Diagnosis and Treatment of Patients with Primary and Metastatic Breast Cancer

Breast Cancer Follow-Up
Breast Cancer
Follow-Up

- **Versionen 2002–2017:**
  Bauerfeind / Bischoff / Blohmer / Böhme /
  Costa / Diel / Friedrich / Gerber / Hanf / Heinrich /
  Huober / Janni / Kaufmann / Kümmel / Lux /
  Maass / Möbus / Mundhenke / Oberhoff /
  Rody / Scharl / Solomayer / Thomssen

- **Version 2018:**
  Müller-Schimpfle / Solbach
# Breast Cancer Follow-Up Objectives

<table>
<thead>
<tr>
<th>Early detection of curable events</th>
<th>Oxford</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-breast recurrence</td>
<td>1a B</td>
</tr>
<tr>
<td>Loco-regional recurrence*</td>
<td>1a B</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Early detection of metastases</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Early detection of symptomatic metastasis</td>
<td>3b C</td>
</tr>
<tr>
<td>Early detection of asymptomatic metastasis</td>
<td>1a A</td>
</tr>
</tbody>
</table>

*loco-regional recurrence is associated with higher risk for mortality in node positive, PR negative, younger patients and patients with short time from diagnosis to recurrence*
Breast Cancer Follow-Up Objectives

- Improve quality of life
  - Oxford
  - LoE: 2b
  - GR: B
  - AGO: +

- Improve physical performance
  - Oxford
  - LoE: 2a
  - GR: B
  - AGO: +

- Reduce therapy related side effects such as osteoporosis, cardiac failure, fatigue, neurotoxicity, lymphedema, sexual disorders, cognitive impairment
  - Oxford
  - LoE: 2b
  - GR: B
  - AGO: +

- Participation in interventional programmes during follow-up for breast cancer survivors to maximise therapy adherence, assess live-style interventions and improve quality of life
  - Oxford
  - LoE: 3b
  - GR: B
  - AGO: +
Breast Cancer Follow-Up Objectives

- **Evaluation of current adjuvant therapy**
  - incl. monitoring of adherence with endocrine therapies

- **Pro-active improvement of adherence with therapy**
  - Patient information about efficacy data of 5-10 years endocrine therapy
  - Early therapy of side effects (sports, NSAIDs, vitamin D / calcium)

<table>
<thead>
<tr>
<th>Oxford</th>
<th>LoE</th>
<th>GR</th>
<th>AGO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2b</td>
<td>B</td>
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<td></td>
<td>5</td>
<td>D</td>
<td>++</td>
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</tbody>
</table>
# Breast Cancer Follow-Up Objectives

<table>
<thead>
<tr>
<th>Objective</th>
<th>Oxford</th>
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</thead>
<tbody>
<tr>
<td>Psycho-social aspects of support and counseling</td>
<td></td>
</tr>
<tr>
<td>- Pregnancy, contraception, sexuality, quality of life,</td>
<td>4</td>
</tr>
<tr>
<td>menopausal symptoms, fear of recurrence</td>
<td>C</td>
</tr>
<tr>
<td>- Second opinion on primary therapy</td>
<td>2c</td>
</tr>
<tr>
<td>- General counseling (genetics, HRT, prophylactic surgery, breast</td>
<td>2c</td>
</tr>
<tr>
<td>reconstruction)</td>
<td>C</td>
</tr>
</tbody>
</table>

LoE: Level of Evidence  
GR: Grade of Recommendation  
AGO: Arbeitsgemeinschaft Gynäkologische Onkologie e.V.
Breast Cancer Follow-Up
Objectives

Lifestyle risks and comorbidity interventions that reduce unfavorable progression of disease.

- **Treatment of type II-diabetes**
  (> 25% undetected DM in postmenopausal BC patients)
  
  Oxford
  LoE | GR | AGO
  -- | -- | --
  5  | D  | ++

- **Weight intervention**
  (if BMI < 18.5 and > 40)
  
  Oxford
  LoE | GR | AGO
  -- | -- | --
  2a | B  | +

- **Nightly fastening > 13h**
  
  Oxford
  LoE | GR | AGO
  -- | -- | --
  2b | B  | +

- **Reduction of dietary intake** (at least 15 % calories from fat)
  in HR neg. breast cancer patients is associated with improved overall survival
  
  Oxford
  LoE | GR | AGO
  -- | -- | --
  2b | B  | +

- **Smoking cessation** (mortality increased 2 fold, mortality not directly BC associated 4 fold increase)
  
  Oxford
  LoE | GR | AGO
  -- | -- | --
  2b | B  | ++

- **Alcohol consumption reduction** (below 6g/d)
  
  Oxford
  LoE | GR | AGO
  -- | -- | --
  2b | B  | +

- **Moderate sport** (in patients with reduced physical activity prior to diagnosis)
  
  Oxford
  LoE | GR | AGO
  -- | -- | --
  1b | A  | ++

- **Disstress reduction**
  
  Oxford
  LoE | GR | AGO
  -- | -- | --
  3b | B  | +
Prolonged nightly fasting improves prognosis in breast cancer patients

retrospective cohort study:

2413 BC-pat. (no diabetes), nightly fasting more or less than 13 hrs

Fasting < 13 hrs:    HR 1.36, 36% increase of risk for recurrence
                     HR 1.21, n.s. increase of risk for mortality

every 2-hrs-prolonged fasting was correlated with a 20% increase of sleeping duration

Follow-up Objectives
Reported by Patients

- Examination of the breast
- Reassurance
- Guidance of patients, answering questions
- Evaluation of treatment and treatment of side effects
- Psychosocial support

Oxford LoE 4 C
# Routine Follow-Up Examinations in Asymptomatic Patients

**Tests:**

- **History (specific symptoms)**
- **Physical examination**
- **Breast self-examination**
- **Mammography**
- **Sonography of the breast**
- **Routine MRI of the breast***
- **MRI of the breast in case of inconclusive conventional imaging**
- **Pelvic examination**
- **DEXA-scan at baseline and repeat scan according to individual risk in women with premature menopause or women taking an AI**

*Consider in case of increased risk (age <50y, HR neg., diagnostic assessability C/D in mammography + ultrasound)*

<table>
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<th>GR</th>
<th>AGO</th>
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<tr>
<td>History (specific symptoms)</td>
<td>1a</td>
<td>A</td>
<td>++</td>
</tr>
<tr>
<td>Physical examination</td>
<td>1a</td>
<td>B</td>
<td>++</td>
</tr>
<tr>
<td>Breast self-examination</td>
<td>5</td>
<td>D</td>
<td>+</td>
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<tr>
<td>Mammography</td>
<td>1a</td>
<td>A</td>
<td>++</td>
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<tr>
<td>Sonography of the breast</td>
<td>2a</td>
<td>B</td>
<td>++</td>
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<tr>
<td>Routine MRI of the breast*</td>
<td>3a</td>
<td>B</td>
<td>+/-</td>
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<td>MRI of the breast in case of inconclusive imaging</td>
<td>3b</td>
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<td>+</td>
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<td>Pelvic examination</td>
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* AGO LoE: Grade of evidence; GR: Grade of Recommendation*
Routine Follow-Up Examinations in Asymptomatic Patients

- Routine biochemistry (incl. tumor markers)
- Ultrasound of the liver
- Bone scan
- Chest X-ray
- CT of chest, abdomen and pelvis
- Detection of isolated / circulating tumor cells
- PET
- Whole body MRI

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<th>Examination</th>
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<td>Bone scan</td>
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<td>Chest X-ray</td>
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<td>Detection of isolated / circulating tumor cells</td>
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<td>PET</td>
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<td>Whole body MRI</td>
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Early Detection of Potentially Curable Events

Local recurrence & in-breast recurrence:

- Incidence 7–20% (depending on time of F/U)
- Breast self-examination
- Physical examination, mammography & US
- Magnetic resonance imaging (MRI)*

* Consider in case of increased risk (age <50y, HR neg., diagnostic assessability C/D in mammography + ultrasound)

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Early Detection of Potentially Curable Events

Contralateral breast cancer:

- Rel. risk: 2.5–5
- Incidence: 0.5–1.0 % / year

- Breast self-examination
- Physical examination, mammography & US
- Routine breast MRI*

* Consider in case of increased risk: age <50y, HR neg., diagnostic assessability C/D in mammography + ultrasound.
Early Detection of Potentially Curable Events

Unrelated site carcinoma:

- Colon RR 3.0; endometrium RR 1.6; ovary RR 1.5; lymphoma RR 7
- Screening for secondary malignancies according to current guidelines

- Pelvic examination and PAP smear
- Routine endometrial ultrasound / biopsy

Oxford

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### Follow-Up Care for Breast Cancer

**Recommendations for asymptomatic pts.**

<table>
<thead>
<tr>
<th>Clinical follow-up</th>
<th>Follow-Up*</th>
<th>Screening/ Follow up</th>
</tr>
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<tbody>
<tr>
<td>Years after primary therapy</td>
<td>1 2 3 4 5 &gt; 5</td>
<td></td>
</tr>
<tr>
<td>History, physical examination, counseling</td>
<td>inv.: every 3 months</td>
<td>inv.: every 6 months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inv.: every 12 months</td>
</tr>
<tr>
<td>Self-examination</td>
<td>monthly</td>
<td></td>
</tr>
<tr>
<td>Imaging modalities and biochemistry</td>
<td>indicated only by complaints, clinical findings or suspicion of recurrence</td>
<td></td>
</tr>
<tr>
<td>Mammo-&lt;br&gt;graphy and additionally sonography</td>
<td>BCT**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ipsilat.: every 12 months</td>
<td>on both sides: every 12 months</td>
</tr>
<tr>
<td></td>
<td>contralat.: every 12 months</td>
<td></td>
</tr>
<tr>
<td>Mastectomy</td>
<td>contralateral every 12 months</td>
<td></td>
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</table>

* Continued follow-up visits if still on adjuvant treatment
** In pts with breast-conserving therapy (BCT): First mammography 1 year after initial mammography or at least 6 months after completion of radiotherapy
Breast Cancer Follow-up
Duration and Breast Nurses

- Duration of follow-up
  - until 5 yrs
  - until 10 yrs

- Surveillance by specialized breast nurses

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<td></td>
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<td>+/- *</td>
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*Studies recommended
Luminal-like, HER2-positive and Triple-negative Breast Cancer Patients

- Intrinsic typing of breast cancer leads to the development of subgroups with different courses of disease
- Postoperative surveillance should be tailored to specific breast cancer type and their associated time periods of recurrence.
- ER-positive patients have a stable risk of recurrence of multiple years. Long term surveillance is recommended.
- In contrast, patients with HER2-positive disease and TNBC have an increased risk of recurrence in the early follow up phase. Surveillance should be adjusted accordingly.

Ribelles et al. BCR 2013