

# Mammography

**Mammography** is a basic radiological screening and diagnostic method of breast examination. It is performed using a special X-ray device - a **mammogram**, which can image **tissues with low contrast** (soft tissues) through the so-called **soft radiation**. A mammogram differs from a regular X-ray in that it has an X-ray tube, special films, the use of compression and a special negatoscope for evaluation. Today, digital mammography techniques are used to advantage

 For more information see *Technical Notes on Mammography*.

## Indication

### Screening mammography

**Screening mammography** (film, digital, digitized) focuses on the **preventive** detection of early stages of breast cancer. In accordance with the decree of the Ministry of Health of the Czech Republic, it is performed on women who are free of problems and have no symptoms of breast cancer or a palpable lump = **asymptomatic women**. Screening is recommended **for women aged 45 and over with a repeat every 2 years**<sup>[1]</sup>. The examination takes place at accredited workplaces, the evaluation is carried out by two doctors. The basis is the imaging of each breast in **craniocaudal and oblique projection**. If necessary, additional projections or targeted enlarged images are added. A general practitioner or gynecologist sends a woman for screening.

### Diagnostic mammography

**Diagnostic mammography** (film, digital, digitized) is indicated for patients with *suspected malignancy* of the breast, present *symptoms* or for already *diagnosed cancers* = **symptomatic women**. In addition, regular checks are carried out on patients who have already experienced the disease or are being monitored in various specialist clinics.

### Mammography in men

In men, mammography is indicated when there is a *palpable resistance* in the breast. We shoot on both sides in oblique projections.

## Contraindications

Contraindications include pregnancy and breastfeeding.

## Examination progress

During the examination, the breast is **compressed with a compression plate**. Breasts are imaged in **two projections** - craniocaudal and oblique mediolateral (45°).

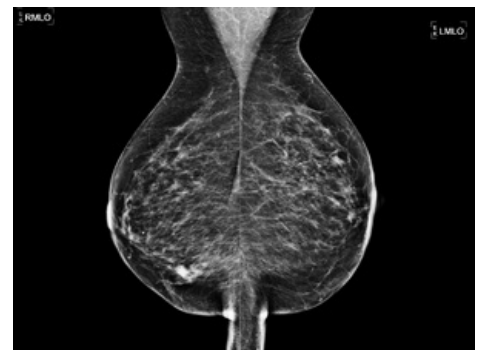
## Evaluation

Findings in mammographic screening are evaluated within the BI-RADS and according to Tabár. The goal of the screening is to search for tumors *up to 2 cm in size* without clinical symptoms.

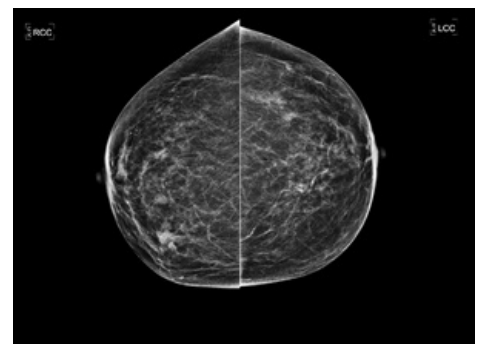
 For more information see *BI-RADS*.

 For more information see *Classification by Tabár*.

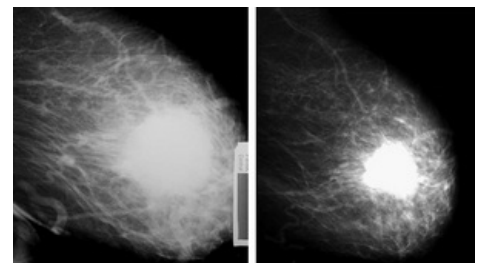
Breast cancer appears in mammography as a star-shaped or oval shadow of varying size. However, it can also manifest itself as microcalcification. Mammography can be supplemented with other imaging methods (UZ, MRI, ductography), which are chosen according to the estimated yield of the examination.



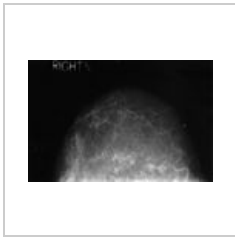
Mediolateral projection



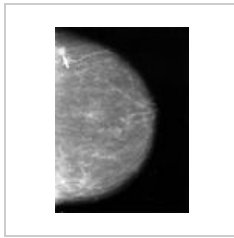
Craniocaudal projection



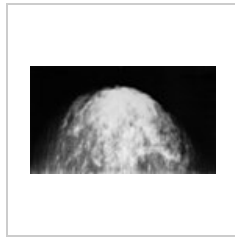
Neoadjuvant breast Ca chemotherapy  
(mammography before and after)



Normal finding



Small lesion



Breast cancer



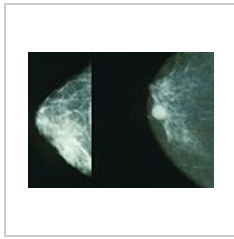
Phylloides tumor



Fibrocystosis



Mammography vs. MRI



Breast cancer

🔍 For more information see *Diagnostic imaging methods in senology*.

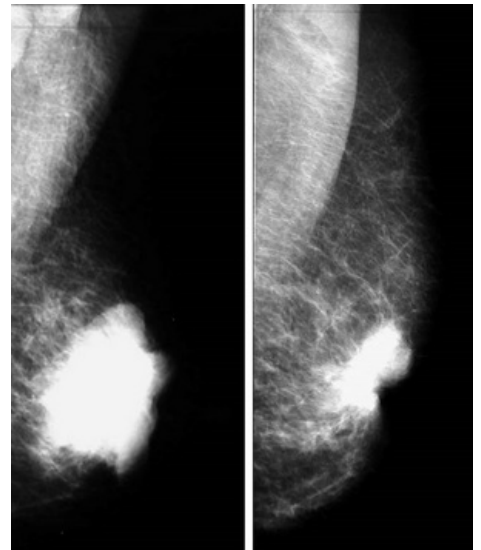
## Links

### External links

- Institute of Biostatistics and Analysis. *Mamo.cz : Mammography screening* [online]. ©2015. [cit. 2015-07-23]. <<http://www.mamo.cz>>.

### References

1. Czech Republic. Decree of the Ministry of Health of the Czech Republic No. 3. In *2010*. 2010. Available from <[www.mamo.cz/res/file/legislativa/vyhlasaka-3-2010.pdf](http://www.mamo.cz/res/file/legislativa/vyhlasaka-3-2010.pdf)>.



Neoadjuvant breast Ca chemotherapy (mammography before and after)