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# Quality indicators for radiologists: the best choice

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# Tasks for the radiologist in a breast center

- Screening of asymptomatic women
  - Normal risk
  - High risk
- Assessment of screen detected lesions
- Assessment of symptomatic disease
- Pretreatment assessment
- Perioperative treatment support
- Follow up



# Screening of asymptomatic women

- European guidelines for quality assurance in mammography screening and diagnostic services 4th edition

Perry N, Broeders M, De Wolf C et al European Commisison (2006)

# Breast center diagnostic activities

- The requirements of a specialized Breast Centre  
ARM Wilson et al EJC (2013) 49,3579-3587
- Quality indicators in breast cancer care  
M Rosselli Del Turco et al EJC (2010) 46,2344-2356
- EUSOMA Mandatory Quality Indicators for Breast Centre Certification  
[http://www.eusoma.org/doc/EusomaQI\\_x\\_CCCertification.pdf](http://www.eusoma.org/doc/EusomaQI_x_CCCertification.pdf) accessed January 28, 2014

# The requirements of a specialized Breast Centre

ARM Wilson et al EJC (2013) 49,3579-3587

- **Methods**
  - Clinical Examination
  - Mammography
  - Ultrasound of breast and axilla
  - Core biopsy (free-hand, ultrasound guided, X-ray guided; possibly by agreement with local diagnostic service)
  - Breast MRI (possibly by agreement with local diagnostic service)

# The requirements of a specialized Breast Centre

ARM Wilson et al EJC (2013) 49,3579-3587

- **Equipment**
  - Mammography unit (preferable digital)
  - Stereotactic biopsy
  - Ultrasound  $\geq 10$  Mhz
  - Not older than 10 years

# The requirements of a specialized Breast Centre

ARM Wilson et al EJC (2013) 49,3579-3587

- Two dedicated breast radiologists spending  $\geq 30\%$  of standard weekly working time in breast imaging
- Read  $\geq 1000$  mammography cases per year
- Double reading of mammograms if workload  $\leq 3000$  per year
- Two radiographers  $\geq 1000$  mammograms per year

# EUSOMA Mandatory Quality Indicators for Breast Centre Certification

14 indicators, 5 concerning the radiologist

| Indicator   | Min. | Target |
|---|------|--------|
| Preoperative diagnosis in cancers   | 80%  | 90%    |
| Proportion of patients with single breast operation for primary invasive tumour   | 80%  | 90%    |
| Proportion of patients with single operation for DCIS                             | 70%  | 90%    |
| Proportion of invasive breast cancer patients with pN0 without axillary clearance | 80%  | 90%    |
| Specificity of diagnostic procedures  | 1:2  | 1:4    |



# Quality indicators in breast cancer care

M Rosselli Del Turco et al EJC (2010) 46,2344-2356

## Pre-operative diagnosis

Proportion of women with breast cancer  
(invasive or in situ) with pre-operative  
definitive diagnosis (B5 or C5)

*Level of evidence: III\**

\* Requires well designed descriptive studies (Agency for Health Care Research and Quality)

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## Concerning the radiologist

- Completeness of clinical and imaging diagnostic workup
- MRI availability
- Multidisciplinary discussion

# Completeness of clinical and imaging workup

Proportion of women with breast cancer who preoperatively underwent:

- Mammography
- Physical examination
- Ultrasound (including axilla and contralateral breast)

*Minimum standard: > 90%*

*Target: > 95%*

*Level of evidence: III\**

# MRI availability

Proportion of cancer cases examined pre-operatively by MRI

*Minimum standard: suggested 5%*

*Target: not applicable*

*Level of evidence: IV\**

# Multidisciplinary discussion

The proportion of cancer patients to be discussed by a multidisciplinary team

*Minimum standard: 90%*

*Target: 99%*

*Level of evidence: IV\**

\* Expert judgement. Absence of good quality clinical studies (Agency for Health Care Research and Quality)

# Multidisciplinary discussion

Pre-operative discussion preferable, not obligatory

*Consensus:*

multidisciplinary discussion without specific time point

Comment: in modern treatment protocols (including neoadjuvant therapy) pre- and postoperative discussion should be mandatory

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# Specificity of diagnostic procedures (B/M ratio)

Ratio of benign to malignant diagnoses based on definitive pathology report (surgery only, non-operative biopsies excluded)

*Level of evidence: III\**

\* Requires well designed descriptive studies (Agency for Health Care Research and Quality)

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# Additional radiologic key performance indicators

- Technical
  - Threshold Contrast visibility
  - Glandular dose
- Repeat examination for technical reasons
- Sensitivity of core biopsy
- Specificity of core biopsy
- Proportion of core/vacuum procedures with insufficient result
- Proportion of preoperative guide wires placed within 1 cm of lesion

# Conclusion

- The mandatory quality indicators for the breast center define the quality achieved by the core team of radiologist, pathologist and surgeon and their interaction
- To achieve the necessary quality of specific radiologic procedures a quality management system according to European and/or local guidelines should be established