Diagnostik und Therapie primärer und metastasierter Mammakarzinome

Guidelines Breast
Version 2018.1D

Brustkrebs Nachsorge

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Guidelines Breast
Version 2018.1D

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- **Versionen 2002–2017:**
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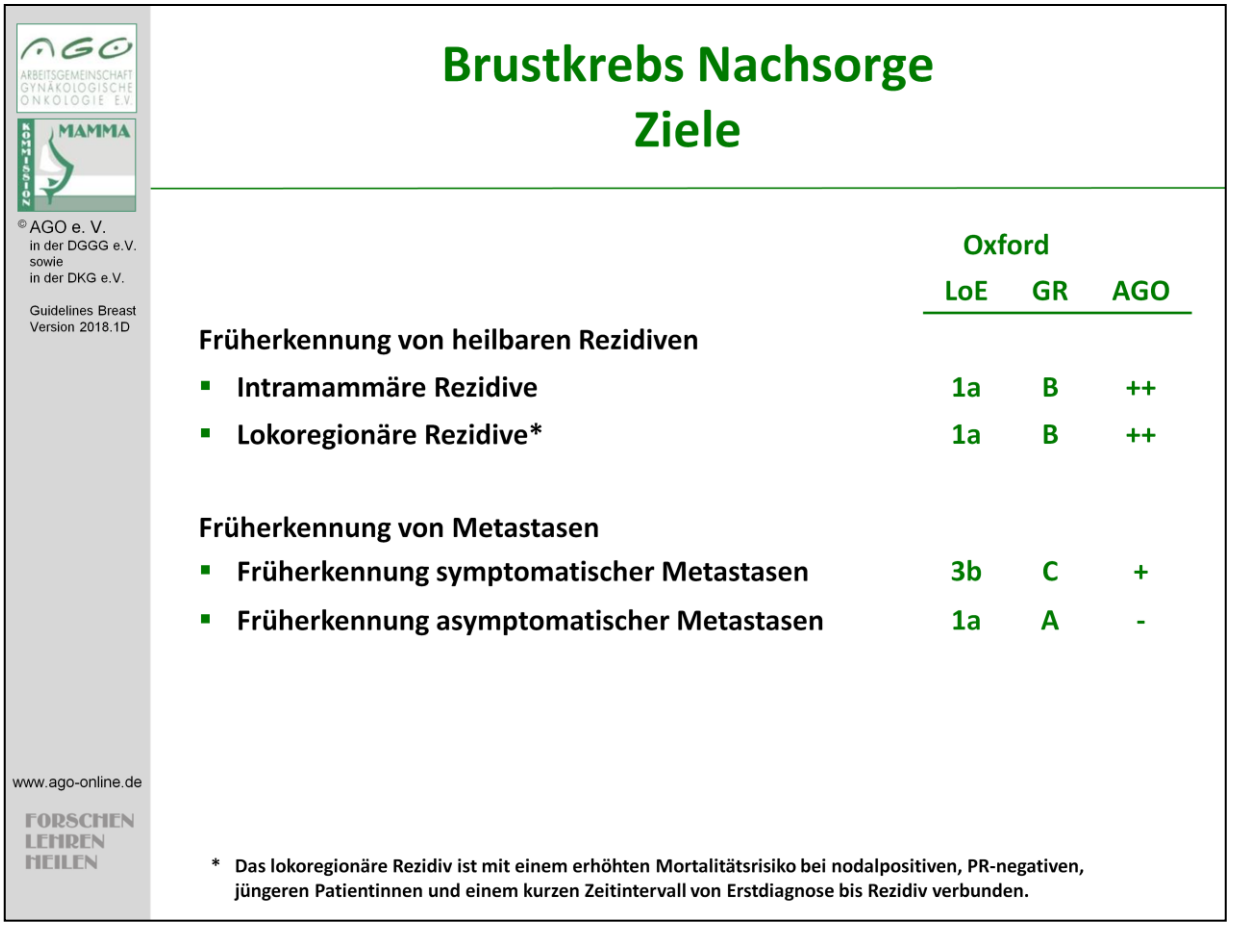

1. De Bock GH, Bonnema J, van Der Hage J et al., Effectiveness of Routine Visits and Routine Tests in Detecting Isolated Locoregional Recurrences After Treatment for Early-Stage Invasive Breast Cancer: A Meta-Analysis and Systematic Review. J Clin Oncol 2004; 22 (19): 4010-4018.
2. Margenthaler JA, Allan E, Cheng L, et al.. Surveillance of Patients With Breast Cancer After Curative-Intent Primary Treatment: Current Practice Patterns. Journal of Oncology Practice 2012; 8(2): 79 – 83.
3. Parmeshwar R, Margenthaler JA, Allam E, et al.. Patient Surveillance After Initial Breast cancer Therapy Variation by Physician Specialty. Am J Surg 2013; 206(2): 218-222.
4. Jochelson M, Hayes DF, Ganz PA. Surveillance and Monitoring in Breast Cancer Survivors: Maximizing Benefit and Minimizing Harm. ASCO Educational Book 2013 e13 – e18.
5. Khatcheressian JL, Hurley P, Bantug E, et al.. Breast Cancer Follow-up and Management After Primary Treatment: American Society of Clinical Oncology Clinical Practice Guideline Update . J Clin Oncol. 2013 March 1; 31(7):961-965.
6. Moschetti I, Cinquini M, Lambertini M et al., Follow-up strategies for women treated for early breast cancer. Cochrane Database Syst Rev. 2016 May 27;(5):CD001768.
7. NCCN Clinical Practice Guidelines in Oncology, Breast Cancer Version 3.17-10.17; https://www.nccn.org/professionals/physician_gls/pdf/breast.pdf

Statement: risk factors of mortality after loco-regional recurrence

1. Dent R, Valentini H, Hanna W,et al.. Factors associated with breast cancer mortality after local recurrence. Curr Oncol 2014; 21 (3): e418-25.

Brustkrebs Nachsorge
Ziele

© AGO e. V.
in der DGGG e.V.
sowie
in der DKG e.V.

Guidelines Breast
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	Oxford		
	LoE	GR	AGO
▪ Verbesserung der Lebensqualität	2b	B	+
▪ Verbesserung der körperlichen Leistungsfähigkeit	2a	B	+
▪ Reduktion therapiebedingter Nebenwirkungen wie z.B. Osteoporose, Herzinsuffizienz, Fatigue, Neurotoxizität, Lymphödeme, sexuelle Beschwerden, kognitive Einschränkungen	2b	B	+
▪ Teilnahme an Interventionsprogrammen in der Nachsorge (z.B. Lifestyle, Therapieadhärenz etc.)	3b	B	+

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Statement: Outcome measurements

1. Ong WL, Schouwenburg MG, van Bommel ACM et al.. A Standard Set of Value-Based Patient-Centered Outcomes for Breast Cancer: The International Consortium for Health Outcomes Measurement (ICHOM) Initiative. JAMA Oncol. 2017 May 1;3(5):677-685.
2. Browall M, Forsberg C, Wengström Y. Assessing patient outcomes and cost-effectiveness of nurse-led follow-up for women with breast cancer - have relevant and sensitive evaluation measures been used? J Clin Nurs. 2017 Jul;26(13-14):1770-1786.
3. Cheng KKF, Lim YTE, Koh ZM et al. Home-based multidimensional survivorship programmes for breast cancer survivors. Cochrane Database Syst Rev. 2017 Aug 24;8:CD011152.

Statement: Obesity, physical activity and quality of life

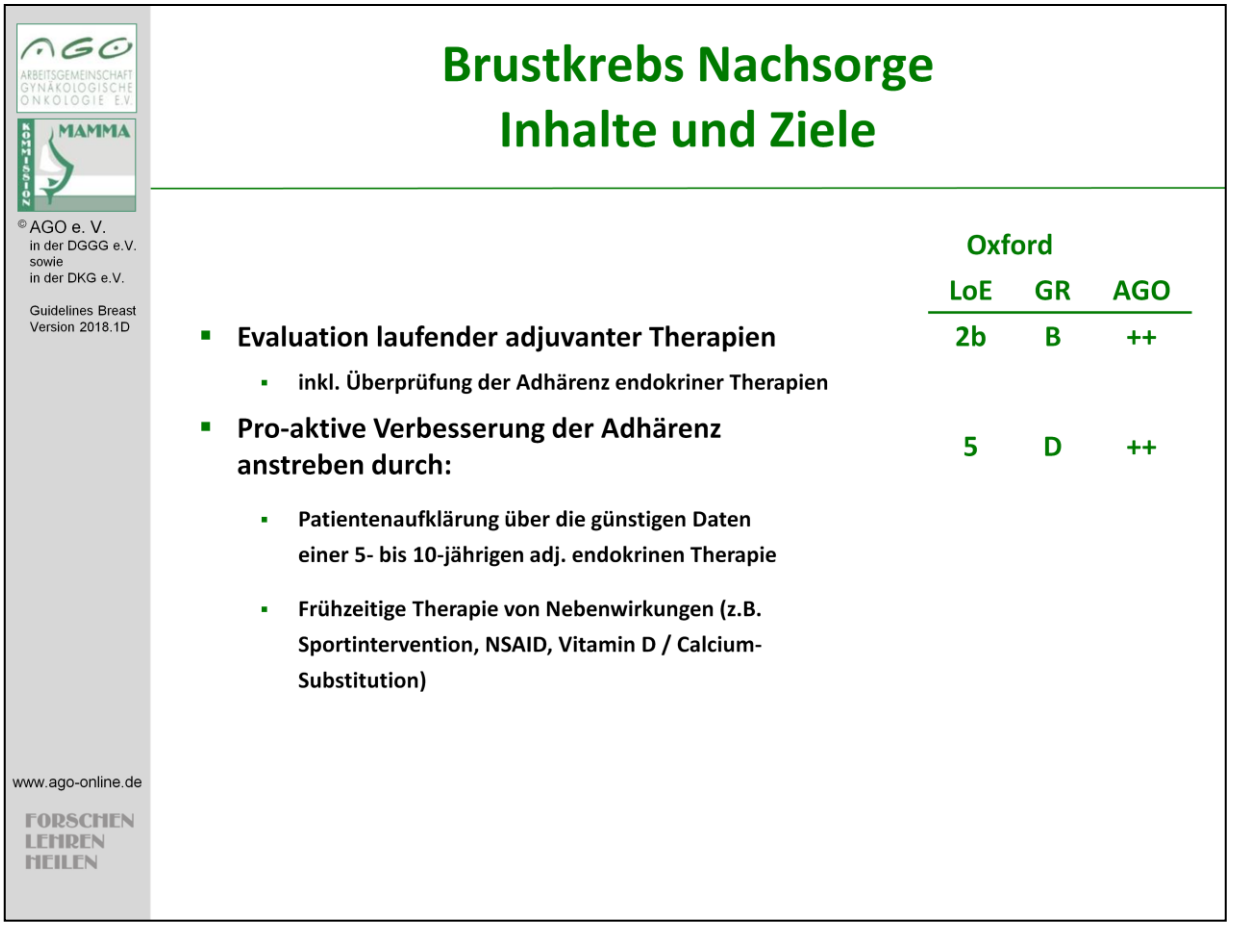
1. Bicego D, Brown K. Effects of Exercise on Quality of Life in Women Living with Breast Cancer: A Systematic Review. The Breast Journal 2009; 15(1): 45-51.
2. Carson JW, Carson KM, Porter LS et al.. Yoga of Awareness program for menopausal symptoms in breast cancer survivors: results from a randomized trial. Support Care Cancer 2009; 17: 1301-1309.
3. Vaskuil DW, van Nes JG, Junngeburt JM et al.. Maintenance of physical activity and body weight in relation to subsequent quality of life in postmenopausal breast cancer patients. Annals of Oncology 2010; 21: 2094–2101.
4. Cramp F, Byron-Daniel J. Exercise for the management of cancer-related fatigue in adults. Cochrane Database Syst Rev. 2012 Nov 14;11:CD006145.
5. Bower JE, Garet D, Sternlieb B et al.. Yoga for persistent fatigue in breast cancer survivors: A randomized controlled trial. Cancer 2012; 118(15): 3766-75.

lymphedema for the prevention of breast cancer-related clinical lymphedema after axillary lymph node dissection; a prospective observational study.Lymphat Res Biol 2014;12(4): 289-9.

2. Basta MN, Wu LC, Kanchwala SK et al.. Reliable prediction of postmastectomy lymphedema: the Risk Assessment Tool Evaluating Lymphedema. Am J Surg. 2017 Jun;213(6):1125-1133.

Statement: sexual disorders and cognitive impairment:

1. Runowcz CD, Leach CR, Henry L et al.. American Cancer Society/American Society of Clinical Oncology breast cancer survivorship care guideline. CA Cancer J Clin 2016; 66: 43-73.
2. Janelsins MC, Heckler CE, Peppone LJ et al.. Cognitive Complaints in Survivors of Breast Cancer After Chemotherapy Compared With Age-Matched Controls: An Analysis From a Nationwide, Multicenter, Prospective Longitudinal Study. J Clin Oncol. 2017 Feb 10;35(5):506-514.
3. Bernstein LJ, McCreath GA, Komeylian Z et al..Cognitive impairment in breast cancer survivors treated with chemotherapy depends on control group type and cognitive domains assessed: A multilevel meta-analysis. Neurosci Biobehav Rev. 2017 Dec;83:417-428.



Evaluation of current adjuvant therapy

1. Hershman DL, Kushi LH, Shao T et al.. Early Discontinuation and Nonadherence to Adjuvant Hormonal Therapy in a Cohort of 8,769 Early-Stage Breast Cancer Patients. J Clin Oncol 2010; 28: 4120-4128.
2. Lueck H-J, Hadji P, Harbeck N et al.. 24 Months Follow-Up Results from PACT (Patient's Anastrozole Compliance to Therapy Programme), a Non-Interventional Study Evaluating the Influence of a Standardized Information Service on Compliance in Postmenopausal Women with Early Breast Cancer. SABCS 2011 [P5-17-05].
3. Neven P, Markopoulos C, Tanner M et al.. The impact of educational materials on compliance and persistence rates with adjuvant aromatase inhibitor treatment: first-year results from the compliance of aromatase inhibitors assessment in daily practice through educational approach (CARIATIDE) study. Breast. 2014 Aug;23(4):393-9.
4. Hershman DL, Kushi LH, Hillyer GC et al.. Psychosocial factors related to non persistence with adjuvant endocrine therapy among women with breast cancer: the Breast Cancer Quality of Care Study (BQUAL). Breast Cancer Res Treat. 2016 May;157(1):133-43.
5. Goss PE, Ingle JN, Pritchard KI et al.. Extending Aromatase-Inhibitor Adjuvant Therapy to 10 Years. N Engl J Med. 2016 Jul 21;375(3):209-19.
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7. Laroche F, Perrot S, Medkour T et al.. Quality of life and impact of pain in women treated with aromatase inhibitors for breast cancer. A multicenter cohort study. PLoS

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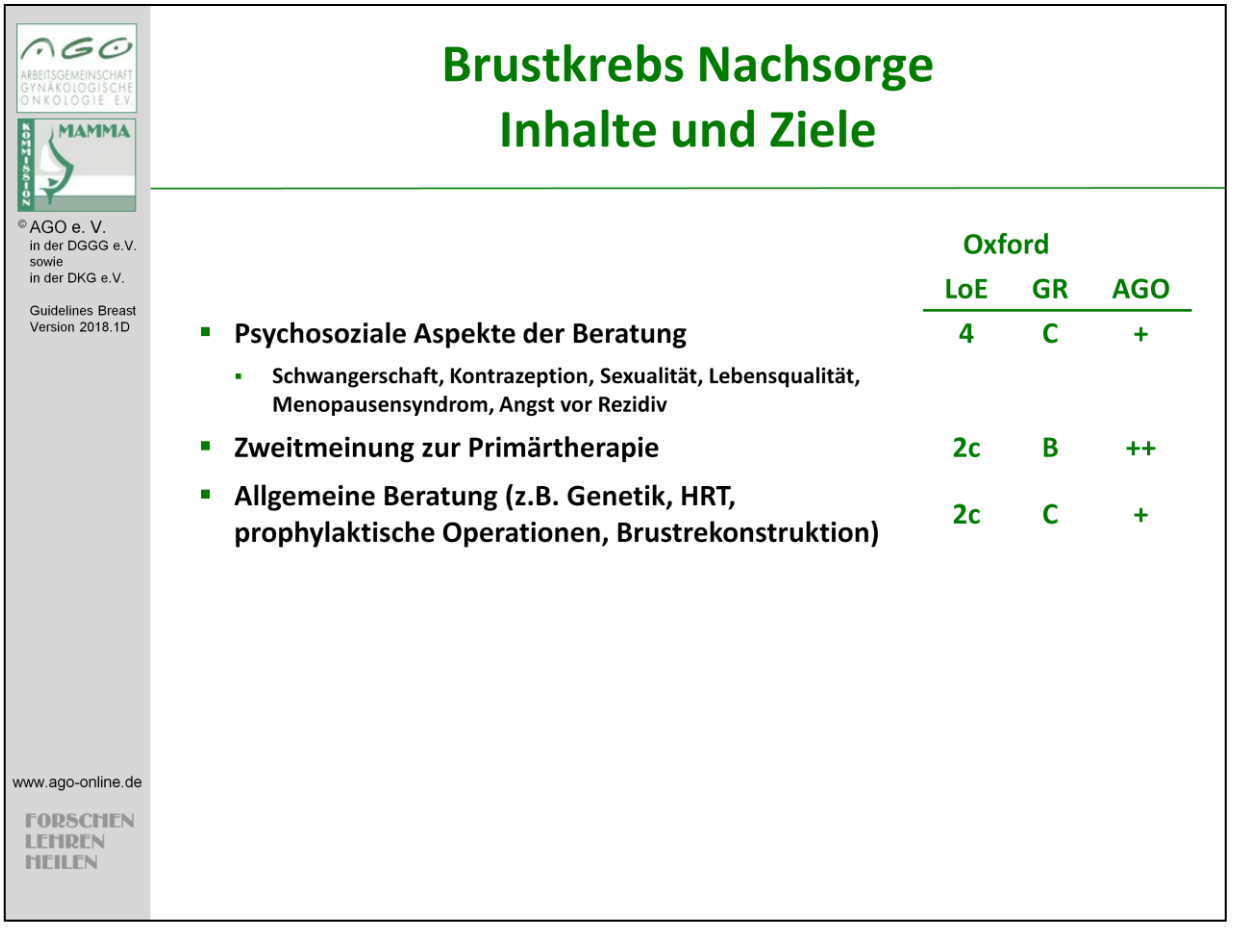

Statement: Psycho-social aspects

1. Drolet M, Maunsell E, Brisson J et al. Not Working 3 Years After Breast Cancer: Predictors in a Population-Based Study. J Clin Oncol 2005; 23(33): 8305-8312.
2. Scheier MF, Helgeson VS, Schulz R et al.. Interventions to Enhance Physical and Psychological Functioning Among Younger Women Who Are Ending Nonhormonal Adjuvant Treatment for Early-Stage Breast Cancer. J Clin Oncol 2005; 23(19): 4298-4311.
3. Fors EA, Bertheussen GF, Thune I et al.: Psychosocial interventions as part of breast cancer rehabilitation programs? Results from a systematic review. Psycho-Oncology 2011; 20: 909-918.
4. Silva C, Caramelo O, Almeida-Santos T et al.. Factors associated with ovarian function recovery after chemotherapy for breast cancer: a systematic review and meta-analysis. Hum Reprod. 2016 Dec;31(12):2737-2749.
5. Luke B, Brown MB, Missmer SA et al.. Assisted reproductive technology use and outcomes among women with a history of cancer. Hum Reprod. 2016 Jan;31(1):183-9.
6. Gudenkauf LM, Ehlers SL. Psychosocial interventions in breast cancer survivorship care. Breast. 2017 Nov 20;38:1-6.
7. Rogers LQ, Courneya KS, Anton PM et al.. Effects of a multicomponent physical activity behavior change intervention on fatigue, anxiety, and depressive symptomatology in breast cancer survivors: randomized trial. Psychooncology. 2017 Nov;26(11):1901-1906.

Statement: prophylactic surgery

1. Rhiem K, Engel C, Graeser M et al.. The risk of contralateral breast cancer in patients from BRCA ½ negative high risk families as compared to patients from BRCA1 or BRCA2 positive families: a retrospective cohort study. Breast Cancer Res. 2012; 14(6): R156.

Brustkrebs Nachsorge
Inhalte und Ziele

Interventionen hinsichtlich Begleiterkrankungen und Lebensstil, um einen negativen Einfluss auf den Krankheitsverlauf zu reduzieren

	Oxford LoE	GR	AGO
▪ **Einstellung Diabetes mellitus (Typ II)** (> 25% unerkannter DM bei postmenopausalem MaCa)	5	D	++
▪ **Gewichtsintervention** (bei BMI <18,5 und > 40)	2a	B	+
▪ **Nächtliche Nahrungskarenz > 13h**	2b	B	+
▪ **Fettreduzierte Diät (mindestens 15 % Kalorienreduktion durch Fett) ist mit einem verbesserten Gesamtüberleben bei HR neg. Patientinnen verbunden**	2b	B	+
▪ **Intervention bei Nikotinabusus (durch Rauchen 2 x erhöhte brustkrebsspezifische, 4 x erhöhte nicht-brustkrebsspezifische Mortalität)**	2b	B	++
▪ **Alkoholkonsum reduzieren unter 6 g/d**	2b	B	+
▪ **Moderate Sportintervention bei Bewegungsmangel**	1b	A	++
▪ **Disstress- Reduktion**	3b	B	+

1. Onitilo AA, Donald M, Stankowski RV et al.. Breast and prostate cancer survivors in a diabetic cohort: results from the Living with DiabetesStudy. Clin Med Res. 2013 Dec;11(4):210-8.
2. Anderson C, Sandler DP, Weinberg CR et al.. Age- and treatment-related associations with health behavior change among breast cancer survivors. Breast. 2017 Jun;33:1-7.
3. Syrowatka A, Motulsky A, Kurteva S et al.. Predictors of distress in female breast cancer survivors: a systematic review. Breast Cancer Res Treat. 2017 Sep;165(2):229-245. Review.
4. Gudenkauf LM, Ehlers SL. Psychosocial interventions in breast cancer survivorship care. Breast. 2017 Nov 20;38:1-6. Review.
5. Mehra K, Berkowitz A, Sanft T.D et al.. Physical Activity, and Body Weight in Cancer Survivorship. Med Clin North Am. 2017 Nov;101(6):1151-1165. Review
6. Haykowsky MJ, Scott JM, Hudson K et al.. Lifestyle Interventions to Improve Cardiorespiratory Fitness and Reduce Breast Cancer Recurrence. Am Soc Clin Oncol Educ Book. 2017;37:57-64.
7. Chlebowski RT, Aragaki AK, Anderson GL et al. Low-Fat Dietary Pattern and Breast Cancer Mortality in the Women's Health Initiative Randomized Controlled Trial. J Clin Oncol. 2017 Sep 1;35(25):2919-2926.
8. Marinac CR, Nelson SH, Breen CI et al..Prolonged Nightly Fasting and Breast Cancer Prognosis. JAMA Oncol. 2016 Aug 1;2(8):1049-55.

<u>Statement: for all statements see most recent literature see at Survivorship care guidelines of ASC and ASCO</u>

1. Runowcz CD, Leach CR, Henry L et al.. American Cancer Society/American Society of Clinical Oncology breast cancer survivorship care guideline. CA Cancer J Clin 2016; 66:

43-73.

Weight intervention.

1. Chajès V, Romieu I. Nutrition and breast cancer. Maturitas, 2014; 77 (1): 7–11.

Moderate sport intervention when physical activity was reduced

1. Chlebowski RT. Nutrition and physical activity influence on breast cancer incidence and outcome. Breast 2013; Aug;22 Suppl 2: S30-7.
2. Patsou ED, Alexias GD, Anagnostopoulos FG et al.. Effects of physical activity on depressive symptoms during breast cancer survivorship: a meta-analysis of randomised control trials. ESMO Open. 2017 Dec 11;2(5):e000271

Nightly fasting

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

Marinac CR, Nelson SH, Breen CI et al. JAMA Oncol 2016: 2:1049-1055

Nachsorgeziele – von Patientinnenseite gesehen

- **Untersuchung der Brust** **Oxford LoE 4 C**
- **Beruhigung und Bestätigung**
- **Führung der Patientinnen, Fragen beantworten**
- **Überprüfung der Behandlung und potenzieller Nebenwirkungen**
- **Psychosoziale Unterstützung**

Kwast AB, Drossaert CH, Siesling S et al. Follow-up working group. Breast cancer follow-up: from the perspective of health professionals and patients. Eur J Cancer Care (Engl). 2013; 22(6): 754-64.

Statement: for all statements see most recent literature see at Survivorship care guidelines of ASC and ASCO

1. Runowcz CD, Leach CR, Henry L et al..American Cancer Society/American Society of Clinical Oncology breast cancer survivorship care guideline. CA Cancer J Clin 2016; 66: 43-73.

Routine-Nachsorgeuntersuchungen bei asymptomatischen Patientinnen

Guidelines Breast
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Untersuchungen	Oxford LoE	Oxford GR	AGO
Anamnese (spezifische Symptome)	1a	A	++
Untersuchung	1a	B	++
Brust-Selbst-Untersuchung	5	D	+
Mammographie	1a	A	++
Mammasonographie	2a	B	++
Mamma-MR in der Routine*	3a	B	+/-
Mamma-MR bei unklarer Mammographie / -sonographie	3b	B	+
Gynäkologische Untersuchung	5	D	++
DXA-Scan zu Therapiebeginn und risikoadaptiert in regelmäßigen Abständen bei Frauen mit frühzeitiger Menopause und Frauen unter AI-Therapie	5	D	+

*Bei erhöhtem Risiko erwägen (Alter unter 50 J., HR-, Beurteilbarkeit in MG+US C/D)

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1. Margenthaler JA, Allan E, Cheng L, et al.. Surveillance of Patients With Breast Cancer After Curative-Intent Primary Treatment: Current Practice Patterns. Journal of Oncology Practice 2012; 8(2): 79 – 83.
2. Parmeshwar R, Margenthaler JA, Allam E et al.. Patient Surveillance After Initial Breast cancer Therapy Variation by Physician Specialty. Am J Surg 2013; 206(2): 218-222.
3. Jochelson M, Hayes DF, Ganz PA. Surveillance and Monitoring in Breast Cancer Survivors: Maximizing Benefit and Minimizing Harm. ASCO Educational Book 2013 e13 – e18.
4. Khatcheressian JL, Hurley P, Bantug E, et al.. Breast Cancer Follow-up and Management After Primary Treatment: American Society of Clinical Oncology Clinical Practice Guideline Update . J Clin Oncol. 2013 March 1; 31(7):961-965.
5. Bychkovsky BL, Lin NU. Imaging in the evaluation and follow-up of early and advanced breast cancer: When, why, and how often? Breast. 2017 Feb;31:318-324 Review.
6. Expert Panel on Breast Imaging: Moy L, Bailey L, D'Orsi C et al..ACR Appropriateness Criteria® Stage I Breast Cancer: Initial Workup and Surveillance for Local Recurrence and Distant Metastases in Asymptomatic Women. J Am Coll Radiol. 2017 May;14(5S):S282-S292.
7. Lam DL, Houssami N, Lee JM. Imaging Surveillance After Primary Breast Cancer Treatment. AJR Am J Roentgenol. 2017 Mar;208(3):676-686. Review.

Statement: Physical examination

1. Margenthaler JA, Allan E, Cheng L, et al.. Surveillance of Patients With Breast Cancer After Curative-Intent Primary Treatment: Current Practice Patterns. Journal of Oncology Practice 2012; 8(2): 79 – 83.
2. Khatcheressian JL, Hurley P, Bantug E, et al.. Breast Cancer Follow-up and

1;3(11):1495-1502.

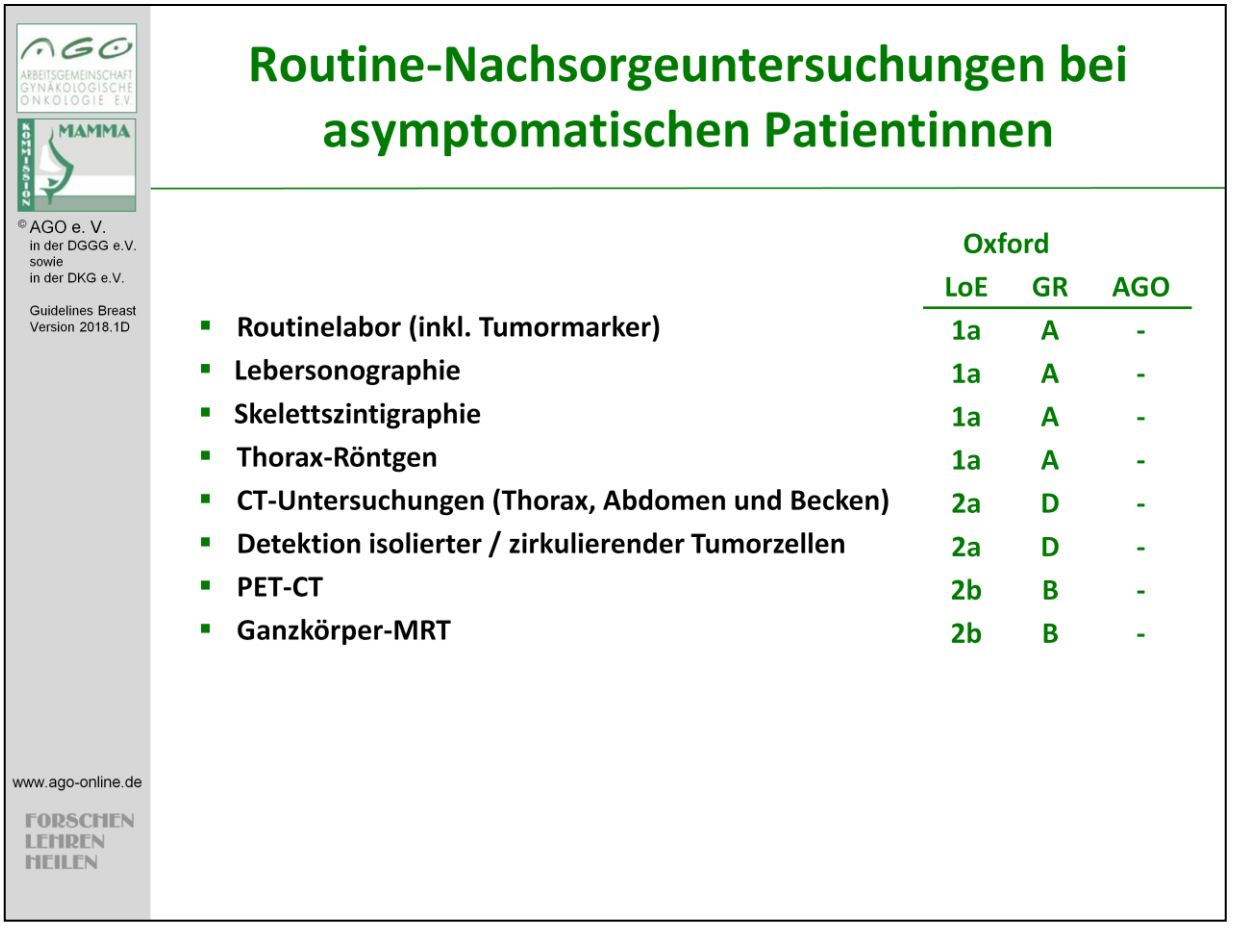
6. Kim EJ, Kang BJ, Kim SH et al...Diagnostic Performance of and Breast Tissue Changes at Early Breast MR Imaging Surveillance in Women after Breast Conservation Therapy.Radiology. 2017 Sep;284(3):656-666.
7. Tadros A, Arditi B, Weltz C et al..Utility of surveillance MRI in women with a personal history of breast cancer.Clin Imaging. 2017 Nov - Dec;46:33-36.

Statement: Pelvic examination Expert Opinion

1. Cohen I, Beyth Y, Tepper R. The role of ultrasound in the detection of endometrial pathologies in asymptomatic postmenopausal breast cancer patients with tamoxifen treatment. Obstet Gynecol Surv 1998; 53(7): 429-38.
2. Giorda G, Crivellari D, Veronesi A et al.. Comparison of ultrasonography, hysteroscopy, and biopsy in the diagnosis of endometrial lesions in postmenopausal tamoxifen-treated patients. Acta Obstet Gynecol Scand 2002; 81(10):975-80.
3. Robertson C1, Arcot Ragupathy SK, Boachie C et al.: The clinical effectiveness and cost-effectiveness of different surveillance mammography regimens after the treatment for primary breast cancer: systemic reviews registry database analyses and economic evaluation. Health Technol Assess. 2011;15(34): 1-322.
4. Geurts SM, de Vegt F, Siesling S et al. Pattern of follow up care and early relapse detection in breast cancer patients. Breast Cancer Res Treat 2012; 136(3): 859-68.
5. Khatcheressian JL, Hurley P, Bantug E et al.. Breast Cancer Follow-up and Management After Primary Treatment: American Society of Clinical Oncology Clinical Practice Guideline Update . J Clin Oncol. 2013 March 1; 31(7):961-965.

Statement: Dexa scan Expert Opinion

1. Mahon SM, Williams MT, Spies MA: Screening for second cancers and osteoporosis in long-term survivors. Cancer Pract 2000; 8(6): 282-90.
2. Runowcz CD, Leach CR, Henry L et al..American Cancer Society/American Society of Clinical Oncology breast cancer survivorship care guideline. CA Cancer J Clin 2016; 66: 43-73.



1. Bychkovsky BL, Lin NU. Imaging in the evaluation and follow-up of early and advanced breast cancer: When, why, and how often? Breast. 2017 Feb;31:318-324 Review.
2. Lam DL, Houssami N, Lee JM. Imaging Surveillance After Primary Breast Cancer Treatment. AJR Am J Roentgenol. 2017 Mar;208(3):676-686. Review.
3. Expert Panel on Breast Imaging:, Moy L, Bailey L, D'Orsi C, Green ED et al.. ACR Appropriateness Criteria® Stage I Breast Cancer: Initial Workup and Surveillance for Local Recurrence and Distant Metastases in Asymptomatic Women. J Am Coll Radiol. 2017 May;14(5S):S282-S292.
4. Lafranconi A, Pylkkänen L, Deandrea S et al.. Intensive follow-up for women with breast cancer: review of clinical, economic and patient's preference domains through evidence to decision framework. Health Qual Life Outcomes. 2017 Oct 19;15(1):206.

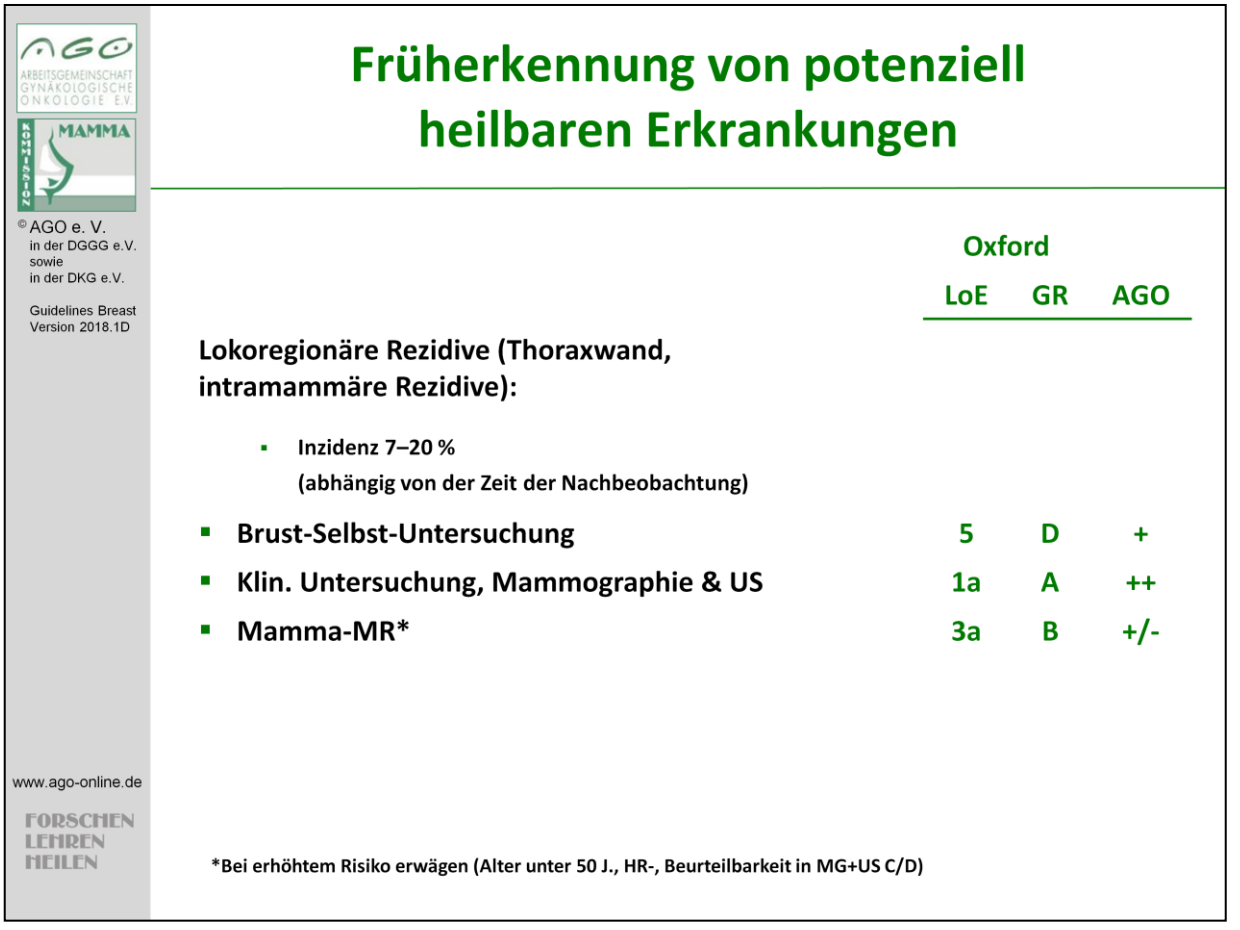
Statement: Magnetic resonance imaging (MRI) of the breast

1. DeMartini W, Lehman C. A review of current evidence-based clinical applications for breast magnetic resonance imaging. Top Magn Reson Imaging 2008; 19(3):143-50. Review.
2. Warner E. The role of magnetic resonance imaging in screening women at high risk of breast cancer. Top Magn Reson Imaging. 2008; 19(3):163-9. Review.
3. Shah C, Ahlawat S, Khan A et al.. The Role of MRI in the Follow-up of Women Undergoing Breast-conserving Therapy. Am J Clin Oncol. 2016 Jun;39(3):314-9.

Statement: Routine biochemistry (incl. tumor markers)

1. McShane LM, Altman DG, Sauerbrei W et al..Statistics Subcommittee of the NCI-

May;55(3):579-589. Review.



Statement incidence

1. Perry NM. Quality assurance in the diagnosis of breast disease. EUSOMA Working Party. Eur J Cancer 2001; 37: 159-172
2. Wapnir IL, Anderson SJ, Mamounas EP et al.. Prognosis after ipsilateral breast tumor recurrence and locoregional recurrences in five National Surgical Adjuvant Breast and Bowel Project node-positive adjuvant breast cancer trials. J Clin Oncol 2006; 24:2028-2037

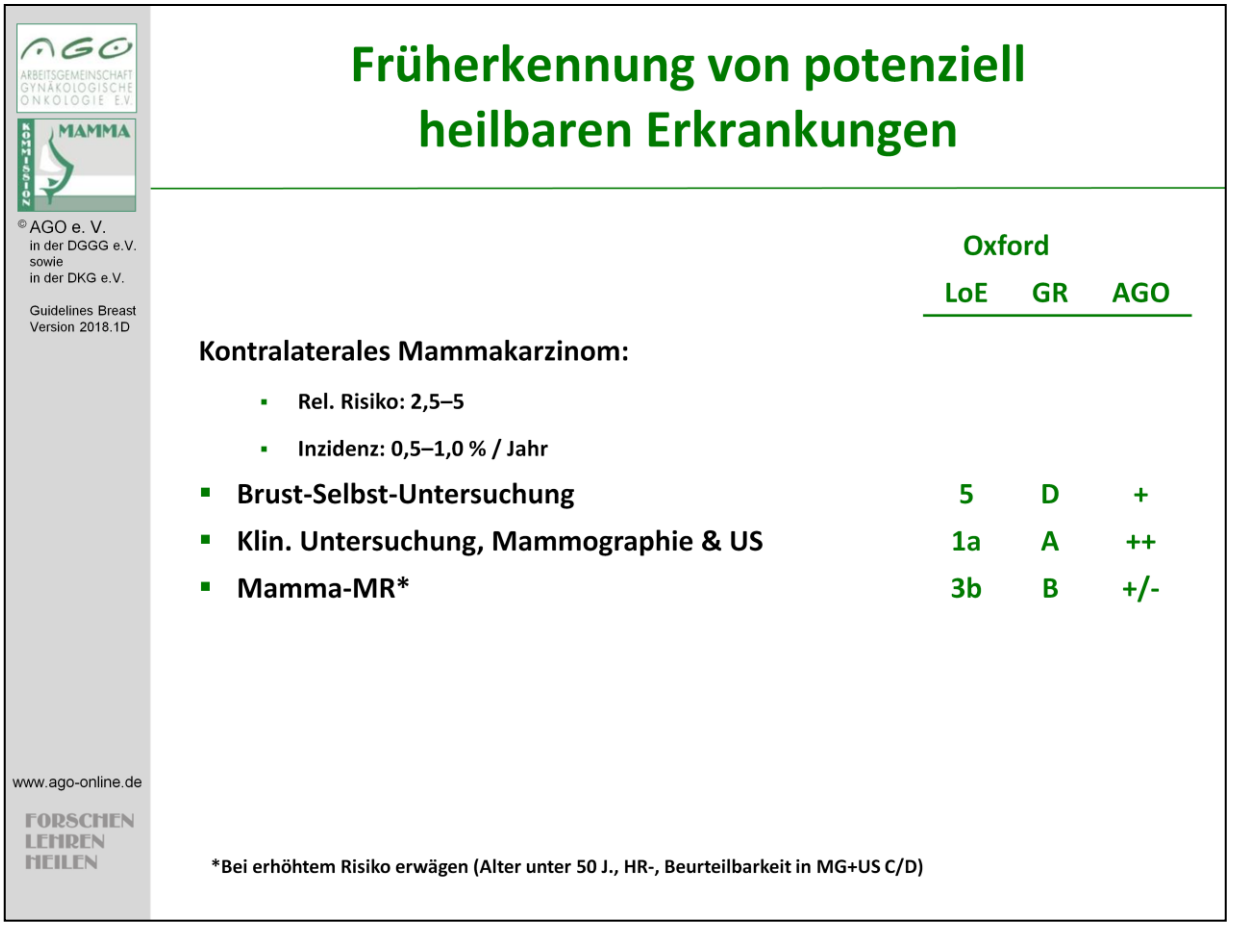
Statement breast self examination

1. Thomas DB, Gao DL, Ray RM et al.. Randomized trial of breast self-examination in Shanghai: final results. J Natl Cancer Inst 2002; 94(19): 1445-57.
2. Khatcheressian JL, Wolff AC, Smith TJ. American Society of Clinical Oncology 2006 update of the breast cancer follow-up and management guidelines in the adjuvant setting. J Clin Oncol. 2006 Nov 1;24(31):5091-7.
3. Montgomery DA, Krupa K, Cooke TG. Follow-up in breast cancer: does routine clinical examination improve outcome? A systematic review of the literature. Br J Cancer 2007; 97(12): 1632-41.

Statement physical examination, mammography & US & MRI

1. Beinart G, Gonzalez-Angulo AM, Broglio K. Clinical course of 771 patients with bilateral breast cancer: characteristics associated with overall and recurrence-free survival. Clin Breast Cancer 2007; 7(11): 867-74.
2. Montgomery DA, Krupa K, Cooke TG. Follow-up in breast cancer: does routine clinical examination improve outcome? A systematic review of the literature. Br J Cancer. 2007; 97(12): 1632-41.

9. Tadros A, Arditi B, Weltz C et al..Utility of surveillance MRI in women with a personal history of breast cancer. Clin Imaging. 2017 Nov - Dec;46:33-36.



Statement risk and incidence

1. Hooning MJ, Aleman BM, Hauptmann M et al. Roles of radiotherapy and chemotherapy in the development of contralateral breast cancer J Clin Oncol 2008; 26(34): 5561-8.
2. Yerushalmi R, Kennecke H, Woods R et al. Does multicentric/multifocal breast cancer differ from unifocal breast cancer? An analysis of survival and contralateral breast cancer incidence. Breast Cancer Res Treat 2009; 117(2): 365-70.
3. Bertelsen L, Mellemkjær L, Christensen J et al..Age-Specific Incidence of Breast Cancer in Breast Cancer Survivors and Their First-Degree Relatives. Epidemiology 2009; 20(2): 175 – 80.

Statement breast self examination

1. Thomas DB, Gao DL, Ray RM et al.: Randomized trial of breast self-examination in Shanghai: final results. J Natl Cancer Inst 2002; 94(19): 1445-57.
2. Montgomery DA, Krupa K, Cooke TG et al.. Follow-up in breast cancer: does routine clinical examination improve outcome? A systematic review of the literature. Br J Cancer 2007; 97(12): 1632-41.
3. Khatcheressian JL, Hurley P, Bantug E et al.. Breast Cancer Follow-up and Management After Primary Treatment: American Society of Clinical Oncology Clinical Practice Guideline Update. J Clin Oncol. 2013 March 1; 31(7):961-965.

Statement physical examination, mammography & US&MRI

1. Beinart G, Gonzalez-Angulo AM, Broglio K et al.. Clinical course of 771 patients with bilateral breast cancer: characteristics associated with overall and recurrence-free survival. Clin Breast Cancer 2007; 7(11): 867-74

breast by using preoperative MR imaging reduces incidence of metachronous cancer.Radiology. 2013 Apr;267(1):57-66.

5. Freedman RA, Keating NL, Partridge AH et al.. Surveillance Mammography in Older Patients With Breast Cancer-Can We Ever Stop?: A Review. JAMA Oncol. 2017 Mar 1;3(3):402-409.
6. Vapiwala N, Hwang WT, Kushner CJ et al..No impact of breast magnetic resonance imaging on 15-year outcomes in patients with ductal carcinoma in situ or early-stage invasive breast cancer managed with breast conservation therapy. Cancer. 2017 Apr 15;123(8):1324-1332.
7. van Bodegraven EA, van Raaij JC, Van Goethem M et al.. Guidelines and recommendations for MRI in breast cancer follow-up: A review. Eur J Obstet Gynecol Reprod Biol. 2017 Nov;218:5-11.

Früherkennung von potenziell heilbaren Erkrankungen

	Oxford		
	LoE	GR	AGO
Sonstige Zweitkarzinome:			
▪ **Kolorektal RR 3,0; Endometrium RR 1,6 Ovar RR 1,5; Lymphome RR 7**			
▪ **Screening auf Zweitmalignome entsprechend den gültigen Leitlinien**	5	D	++
▪ **Gyn. Krebsfrüherkennungsuntersuchung**	5	D	++
▪ **Routinemäßige transvaginale Sonographie / Biopsie des Endometriums**	1b	B	-

Statement: Risk

1. Brown LM, Chen BE, Pfeiffer RM et al. Risk of second non-hematological malignancies among 376,825 breast cancer survivors. Breast Cancer Res Treat 2007; 106(3): 439-51.
2. Kirova YM, De Rycke Y, Gambotti L et al. Second malignancies after breast cancer: the impact of different treatment modalities. Br J Cancer 2008 Mar 11; 98(5): 870-4.
3. Schaapveld M, Visser O, Louwman MJ et al.. Risk of new primary nonbreast cancers after breast cancer treatment: a Dutch population-based study. J Clin Oncol 2008; 26(8): 1239-46.
4. Andersson M, Jensen MB, Engholm G et al.. Risk of second primary cancer among patients with early operable breast cancer registered or randomised in Danish Breast Cancer cooperative Group (DBCG) protocols of the 77, 82 and 89 programmes during 1977-2001. Acta Oncol 2008; 47(4): 755-64.

Statement: Screening for secondary malignancies according to current guidelines

1. Khatcheressian JL, Hurley P, Bantug E et al.. Breast Cancer Follow-up and Management After Primary Treatment: American Society of Clinical Oncology Clinical Practice Guideline Update . J Clin Oncol. 2013 March 1; 31(7):961-965.

Statement: Pelvic examination and PAP smear

1. Gerber B, Krause A, Müller H et al.. Ultrasonographic detection of asymptomatic endometrial cancer in postmenopausal patients offers no prognostic advantage over symptomatic disease discovered by uterine bleeding. Eur J Cancer 2001; 37(1): 64-71.
2. Fishman DA, Cohen L, Blank SV et al.. The role of ultrasound evaluation in the detection of early-stage epithelial ovarian cancer. Am J Obstet Gynecol 2005; 192(4): 1214-21.

study using transvaginal ultrasound. J Clin Oncol 2000; 18(20): 3464-70

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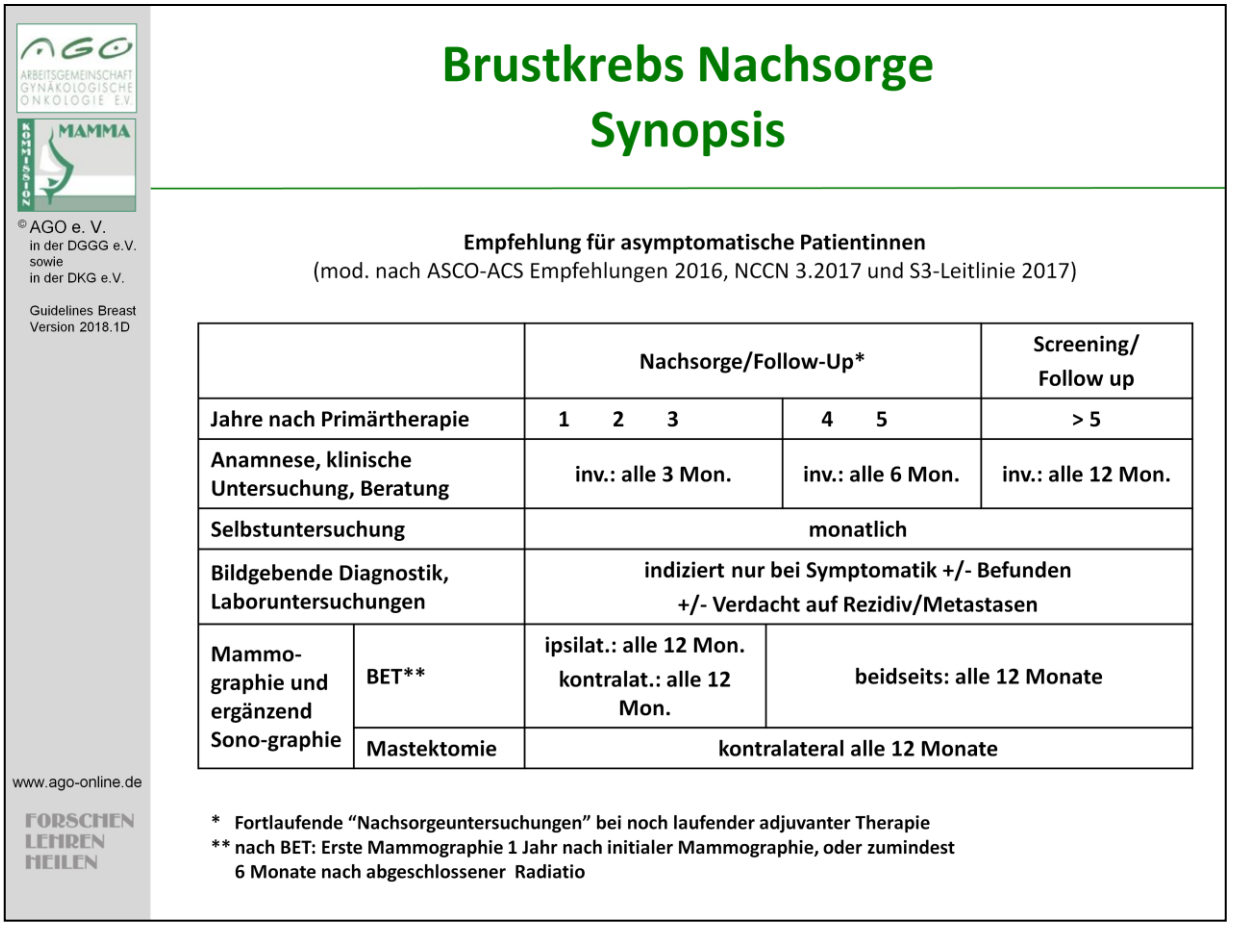

Brustkrebs Nachsorge
Synopsis

Guidelines Breast
Version 2018.1D

Empfehlung für asymptomatische Patientinnen
(mod. nach ASCO-ACS Empfehlungen 2016, NCCN 3.2017 und S3-Leitlinie 2017)

		Nachsorge/Follow-Up*		Screening/ Follow up
Jahre nach Primärtherapie		1 2 3	4 5	> 5
Anamnese, klinische Untersuchung, Beratung		inv.: alle 3 Mon.	inv.: alle 6 Mon.	inv.: alle 12 Mon.
Selbstuntersuchung		monatlich		
Bildgebende Diagnostik, Laboruntersuchungen		indiziert nur bei Symptomatik +/- Befunden +/- Verdacht auf Rezidiv/Metastasen		
Mammo-graphie und ergänzend Sono-graphie	BET**	ipsilat.: alle 12 Mon. kontralat.: alle 12 Mon.	beidseits: alle 12 Monate	
	Mastektomie	kontralateral alle 12 Monate		

* Fortlaufende "Nachsorgeuntersuchungen" bei noch laufender adjuvanter Therapie
** nach BET: Erste Mammographie 1 Jahr nach initialer Mammographie, oder zumindest 6 Monate nach abgeschlossener Radiatio

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5. Interdisziplinäre S3-Leitlinie für die Früherkennung,Diagnostik, Therapie und Nachsorge des Mammakarzinoms. Langversion 4.0 – Dezember 2017 AWMF-Registernummer: 032-045OL;http://www.leitlinienprogramm-onkologie.de/fileadmin/user_upload/LL_Mammakarzinom_Langversion_4.0.pdf

Brustkrebs Nachsorge
Dauer und „Breast Nurses“

Guidelines Breast
Version 2018.1D

	Oxford		
	LoE	GR	AGO
▪ **Dauer der Nachsorge**			
▪ Bis zu 5 Jahre	1c	A	++
▪ Bis zu 10 Jahre	1c	A	+
▪ **Nachsorge durch spezialisierte „Breast nurses“**	2b	B	+/-*

*Studien empfohlen

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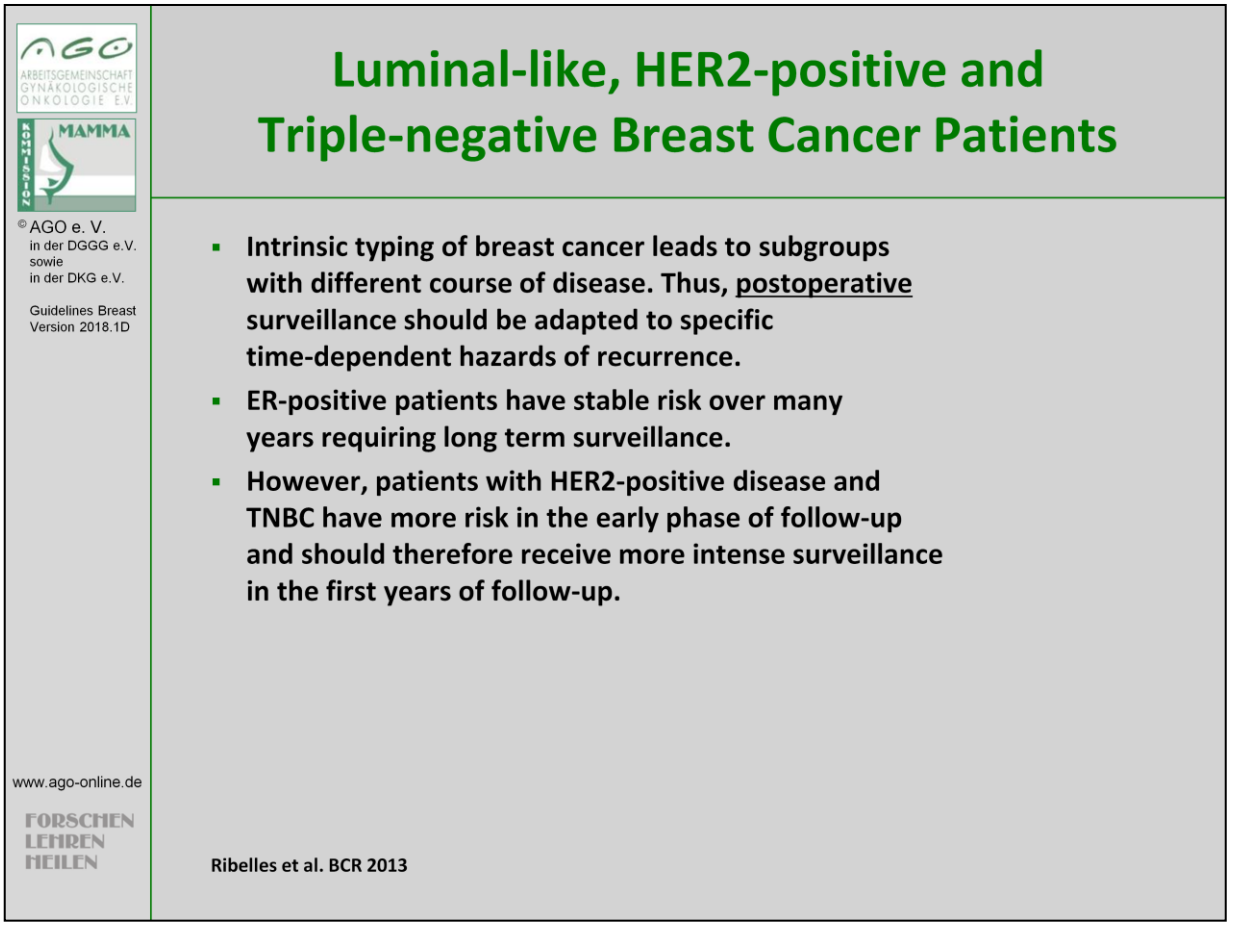

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