Diagnostik und Therapie früher und fortgeschrittener Mammakarzinome

Früherkennung und Diagnostik
Früherkennung und Diagnostik

- **Versionen 2005–2018:**
  Albert / Blohmer / Fersis / Junkermann / Maass / Müller-Schimpfe / Scharl / Schreer

- **Version 2019:**
  Blohmer / Müller-Schimpfe

**Screened data bases**
- Pubmed 2013 - 2018
- Medline 2013 - 2018
- Cochrane 2013 - 2018

**Guidelines**
S3 Diagnostik, Therapie und Nachsorge des Mammakarzinoms:


Wöckel A, Festl J, Stüber T et al. Interdisciplinary Screening, Diagnosis, Therapy and Follow-up of Breast

2015 ACS Update Breast Cancer Screening for women at average risk
IARC Handbook 2016
European Commission 2016
(http://ecibc.jrc.ec.europa.eu/recommendations/list/3;Update 24.11.2016, Abruf 20122016)

Screened: Metaanalyses/ Systematic reviews / RCT / Cohort studies


24. Walter LC, Schonberg MA Screening mammography in older women: a review. JAMA 2014;311(13):1336-1347
Tomosynthesis


Radiation Dose


Mammography density assessment


Breast cancer mortality reduction


### Mammography-Screening

**Vor und Nachteile**

**Grundgesamtheit: per 10.000 gescreente Frauen über 10 Jahre**

<table>
<thead>
<tr>
<th>Lebensjahr</th>
<th>40-49</th>
<th>50-59</th>
<th>60-69</th>
<th>70-74</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vermiedene Brustkrebstodesfälle (CI95%)</td>
<td>3 (0-9)</td>
<td>8 (2-17)</td>
<td>21 (11-32)</td>
<td>13 (0-32)</td>
</tr>
<tr>
<td>Falsch-positive Fälle (n)</td>
<td>1212</td>
<td>932</td>
<td>808</td>
<td>696</td>
</tr>
<tr>
<td>Brustbiopsien (n)</td>
<td>164</td>
<td>159</td>
<td>165</td>
<td>175</td>
</tr>
<tr>
<td>Falsch-negative Fälle (n)</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
</tbody>
</table>

Siu AL on behalf of the USPSTF 2016, 164:279-296

Siu AL, on behalf of the U.S. Preventive Services Task Force

Screening for Breast Cancer: U.S. Preventive Services Task Force

# Breast-Cancer Screening-Viewpoint of the IARC Working Group

<table>
<thead>
<tr>
<th>Method</th>
<th>Strength of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduces breast-cancer mortality in women 50-69 yr of age</td>
<td>Sufficient</td>
</tr>
<tr>
<td>Reduces breast-cancer mortality in women 70-74 yr of age</td>
<td>Sufficient</td>
</tr>
<tr>
<td>Reduces breast-cancer mortality in women 40-44 yr of age</td>
<td>Limited</td>
</tr>
<tr>
<td>Reduces breast-cancer mortality in women 45-49 yr of age</td>
<td>Limited</td>
</tr>
<tr>
<td>Detects breast cancer that would never have been diagnosed or never have caused harm if women had not been screened (overdiagnosis)</td>
<td>Sufficient</td>
</tr>
<tr>
<td>Reduces breast-cancer mortality in women 50-74 yr of age to an extent that its benefits substantially outweigh the risk of radiation-induced cancer</td>
<td>Sufficient</td>
</tr>
<tr>
<td>Produces short-term negative psychological consequences when the result is false positive</td>
<td>Sufficient</td>
</tr>
<tr>
<td>Has a net benefit for women 50-69 yr of age who are invited to attend organized mammographic screening programs</td>
<td>Sufficient</td>
</tr>
</tbody>
</table>


4. FH01 Collaborative Teams. Mammographic surveillance in women younger than 50 years who have a family history of breast cancer: tumour characteristics and projected effect on mortality in the prospective, single-arm, FH01 study. Lancet Oncol 2010;11:1127-1134


10. Moss SM et al. Effect of mammographic screening from age 40 years on breast cancer mortality a 10 years follow-up: a randomised controlled trial. The Lancet 2006; 368: 2053 – 2060
Breast ultrasound as an adjunct to screening mammography


ABUS/AVUS


US-Screening


Dense Breast


**Elevated Risk**


**Recommendations International**


6. Heu Jung Shin, Hak Hee Kim, Joo Hee Cha. Current status of automated breast ultrasonography:
Tomosynthese vs Spotkompression / abnormalities in mammography


Tomosynthese for screen-detected abnormalities


**Tomosynthese Accuracy screening population**


Elastography


4. Li G, Li DW, Fang YX, Song YJ, et al. Performance of shear wave elastography for differentiation of benign and


Automated Breast Ultrasound (ABUS)


Biopsy and Standards of Hygiene

MRT
Systematic Review and Meta-Analysis. Radiology 277:716-726
Prätherapeutische Untersuchung von Brust und Axilla

**Combined DM + DBT + US + MRI**


**US-Axilla +FNA/CNB**


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**Oxford LoE GR AGO**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>LoE</th>
<th>GR</th>
<th>AGO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Klinische Untersuchung</td>
<td>5</td>
<td>D</td>
<td>++</td>
</tr>
<tr>
<td>Mammographie</td>
<td>2b</td>
<td>B</td>
<td>++</td>
</tr>
<tr>
<td>+ Tomosynthese</td>
<td>3b</td>
<td>B</td>
<td>+</td>
</tr>
<tr>
<td>Sonographie</td>
<td>2b</td>
<td>B</td>
<td>++</td>
</tr>
<tr>
<td>Axilla + CNB</td>
<td>2b</td>
<td>B</td>
<td>++</td>
</tr>
<tr>
<td>Minimalinvasive Biopsie*</td>
<td>1b</td>
<td>A</td>
<td>++</td>
</tr>
<tr>
<td>MRT**</td>
<td>1b</td>
<td>B</td>
<td>+/-</td>
</tr>
</tbody>
</table>

* Histologische Sicherung von Zusatzbefunden im Fall therapeutischer Relevanz.


Biopsie

2. Lourenco AP, Mainiero MB Incorporating imaging into the locoregional management of breast cancer. Semin Radiat Oncol 2016;26(1)


MRT


15. Houssami N, Turner RM, Morrow M. Meta-analysis of pre-operative magnetic resonance imaging (MRI) and surgical

MRT: Präoperatives Staging

- 9 ausgewählte Studien
  (2 randomisiert; 7 Kohortenstudien)
- 3112 Patientinnen mit Mammakarzinom
- MRT versus kein-MRT:
  - Initielle Mastektomie 16,4% versus 8,1%
    [OR, 2,22 (P < 0,001); adjusted OR, 3,06 (P < 0,001)]
  - Nachresektion nach initialer BET 11,6% versus 11,4%
    [OR, 1,02 (P = 0,87); adjustiert OR, 0,95 (P = 0,71)]
  - Gesamt Mastektomierate 25,5% versus 18,2%
    [OR, 1,54 (P < 0,001); adjustierte OR, 1,51 (P < 0,001)]


14. Saadatmand S, Obdeijn IM, Rutgers EJ, et al. Survival benefit in women with BRCA1 mutation or familial risk in the MRI screening study (MRISC) Int J Cancer 2015;137(7)1729-1738


17. Van den Broek AJ, Schmidt MK, van’t Veer LJ et al. Worse breast cancer prognosis of BRCA1/ BRCA2 mutation carriers:
what is the evidence? A systematic review with metaanalysis. PloS one 2015;Vol 10(3):


3. Saadatmand S, Obdeijn IM, Rutgers EJ, et al. Survival benefit in women with BRCA1 mutation or familial risk in the MRI screening study (MRISC) Int J Cancer 2015;137(7)1729-1738


Statement: history and physical examination
1. GCP

Statement: high metastatic potential / symptoms


