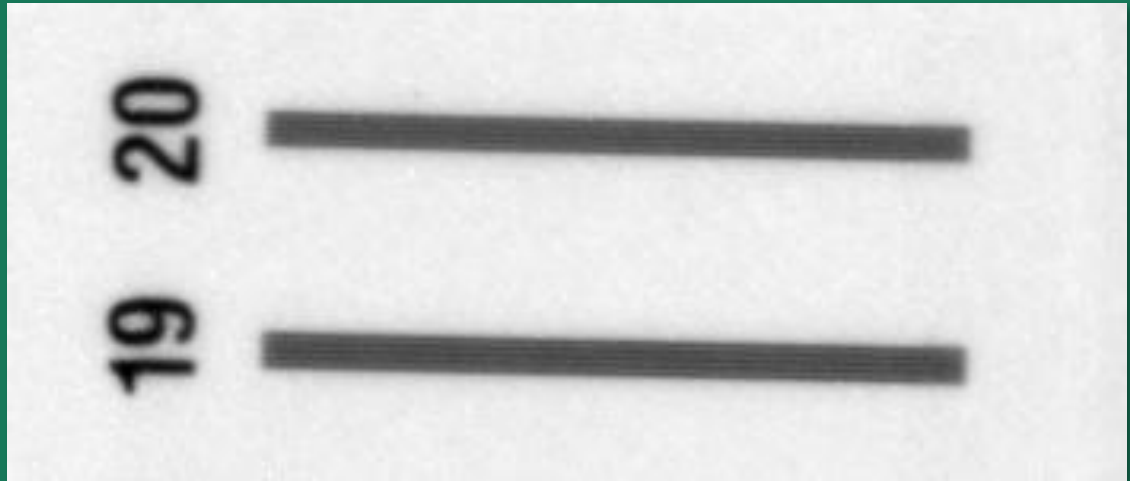
*horizontal*



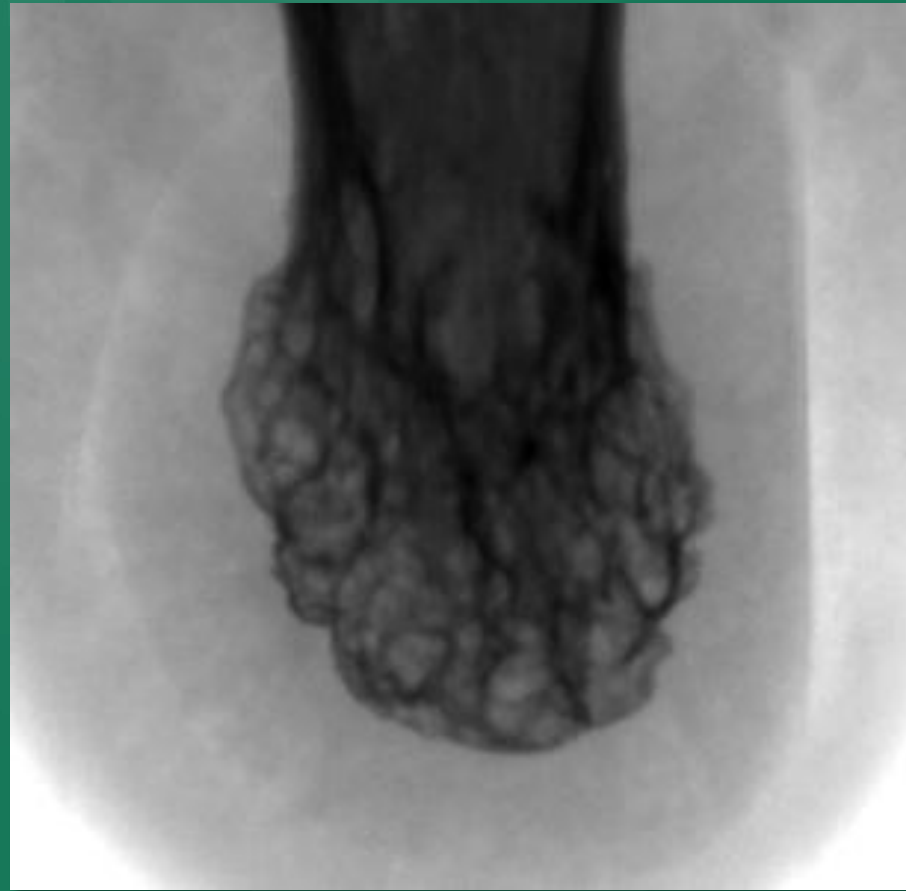
# Zoomed fragment of the test pattern image (20 pairs of lines per mm)

*vertical*

*horizontal*

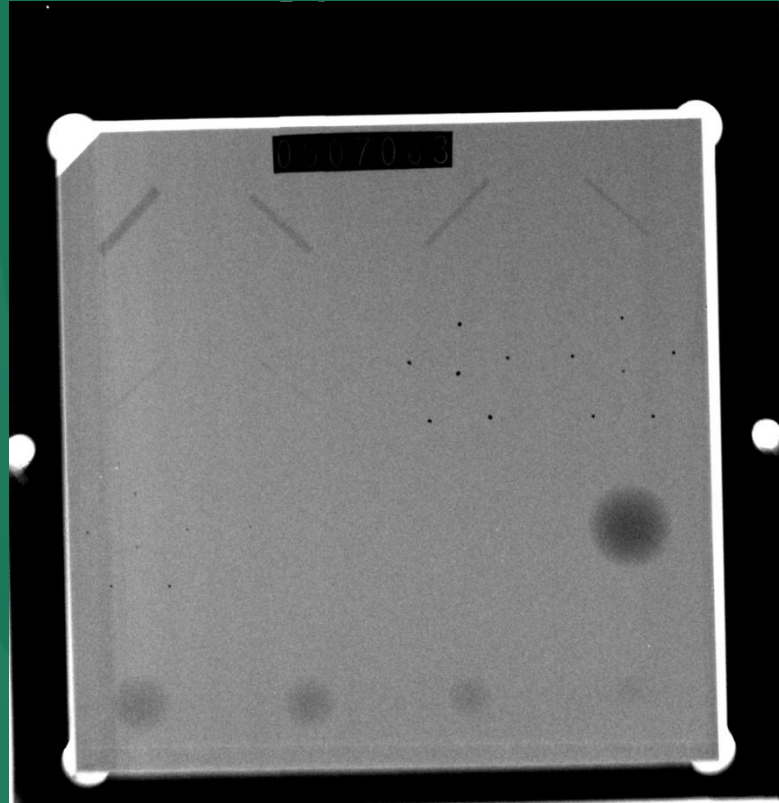






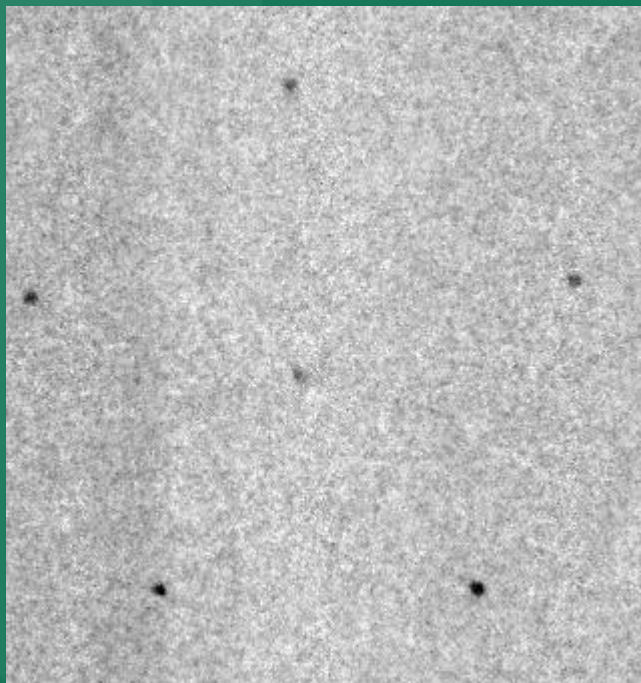


# Image of RMI 156 phantom

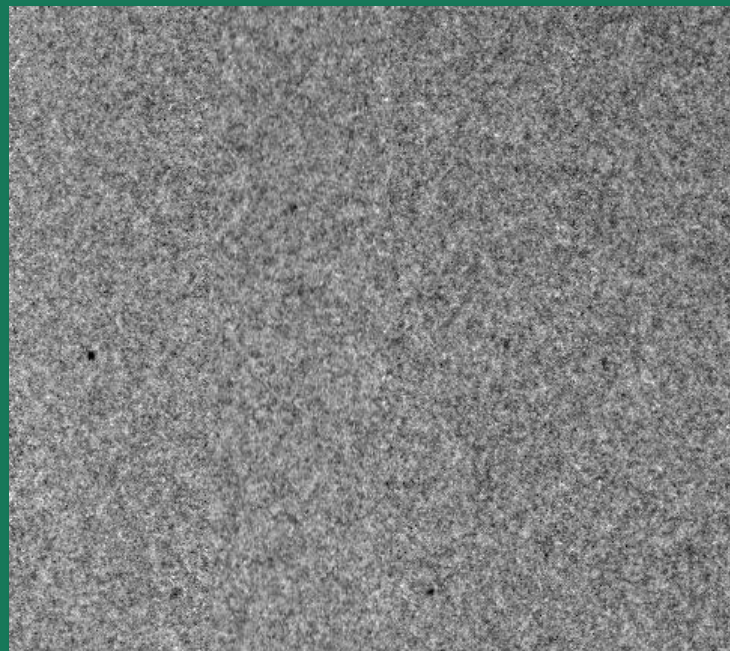


# Zoomed microcalcification specks of RMI 156

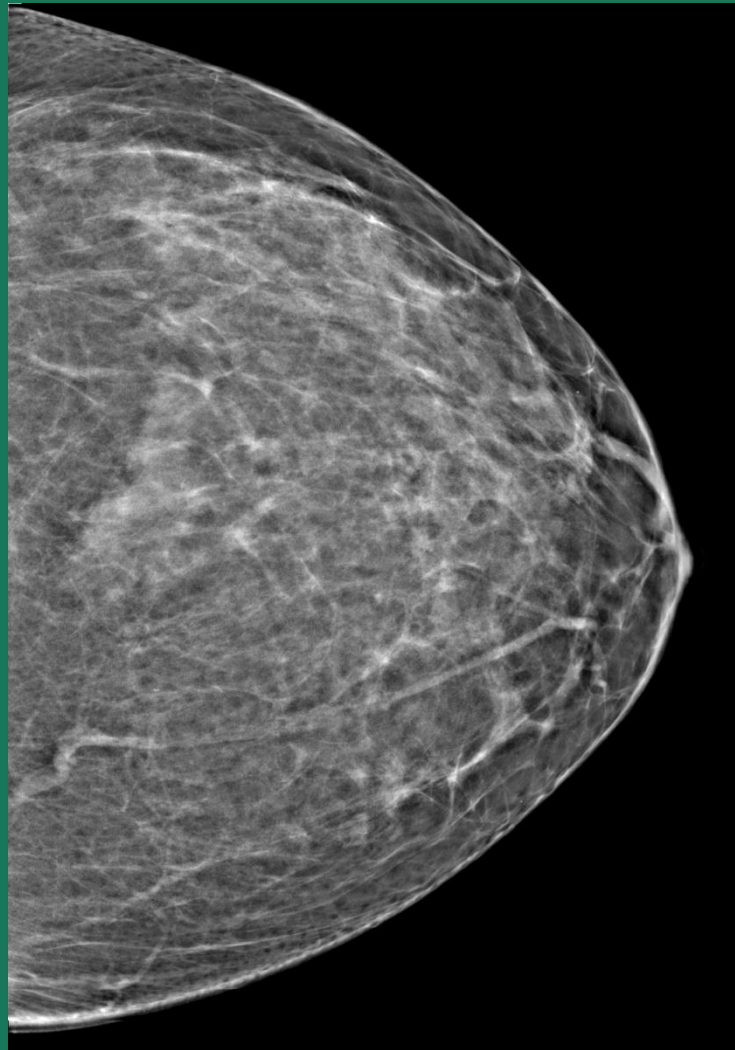
*3-rd group*



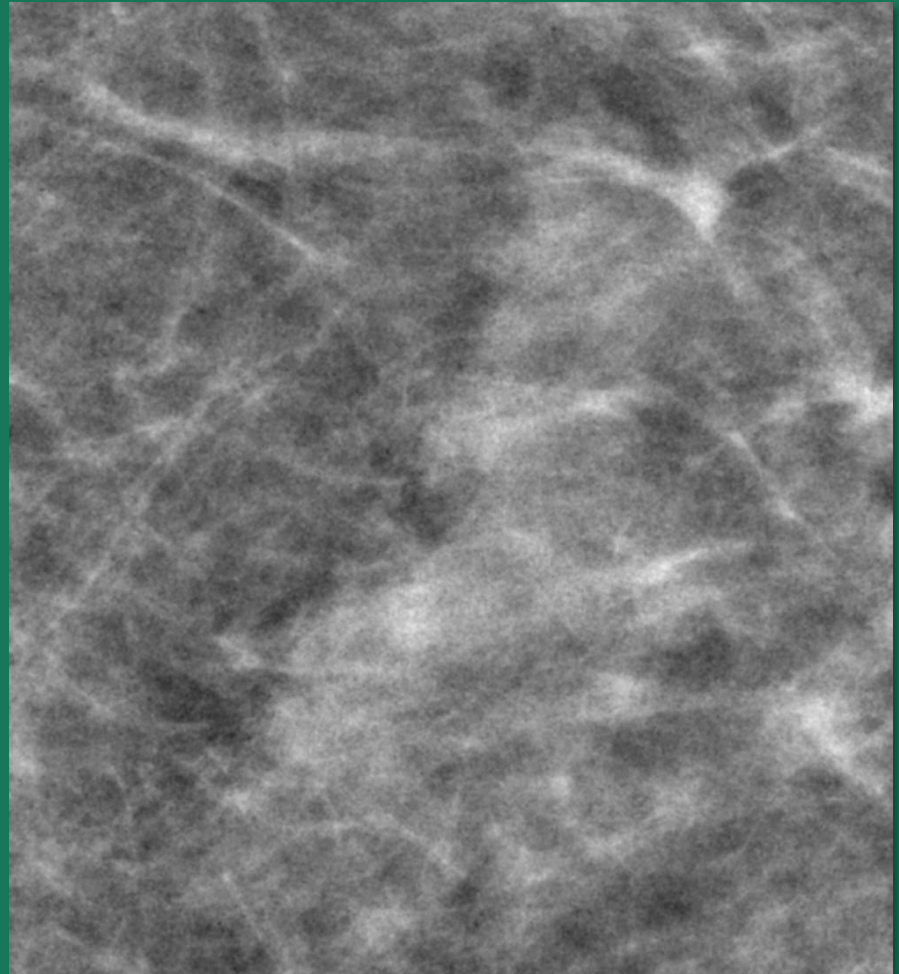
*4-th group*



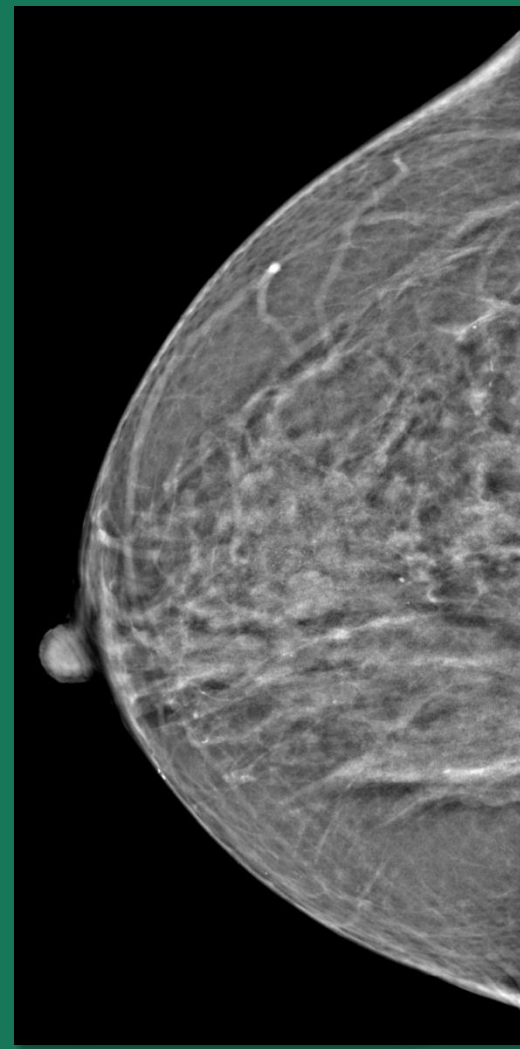
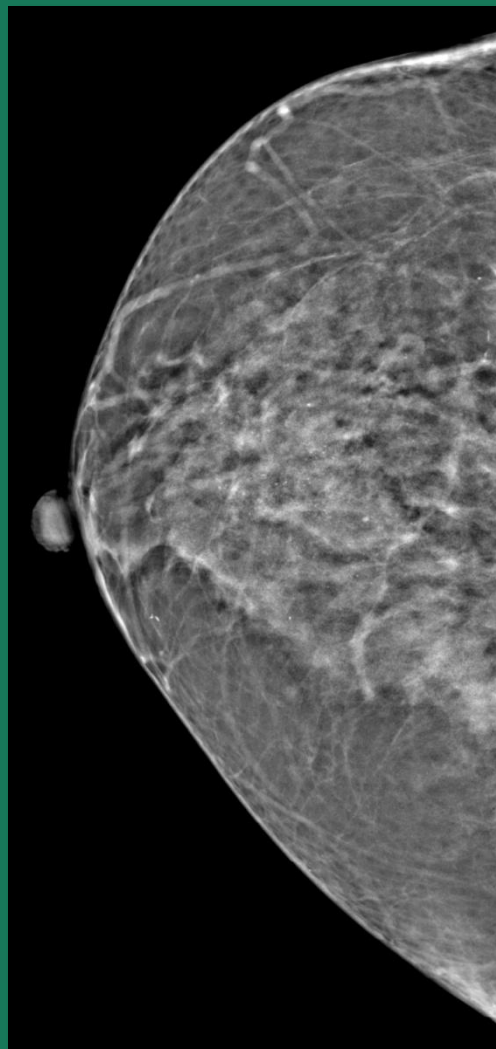
Breast image



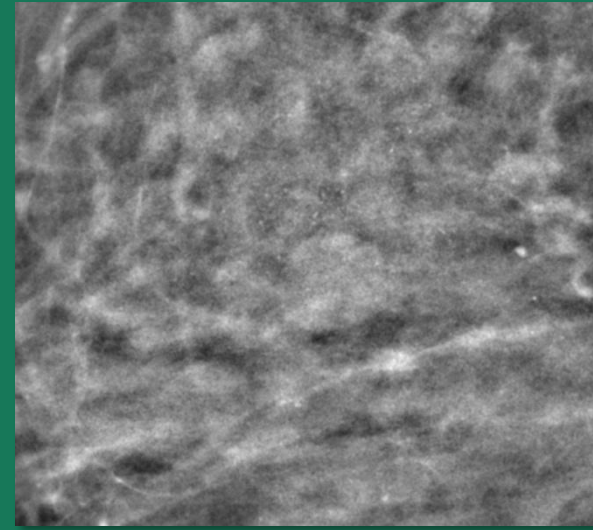
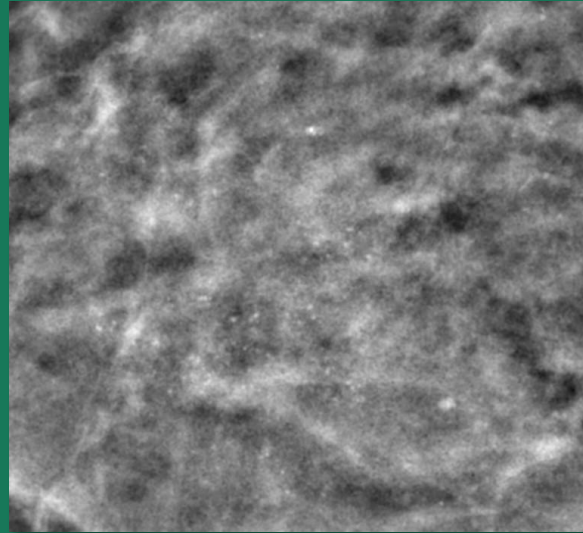
Breast image  
(ROI)



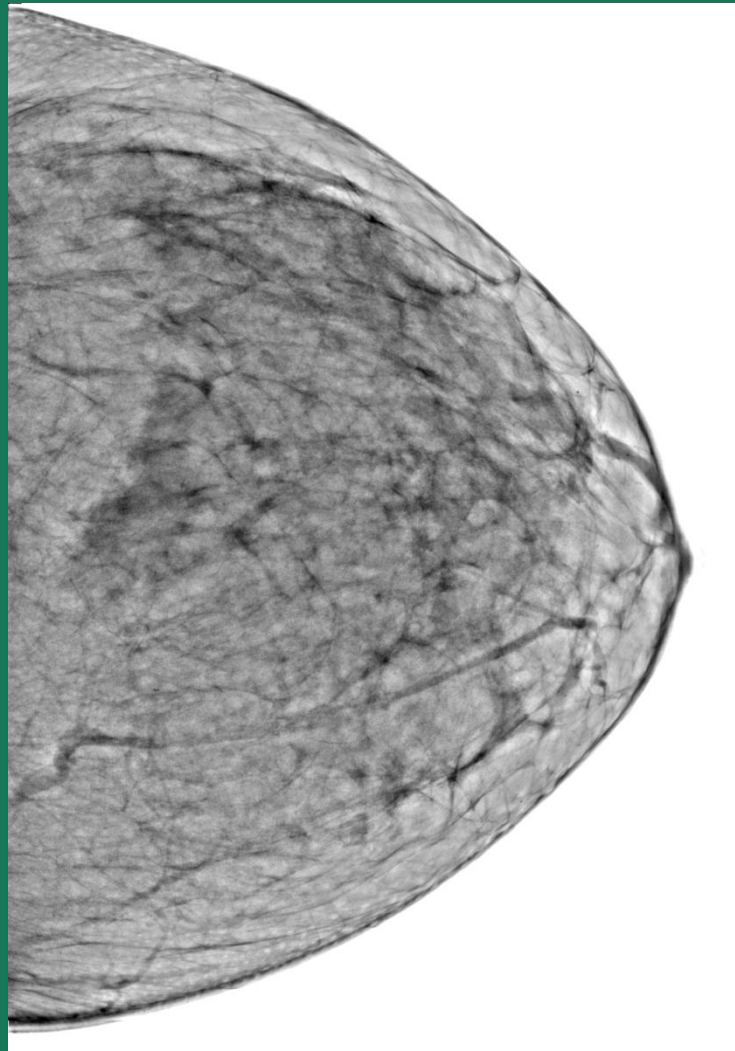
## Patient images



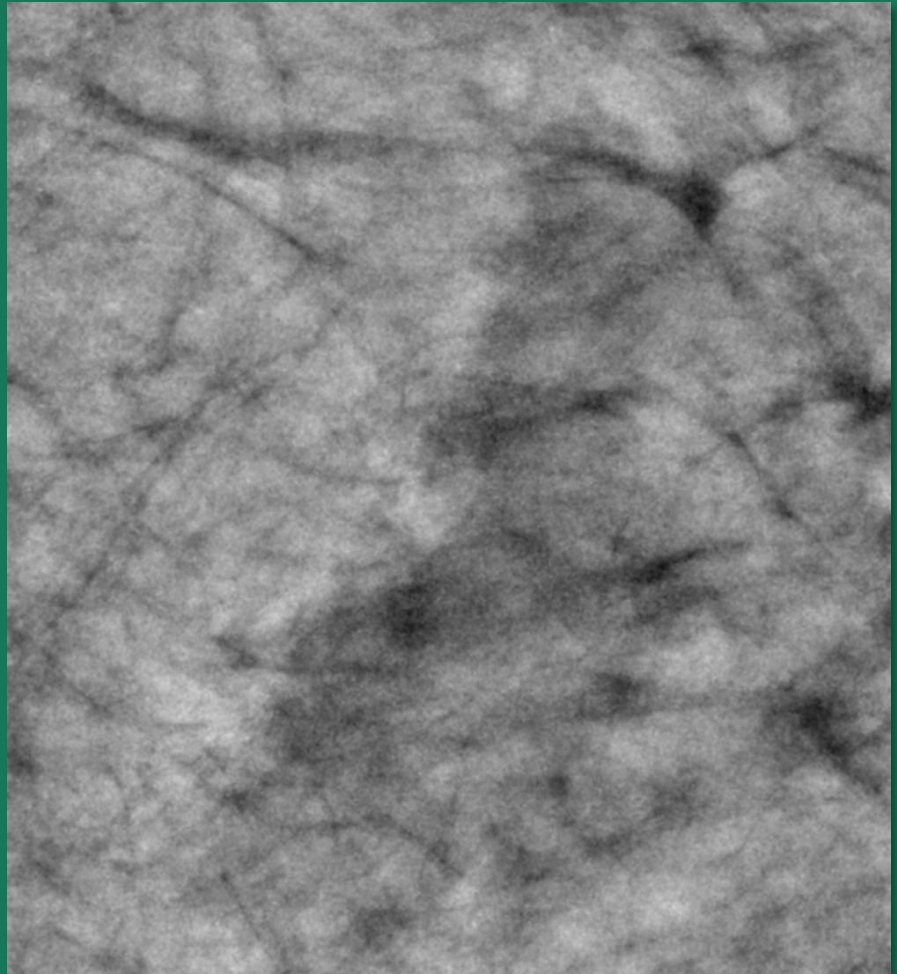
# Patient images (ROI)



Edge detection  
for the patient

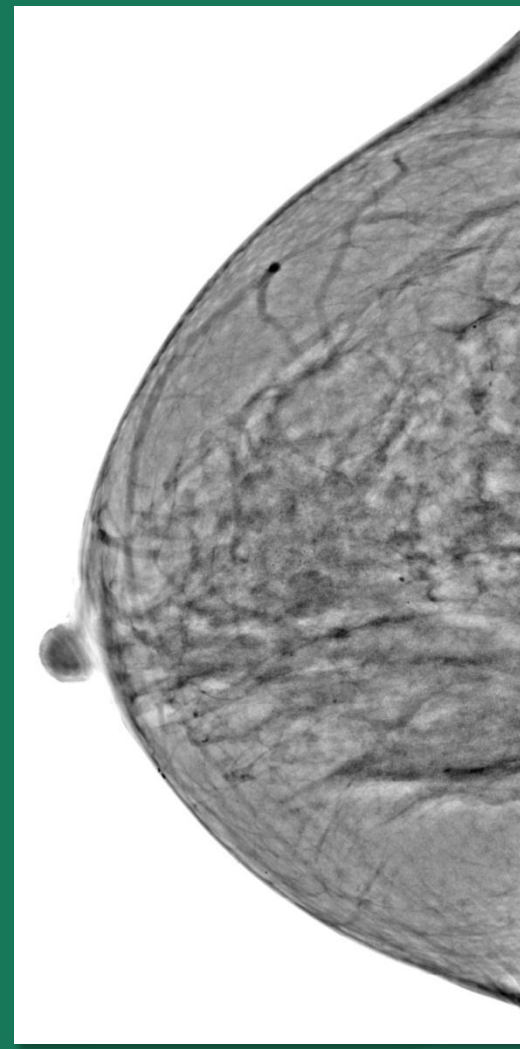
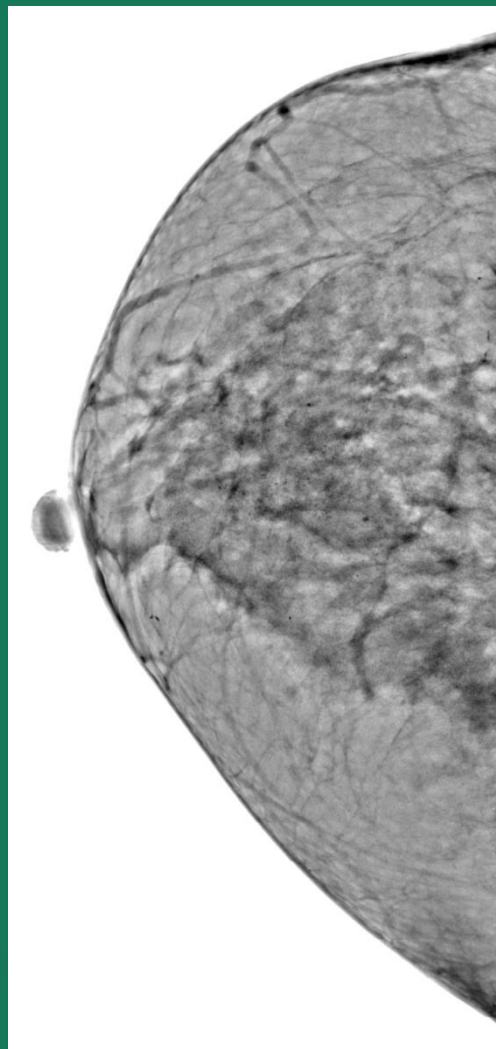


Patient image  
(ROI)

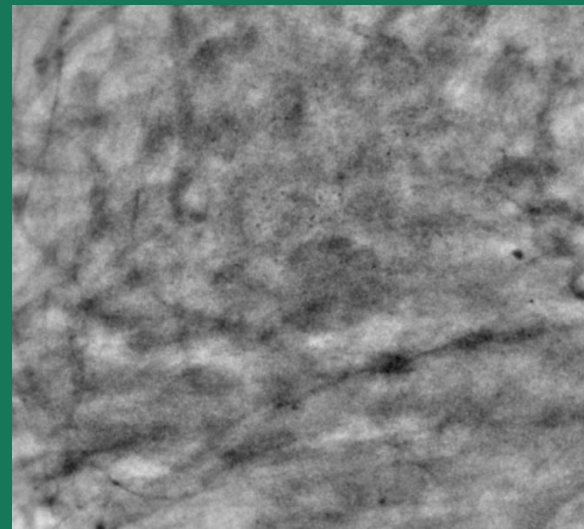
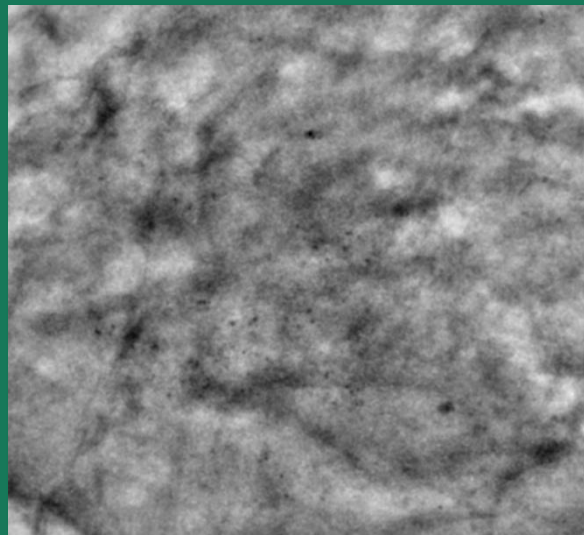




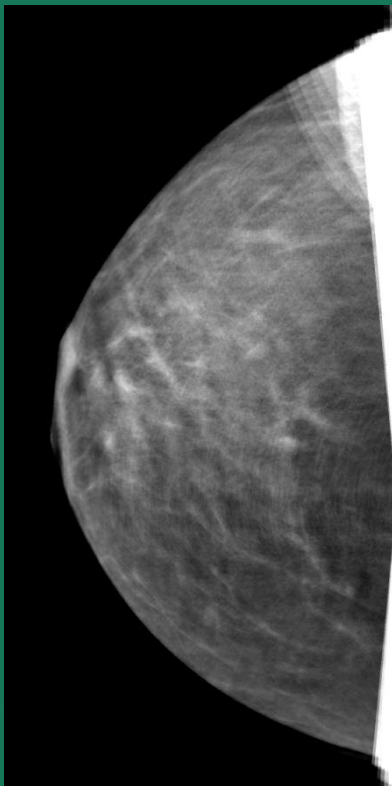
# Edge detection



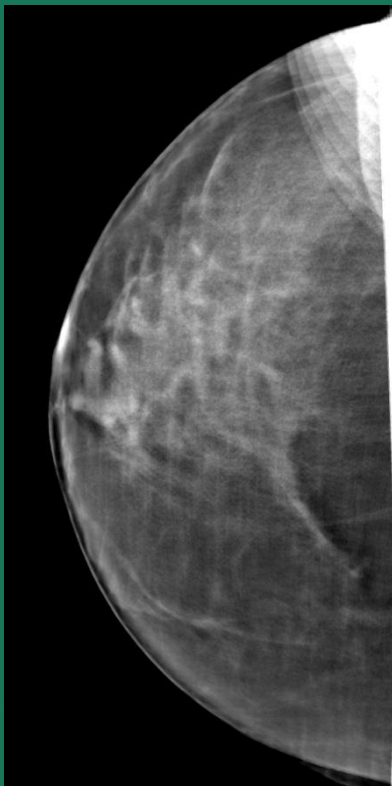
Patient  
image  
(ROI)



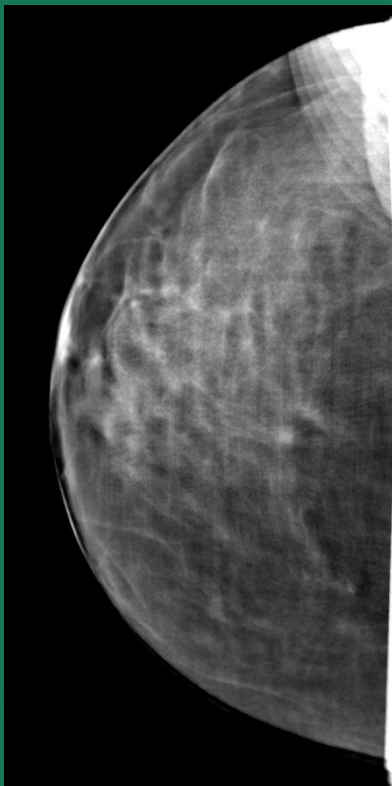
# Slide show of 2D layers reconstructed from captured 3D breast image



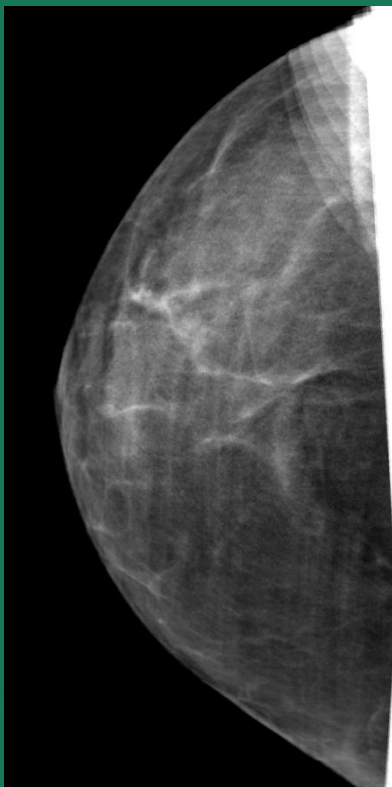
# Slide show of 2D layers reconstructed from captured 3D breast image



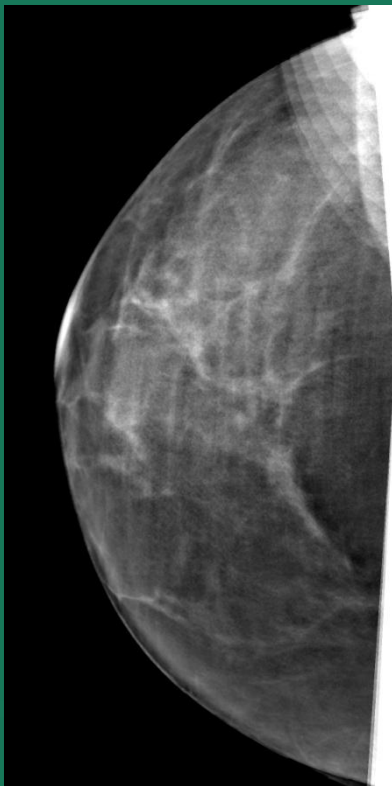
# Slide show of 2D layers reconstructed from captured 3D breast image



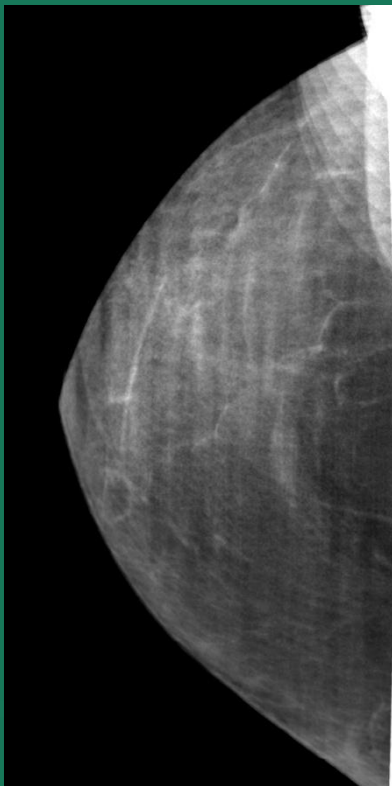
# Slide show of 2D layers reconstructed from captured 3D breast image



# Slide show of 2D layers reconstructed from captured 3D breast image



# Slide show of 2D layers reconstructed from captured 3D breast image





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