Breast Cancer Follow-Up
Breast Cancer
Follow-Up

- **Versions 2002–2014:**
  Bauerfeind / Bischoff / Blohmer / Böhme / Costa / Diel / Gerber / Hanf / Heinrich / Janni / Kaufmann / Kümmel / Lux / Möbus / Mundhenke / Oberhoff / Scharl / Solomayer / Thomssen

- **Version 2015:**
  Maass / Rody
Early detection of curable events

- In-breast recurrence
- Loco-regional recurrence*

Early detection of metastases

- Early detection of symptomatic metastases
- Early detection of asymptomatic metastases

* 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
Objectives II

- Improve quality of life
- Improve physical performance
- Reduce therapy related side effects as osteoporosis, cardiac failure, fatigue, neurotoxicity, lymphedema

Oxford / AGO LoE / GR

2b   B    +
2b   B    +
2b   B    +
Breast Cancer Follow-Up
Objectives III

- Re-evaluation of current adjuvant therapy
  - incl. monitoring of compliance with endocrine therapies

- Pro-active improvement of compliance:
  - Patient information about efficacy data of 5-10 year endocrine therapy
  - Early therapy of side effects (sports, NSAIDs, vitamin D/Calcium)

Oxford / AGO
LoE / GR

5 D ++
Breast Cancer Follow-Up

Objectives

- Psycho-social aspects of support and counseling
  - Pregnancy, contraception, sexuality, quality of life, menopausal symptoms, fear for recurrence

- Second opinion on primary therapy

- General counseling (genetics, HRT, prophylactic surgery, breast reconstruction)

Oxford / AGO
LoE / GR

4  C  +

2c  B  ++

2c  C  +
Breast Cancer Follow-Up
Objectives

Intervention with regard to co-morbidities and life-style risks in order to reduce negative effects on disease course

- **Treatment of type II-diabetes**
  (>25% undetected DM in postmenopausal BC patients)
  ++

- **Weight intervention**
  (if BMI <18.5 and >40)
  2a B +

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

- **Smoking**
  (bc related mortality 2 x and BC unrelated mortality 4 x elevated)
  2b B ++

- **Reduce alcohol consumption below 6 g/d**
  2b B +

- **Moderate sport intervention when physical activity was reduced**
  (rel. reduction of mortality up to 25%)
  1b A ++
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
# Follow-up Goals Reported by Health Professionals and Patients

<table>
<thead>
<tr>
<th>Often mentioned</th>
<th>Health professionals</th>
<th>Patients</th>
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<tbody>
<tr>
<td>Early detection of recurrences and second tumors</td>
<td>Examination of the breast</td>
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<td>Psychosocial support</td>
<td>Reassurance</td>
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<tr>
<td>Guidance, information and referral</td>
<td>Guidance of patients, answering questions</td>
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<td>Evaluation of treatment and treatment side effects</td>
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<td>Early detection of metastases</td>
<td>Psychosocial support</td>
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<td>Clinical trials, building own database</td>
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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

<table>
<thead>
<tr>
<th>Oxford / AGO LoE / GR</th>
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<tbody>
<tr>
<td>1a A ++</td>
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<tr>
<td>1a B ++</td>
</tr>
<tr>
<td>5 D +</td>
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<tr>
<td>1a A ++</td>
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<tr>
<td>2a B ++</td>
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<tr>
<td>3b B +/-</td>
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<tr>
<td>3b B +</td>
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<tr>
<td>5 D ++</td>
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Routine Follow-Up Examinations in Asymptomatic Patients

- Routine biochemistry (incl. tumor markers) 1a A -
- Ultrasound of the liver 1a A -
- Bone scan 1a A -
- Chest X-ray 1a A -
- CT of chest, abdomen and pelvis 2a D -
- Detection of isolated / circulating tumor cells 2a D -
- PET 2b B -
- Whole body MRI 2b B -
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)

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<th>Oxford / AGO LoE / GR</th>
<th>5</th>
<th>D</th>
<th>+</th>
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<tr>
<td></td>
<td>1a</td>
<td>B</td>
<td>++</td>
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<tr>
<td></td>
<td>3b</td>
<td>B</td>
<td>+/-</td>
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</table>
Contralateral breast cancer:

- Rel. risk: 2.5–5
- Incidence: 0.5–1.0 % / year
- Breast self-examination
- Physical examination, mammography & US
- Routine breast MRI
Unrelated site carcinoma:

- Colon RR 3.0; endometrium RR 1.6
  ovary RR ca. 1.5; lymphoma RR 7
- Screening for secondary malignancies according to current guidelines  
  ++
- Pelvic examination and PAP smear  
  5  D  ++
- Routine endometrial ultrasound / biopsy  
  1b  B  -
# Follow-Up Care for Breast Cancer (incl. LCIS/DCIS)

## Recommendations for asymptomatic pts.
*(modified ASCO guidelines 2012, NCCN 2.2011 and S3 national German guideline 2012)*

<table>
<thead>
<tr>
<th>Clinical follow-up</th>
<th>Follow-Up*</th>
<th>Screening</th>
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<tbody>
<tr>
<td>Years after primary therapy</td>
<td>1 2 3 4 5 6</td>
<td>&gt; 6</td>
</tr>
<tr>
<td>History, physical examination, counseling</td>
<td>inv.: every 3 months</td>
<td>inv.: every 6 months</td>
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<tr>
<td></td>
<td>LCIS / DCIS: every 6-12 months</td>
<td>LCIS/DCIS: every 12 months</td>
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<tr>
<td>Self-examination</td>
<td>monthly</td>
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<tr>
<td>Imaging modalities and biochemistry</td>
<td>indicated only by complaints, clinical findings or</td>
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<td></td>
<td>suspicion of recurrence</td>
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<tr>
<td>Mammo-graphy and sonography</td>
<td>inv.: BCT**</td>
<td>inv.: ipsilat. every 12 months</td>
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<tr>
<td></td>
<td>ipsilat.: every 12 months</td>
<td>contralat.: every 12 months</td>
</tr>
<tr>
<td></td>
<td>on both sides: every 12 months</td>
<td>contralateral every 12 months</td>
</tr>
<tr>
<td>Mastectomy</td>
<td>contralateral every 12 months</td>
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</tr>
<tr>
<td>LCIS / DCIS</td>
<td>every 12 months</td>
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</tbody>
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* Continued follow-up visits if still on adjuvant treatment
** First mammography 6-12 months after completion of breast-conserving radiotherapy
Breast Cancer Follow-up Duration. Breast Nurses.

➢ Duration of follow-up
  ➢ until 5 yrs: 1c A ++
  ➢ until 10 yrs: 1c A +

➢ Surveillance by specialized breast nurses: 2b B +/-*

*Studies recommended
Intrinsic typing of breast cancer leads to subgroups with different course of disease. Thus, postoperative surveillance should be adapted to specific time-dependent hazards of recurrence.

ER-positive patients have stable risk over many years requiring long term surveillance.

However, patients with HER2-positive disease and TNBC have more risk in the early phase of follow-up and should therefore receive more intense surveillance in the first years of follow-up.
Breast Cancer Follow-Up (2/17)

No further information

No references
Breast Cancer Follow-Up, Objectives I (3/17)

No further information

References:


Statement: Psycho-social aspects


Statement: risk factors of mortality after loco-regional recurrence

Breast Cancer Follow-Up, Objectives II (4/17)

No further information

References:

Statement: Obesity, physical activity and quality of life


Statement: Obesity and breast cancer prognosis

Statement: lymphedema

Breast Cancer Follow-Up, Objectives III (5/17)

No further information

References:

Statement: Re-evaluation of current adjuvant therapy

1. Expert opinion Organkommission

Statement: Monitoring of compliance

1. Hershman DL et al., SABCS, 2010
3. Neven P, Markopoulos C, Tanner MME et al.: The Impact of Educational Materials on Compliance and Persistence with Adjuvant Aromatase Inhibitors: 2 Year Follow-Up and Final Results from the CARIATIDE Study. SABCS 2011 [P5-16-02].
Statement: Early Detection of Distant Disease


Breast Cancer Follow-Up, Objectives (6/17)

No further information

References:

Statement: Early Detection

Statement: Psycho-social aspects


Statement: prophylactic surgery

Breast Cancer Follow-Up, Objectives (7/17)

No further information

References:

Statement: Early Detection


Statement: Psycho-social aspects
Follow-up Objectives - Reported by Patients (8/17)

No further information

References:

Follow-up Goals Reported by Health Professionals and Patients (9/17)

No further information

References:

Routine Follow-Up Examinations in Asymptomatic Patients (10/17)

No further information

References:

Statement: History (specific symptoms)


Statement: Physical examination


Statement: Breast self-examination

Expert Opinion
Statement: Mammography


Statement: Sonography of the breast


Statement: MRI of the breast in case of inconclusive conventional imaging


Statement: Pelvic examination

Expert Opinion


**Routine Follow-Up Examinations in Asymptomatic Patients (11/17)**

*No further information*

**References:**

Statement: Magnetic resonance imaging (MRI) of the breast


Statement: Routine biochemistry (incl. tumor markers)

Statement: Ultrasound of the liver


Statement: Bone scan


Statement: Chest X-ray


Statement: CT of chest, abdomen and pelvis

Statement: Detection of isolated/circulating tumor cells


Statement: PET


Statement: Whole body MRI

Early Detection of Potentially Curable Events (12/17)

No further information

References:

Statement incidence


Statement breast self examination

Statement physical examination, mammography & US

Early Detection of Potentially Curable Events (13/17)

No further information

References:

Statement risk and incidence


Statement breast self examination

Statement physical examination, mammography & US


Statement: Risk according to intrinsic subtype

1. Otto Metzger-Filho et al. Patterns of Recurrence and Outcome According to Breast Cancer Subtypes in Lymph Node–Negative Disease: Results From International Breast Cancer Study Group Trials VIII and IX, JCO September 1, 2013 vol. 31 no. 25 3083-3090
Early Detection of Potentially Curable Events (14/17)

No further information

References:

Statement: Risk


Statement: Screening for secondary malignancies according to current guidelines

Statement: Pelvic examination and PAP smear

1. Rieck GC, Lim K, Rogers MT: Screening for familial ovarian cancer--management and outcome of women with moderate to high risk of developing ovarian cancer. Int J Gynecol Cancer. 2006 Jan-Feb;16 Suppl 1:86-91

Statement: Endometrial ultrasound / biopsy


Statement: Marrow neoplasms after adjuvant breast cancer therapy

Follow-Up Care for Breast Cancer (incl. LCIS/DCIS) (15/17)

No further information

References:

Breast Cancer Follow-up - Duration. Breast Nurses. (16/17)

No further information

References:

Luminal-like, HER2-positive and Triple-negative Breast Cancer Patients (17/17)

No further information

References:


2. Otto Metzger-Filho et al., Patterns of Recurrence and Outcome According to Breast Cancer Subtypes in Lymph Node–Negative Disease: Results From International Breast Cancer Study Group Trials VIII and IX, JCO September 1, 2013 vol. 31 no. 25 3083-3090