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Diagnosis and Treatment of Patients with early and advanced Breast Cancer

Complementary Therapy Survivorship



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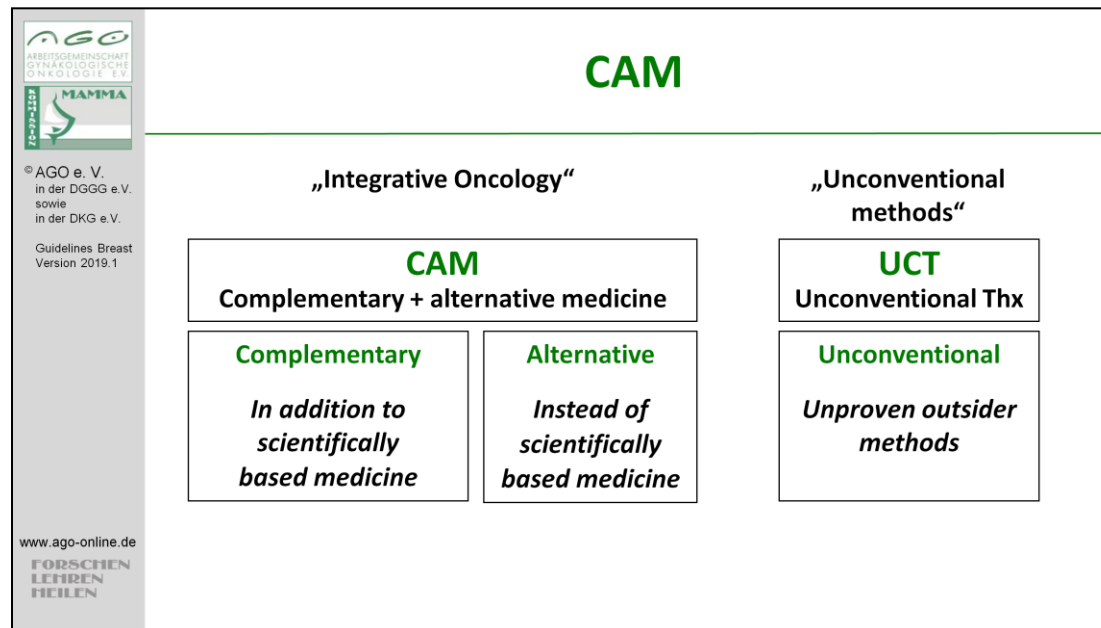
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Complementary Therapy – Hormonal Treatment and Alternatives in Breast Cancer Survivors – Survivorship

- **Versions 2002–2018:**
**Albert / Bauerfeind / Blohmer / Fersis / Friedrich /
Lück / Gerber / Göhring / Hanf / Janni / Kümmel /
von Minckwitz / Oberhoff / Scharl / Schmidt /
Schütz / Thomssen**
- **Version 2019:**
Nitz / Rhiem

Screened Data Sources:

Pubmed	2012 - 01/2019
ASCO	2015 – 2018
SABCS	2015 – 2018
EBCC	2015 – 2018
Cochrane library:	summary Jan. 2019:



Komplementäre Verfahren werden parallel zur konventionellen Therapie angewendet und unterscheiden sich von alternativen Verfahren dadurch, dass sie den Wert der konventionellen Verfahren nicht in Frage stellen, sondern sich als Ergänzung verstehen

Onkolleitlinienprogramm

1. Witt CM et al.. A Comprehensive Definition for Integrative Oncology. J Natl Cancer Inst Monogr (2017) 2017(52): lxx012

“Integrative oncology is a patient-centered, evidence-informed field of cancer care that utilizes mind and body practices, natural products, and/or lifestyle modifications from different traditions alongside conventional cancer treatments. Integrative oncology aims to optimize health, quality of life, and clinical outcomes across the cancer care continuum and to empower people to prevent cancer and become active participants before, during, and beyond cancer treatment.”


General Considerations

	Oxford		
	LoE	GR	AGO
■ CAM instead of loco-regional interventions	2b	B	--
■ CAM instead of systemic treatment	2b	B	--
■ Patients should be asked and advised about their usage of CAM modalities			
■ Diagnostic procedures in connection with complementary and alternative therapy concepts without evidence (e.g. iris diagnostics, bioresonance) should not be recommended.			
■ <i>While on anti-cancer treatment:</i> beware of drug interactions			

1. Saquib J, Parker BA, Natarajan L, et al. Prognosis following the use of complementary and alternative medicine in women diagnosed with breast cancer. Complement Ther Med. 2012 Oct;20(5):283-90. doi: 10.1016/j.ctim.2012.04.002. Epub 2012 Apr 27.
2. Guha N, Kwan ML, Quesenberry CP, et al: Soy isoflavones and risk of cancer recurrence in a cohort of breast cancer survivors: the Life After Cancer Epidemiology study. Breast Cancer Res Treat. 2009;118(2):395–405, pmid:19221874.
3. Johnson SB et al.. Use of Alternative Medicine for Cancer and Its Impact on Survival. JNCI J Natl Cancer Inst (2018) 110(1): djx145.
4. Fremd C et al.. Use of complementary and integrative medicine among German breast cancer patients: predictors and implications for patient care within the PRAEGNANT study network. Arch Gynecol Obstet. 2017 May;295(5):1239-1245. doi: 10.1007/s00404-017-4348-2. Epub 2017 Mar 22.
5. Samuels N et al.. Unmonitored use of herbal medicine by patients with breast cancer: reframing expectations. J Cancer Res Clin Oncol (2017) 143:2267–2273
6. Smith PJ et al.. Complementary and alternative medicine use by patients receiving curative-intent chemotherapy. Asia-Pacific Journal of Clinical Oncology 2016; 12: 265–274
7. Greenlee H et al.. Association Between Complementary and Alternative Medicine Use and Breast Cancer Chemotherapy Initiation: The Breast Cancer Quality of Care (BQUAL) Study. JAMA Oncol. 2016 Sep 1;2(9):1170-6. doi: 10.1001/jamaoncol.2016.0685
8. Johnson SB et al. Complementary Medicine, Refusal of Conventional Cancer Therapy, and Survival Among Patients With Curable Cancers. JAMA Oncol. doi:10.1001/jamaoncol.2018.2487 published online July 19, 2018.

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Statement zu diagnostischen Verfahren: analog S3-Leitlinie, Konsensbasierte Empfehlung 6.53, S. 302

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	Oxford		
	LoE	GR	AGO
Preoperative:			
▪ Hypnosis (reduces anxiety, pain, nausea)	1b	B	+
Postoperative:			
▪ Acupuncture (pain relief, anxiety)	1b	B	+/-
▪ Acupuncture (nausea, vomiting)	2b	B	+
▪ Massage therapy (pain relief)	2b	C	+/-
▪ Early postop. exercise reduces upper-limb dysfunction (beware: increased wound drainage)	1a	A	+
▪ Physical exercise (reduces breast cancer related secondary lymphedema)	1a	A	+
▪ Prophylactic lymph drainage	1b	B	-
▪ Yoga (arm and shoulder pain)	2b	C	+
▪ Music therapy (reduces pain after mastectomy)	2b	C	+/-

Hypnosis

1. Cramer H, Lauche R, Paul A, et al: Hypnosis in Breast Cancer Care: A Systematic Review of Randomized Controlled Trials. Integr Cancer Ther. 2015 Jan;14(1):5-15. Epub 2014 Sep 18.
2. Montgomery GH, David D, Kangas M, et al. (2014) Randomized Controlled Trial of a Cognitive-Behavioral Therapy Plus Hypnosis Intervention to Control Fatigue in Patients Undergoing Radiotherapy for Breast Cancer. JCO DOI 10.1200/JCO.2013.49.3437
3. Montgomery GH, Bovbjerg DH, Schnur JB et al. (2007): A randomized clinical trial of a brief hypnosis intervention to control side effects in breast surgery patients. J Nat Cancer Inst; 99:1304–1312.
4. Schnur JB, Bovbjerg DH, David D et al. (2008): Hypnosis decreases presurgical distress in excisional breast biopsy patients. Anesth Analg , 106(2):440-4
5. Montgomery GH, Schnur JB, Kravits K. Hypnosis for cancer care: Over 200 years young. CA Cancer J Clin. 2012 Nov 20. doi: 10.3322/caac.21165.

Acupuncture and Postoperative Nausea and Vomiting / Pain

1. Mallory MJ et al.: Acupuncture in the postoperative setting for breast cancer patients: a feasibility study. Am J Chin Med. 2015;43(1):45-56.
2. Chao LF et al.: The efficacy of acupoint stimulation for the management of therapy-related adverse events in patients with breast

cancer: a systematic review. *Breast Cancer Res Treat* (2009) 118:255–267.

3. Quinlan-Woodward J, Gode A, Dusek JA: Assessing the Impact of Acupuncture on Pain, Nausea, Anxiety, and Coping in Women Undergoing a Mastectomy. *Oncol Nurs Forum*. 2016 Nov 1;43(6):725-732.
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5. Chiu HY, Hsieh YJ, Tsai PS. Systematic review and meta-analysis of acupuncture to reduce cancer-related pain. *Eur J Cancer Care (Engl)*. 2017 Mar;26(2). doi: 10.1111/ecc.12457. Epub 2016 Feb 7

Massage Therapy

1. Lee SH, Kim JY, Yeo S et al: Meta-Analysis of Massage Therapy on Cancer Pain. *Integr Cancer Ther*. 2015 Jul;14(4):297-304.
2. Pan YQ, Yang KH, Wang YL, et al: Massage interventions and treatment-related side effects of breast cancer: a systematic review and meta-analysis. *Int J Clin Oncol*. 2014 Oct;19(5):829-41.

Postoperative exercise

1. De Groef A, Van Kampen M, Dieltjens E, et al. Effectiveness of postoperative physical therapy for upper-limb impairments after breast cancer treatment: a systematic review. *Arch Phys Med Rehabil*. 2015 Jun;96(6):1140-53. doi: 10.1016/j.apmr.2015.01.006. Epub 2015 Jan 13. Review.
2. McNeely ML, Campbell K, Ospina M et al.: Exercise interventions for upper-limb dysfunction due to breast cancer treatment. *Cochrane Database of Systematic Reviews* 2010, Issue 6. Art. No.: CD005211. DOI: 10.1002/14651858.CD005211.pub2.
3. Cavanaugh KM.: Effects of Early Exercise on the Development of Lymphedema in Patients With Breast Cancer Treated With Axillary Lymph Node Dissection. *J Oncol Pract*. 2011 March; 7(2): 89–93.
4. Anderson RT, Kimmick GG, McCoy TP, et al. A randomized trial of exercise on well-being and function following breast cancer surgery: the RESTORE trial. *J Cancer Surv* 2012;6(2):172-81
5. Eyigor S, Uslu R, Apaydin S, et al. Can Yoga have any effect on shoulder and arm pain and quality of life in patients with breast cancer? A randomized, controlled, single-blind trial. *Complementary Therapies in Clinical Practice* 2018;32:40-45.

Sekundäres Lymphödem


1. Baumann FT, Reike A, Reimer V et al: Effects of physical exercise on breast cancer –related secondary lymphedema : a systematic review *Br Ca res Treatment* 2018; 170: 1-13

Prophylactic lymph drainage

1. Devoogdt N, Christiaens MR, Geraerts I, et al: Effect of manual lymph drainage in addition to guidelines and exercise therapy on arm lymphoedema related to breast cancer: randomised controlled trial. *BMJ* 2011;343:d5326 doi: 10.1136/bmj.d5326
2. Li L, Yuan L, Chen X: Current Treatments for Breast Cancer-Related Lymphoedema: A Systematic Review. *Asian Pac J Cancer Prev*. 2016 Nov 1;17(11):4875-4883.

Music therapy

1. Li, X.M., Yan H, Zhou KN, et al. *Effects of music therapy on pain among female breast cancer patients after radical mastectomy: results from a randomized controlled trial*. *Breast Cancer Res Treat*, 2011. 128(2): p. 411-9.
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3. Bradt, J., et al., *Music interventions for improving psychological and physical outcomes in cancer patients*. *Cochrane Database Syst Rev*, 2016(8): p. Cd006911.

Complementary Treatment While on Cancer Treatment – Impact on Toxicity I			
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	▪ Mistletoe (<i>Viscum album</i>) in order to reduce side effects	1a	B +/-
	▪ Thymic peptides lowered risk of severe infections	2a	B +/-
	▪ Ginseng in order to reduce cancer related fatigue; note: interacts with cytochrome P enzymes e.g. CYP 3A4	2b	C -
	▪ Ganoderma Lucidum may improve fatigue, note: inhibits cytochrome P enzymes (e.g. CYP 3A4)	2b	C -
	▪ L-Carnitine ▪ given for prevention of toxicity, however increased chemotherapy induced peripheral neuropathy ▪ Improvement of cancer related fatigue	1b 1b	B -- B -
	▪ Curcumin as an adjunct to reduce radio dermatitis	1b	B +/-
	▪ Ginger as an adjunct to guidelines oriented medication to treat chemotherapy induced nausea & vomiting – Beware of drug interactions	1b	C +/-

General

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2. Farahmand L, Darvishi B, Majidzadeh-A K: Naturally occurring compounds acting as potent anti-metastatic agents and their suppressing effects on Hedgehog and WNT/ β -catenin signalling pathways. Cell Prolif. 2017 Feb;50(1). doi: 10.1111/cpr.12299.
3. Cramer H, Lauche R, Klose P: Yoga for improving health-related quality of life, mental health and cancer-related symptoms in women diagnosed with breast cancer. Cochrane Database Syst Rev. 2017 Jan 3;1:CD010802.
4. Neuhouwer ML, Smith AW, George SM: Use of complementary and alternative medicine and breast cancer survival in the Health, Eating, Activity, and Lifestyle Study. Breast Cancer Res Treat. 2016 Dec;160(3):539-546.

Mistletoe

1. Marvibaigi M, Supriyanto E, Amini N, et al: Preclinical and clinical effects of mistletoe against breast cancer. BioMed research international 2014;2014:785479.
2. Shneerson C, Taskila T, Gale N, et al: The effect of complementary and alternative medicine on the quality of life of cancer survivors: A systematic review and meta-analyses. Complementary therapies in medicine 2013;21:417-429.
3. Troger W, Zdradek Z, Stankovic N, et al: Five-year follow-up of patients with early stage breast cancer after a randomized study

comparing additional treatment with viscum album (l.) extract to chemotherapy alone. Breast cancer : basic and clinical research 2012;6:173-180.

4. Troger W, Zdrale Z, Tisma N, et al: Additional therapy with a mistletoe product during adjuvant chemotherapy of breast cancer patients improves quality of life: An open randomized clinical pilot trial. Evidence-based complementary and alternative medicine : eCAM 2014;2014:430518.
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6. Pelzer F, Tröger W. Complementary Treatment with Mistletoe Extracts During Chemotherapy: Safety, Neutropenia, Fever, and Quality of Life assessed in a randomized study. JAC 2018;24:954-961.

Thymus

1. Wolf E, Milazzo S, Boehm K, et al. Thymic peptides for treatment of cancer patients. Cochrane Database of Systematic Reviews 2012, Issue 2. Art. No.: CD003993. DOI: 10.1002/14651858.CD003993.pub3.

Ginseng, Ganoderma lucidum

1. Leggett S1, Koczwara B, Miller M. The impact of complementary and alternative medicines on cancer symptoms, treatment side effects, quality of life, and survival in women with breast cancer--a systematic review. Nutr Cancer. 2015;67(3):373-91.
2. Bao, P. P., W. Lu, Y. Cui, Y et al(2012). "Ginseng and Ganoderma lucidum use after breast cancer diagnosis and quality of life: a report from the Shanghai Breast Cancer Survival Study." PLoS One 7(6): e39343.
3. Jin X, Ruiz Beguerie J, Sze Daniel M-y et al: Ganoderma lucidum (reishi mushroom) for cancer treatment. Cochrane Database of Systematic Reviews 2012
4. JL Ryan et al.: Ginger (Zingiberofficinale) reduces acute chemotherapy-induced nausea: a URCC CCOP study of 576 patients. Support Care Cancer 2012;20(7):1479-89
5. Karimi N, Roshan VD: Change in adiponectin and oxidative stress after modifiable lifestyle interventions in breast cancer cases. Asian Pacific journal of cancer prevention : APJCP 2013;14:2845-2850.

L-Carnitine

1. Hershman DL, Unger JM, Crew K et al.: Randomized double-blind placebo-controlled trial of acetyl-L-carnitine for the prevention of taxane-induced neuropathy in women undergoing adjuvant breast cancer therapy. J Clin Oncol. 2013 Jul 10;31(20):2627-33

2. Cruciani RA, Zhang JJ, Manola J et al. L-carnitine supplementation for the management of fatigue in patients with cancer: an eastern cooperative oncology group phase III, randomized, double-blind, placebo-controlled trial. J Clin Oncol. 2012 Nov 1;30(31):3864-9

Curcumin

1. Ryan, J. L., C. E. Heckler, M. Ling, et al (2013). "Curcumin for radiation dermatitis: a randomized, double-blind, placebo-controlled clinical trial of thirty breast cancer patients." Radiat Res 180(1): 34-43.
2. Kumar P, Kadakol A, Shasthrula P, et al: Curcumin as an adjuvant to breast cancer treatment. Anti-cancer agents in medicinal chemistry 2015
3. Bandyopadhyay D: Farmer to pharmacist: Curcumin as an anti-invasive and antimetastatic agent for the treatment of cancer. Frontiers in chemistry 2014;2:113.

Ingwer

1. Thamlikitkul L, Srimuninnimit V, Akewanlop C, et al. Efficacy of ginger for prophylaxis of chemotherapy-induced nausea and vomiting in breast cancer patients receiving adriamycin-cyclophosphamide regimen: a randomized, double-blind, placebo-controlled, crossover study. Support Care Cancer. 2017 Feb;25(2):459-464. doi: 10.1007/s00520-016-3423-8. Epub 2016 Oct 6.
2. Sanaati F, Najafi S, Kashaninia Z, et al. Effect of Ginger and Chamomile on Nausea and Vomiting Caused by Chemotherapy in Iranian Women with Breast Cancer. Asian Pac J Cancer Prev. 2016;17(8):4125-9.

Complementary Treatment While on Cancer Treatment – Impact on Toxicity II			
	Oxford		
	LoE	GR	AGO
<ul style="list-style-type: none"> Antioxidant supplements <ul style="list-style-type: none"> → various antioxidative extracts to reduce anthracyclin-induced cardiotoxicity High dose vitamin C Vitamine E Selenium for alleviating side effects of therapy Co-Enzyme Q 10 (fatigue, QoL) Proteolytic enzymes in order to reduce chemotherapy-induced toxicity Chinese herbal medicine improves wound healing Oxygen and ozone therapy Short-term fasting (QoL, Fatigue) 	1b 2b 1b 2b 1b 1b 3b 1b 5 3b	B B C D B B B B D C	- +/- - - - - - -*inf -- +/-*
inf: i.v.-infusion (in Germany not approved) * treatment in clinical trials recommended			

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General

1. Zhu L, Li L, Li Y: Chinese Herbal Medicine as an Adjunctive Therapy for Breast Cancer: A Systematic Review and Meta-Analysis. Evid Based Complement Alternat Med. 2016;2016:9469276. doi: 10.1155/2016/9469276.
2. McPherson L, Cochrane S, Zhu X: Current Usage of Traditional Chinese Medicine in the Management of Breast Cancer: A Practitioner's Perspective. Integr Cancer Ther. 2016 Sep;15(3):335-42. doi: 10.1177/1534735415607656.

Antioxidant supplements

1. Greenlee H, Hershman DL, Jacobson JS: Use of antioxidant supplements during breast cancer treatment: a comprehensive review. Breast Cancer Res Treat. 2009 Jun;115(3):437-52.
2. S.-K. Myung, Y. Kim, W. Ju et al.: Effects of antioxidant supplements on cancer prevention: meta-analysis of randomized controlled trials. Annals of Oncology 21: 166–179, 2010.
3. Harvie M: Nutritional supplements and cancer: Potential benefits and proven harms. American Society of Clinical Oncology educational book / ASCO American Society of Clinical Oncology Meeting 2014:e478-486.
4. van Dalen EC, Caron HN, Dickinson HO, et al: Cardioprotective interventions for cancer patients receiving anthracyclines. Cochrane Database Syst Rev 2011:Cd003917.
5. The Protective Role of Phenolic Compounds Against Doxorubicin-induced Cardiotoxicity: A Comprehensive Review. Razavi-

- Azarkhiavi K, Iranshahy M, Sahebkar A, et al. Nutr Cancer. 2016 Aug-Sep;68(6):892-917. doi: 10.1080/01635581.2016.1187280. Epub 2016 Jun 24. Review
6. Drugs R D. 2012 Jun 1;12(2):101-6. doi: 10.2165/11632530-000000000-00000. Protective effects of salidroside on epirubicin-induced early left ventricular regional systolic dysfunction in patients with breast cancer.
 7. Zhang H1, Shen WS, Gao CH, et al.

Vitamin C

1. Ohno S, Ohno Y, Suzuki N et al.: High-dose Vitamin C (Ascorbic Acid) Therapy in the Treatment of Patients with Advanced Cancer. Anticancer Res. 2009 Mar; 29(3):809-15. Review.
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4. Sci Transl Med. 2014 Feb 5;6(222):222ra18. doi: 10.1126/scitranslmed.3007154. High-dose parenteral ascorbate enhanced chemosensitivity of ovarian cancer and reduced toxicity of chemotherapy. Ma Y1, Chapman J, Levine M, et al.

Selen

1. Dennert G, Horneber M. Selenium for alleviating the side effects of chemotherapy, radiotherapy and surgery in cancer patients. Cochrane Database of Systematic Reviews 2010, Issue 11. Art. No.: CD005037. DOI: 10.1002/14651858.CD005037.pub2.
2. Greenlee H, Hershman DL, Jacobson JS: Use of antioxidant supplements during breast cancer treatment: a comprehensive review. Breast Cancer Res Treat. 2009 Jun;115(3):437-52.

Coenzym Q10

1. Lesser GJ, Case D, Stark N, et al. A randomized, double-blind, placebo-controlled study of oral coenzyme Q10 to relieve self-reported treatment-related fatigue in newly diagnosed patients with breast cancer. J Support Oncol 2013;11(1):31-42
2. Lockwood K et al.: Partial and complete regression of breast cancer in patients in relation to dosage of coenzyme Q10. Biochem Biophys Res Comm 1994;199:1504-8.

3. Lockwood K et al.: Progress on therapy of breast cancer with vitamin Q10 and the regression of metastasis. *Biochem Biophys Res Comm* 1995;212:172-7.
4. Lund EL, Quistorff B, Spang-Thomsen M et al.: Effect of radiation therapy on small-cell lung cancer is reduced by ubiquinone intake. *Folia Microbiol* 1998;4:505-6.
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Proteolytic enzymes and toxicity of chemotherapy

1. Petru U, Stranz B, Petru C: Effects of proteolytic enzyme therapy with Wobe Mugos against chemotherapy-induced toxicity in breast cancer patients - results of a pilot study *Wien Med Wochenschr*. 2010 Nov;160(19-20):513-6.

Bromelain

1. Hidaka M, Nagata M, Kawano Y, et al.: Inhibitory effects of fruit juices on cytochrome P450 2C9 activity in vitro. *Biosci Biotechnol Biochem*. Feb 2008;72(2):406-411.

Chinese herbal medicine and wound healing

1. Chen J, Lv Q, Yu M et al.: Randomized clinical trial of Chinese herbal medications to reduce wound complications after mastectomy for breast carcinoma. *Br J Surg*. 2010 Dec;97(12):1798-804

Kurzzeit-Fasten

1. Bauersfeld SP, Kessler CS, Wischnewsky M et al. The effects of short-term fasting on quality of life and tolerance to chemotherapy in patients with breast and ovarian cancer: a randomized cross-over pilot study. *B MC Cancer* (2018) 18:476
2. Groot de S, Vreeswijk MPG, et al. the effects of short-term fasting on tolerance to (neo) adjuvant chemotherapy in Her2-negative breast cancer patients: a randomized pilot study. *BMC Cancer* 2015;15:652

Additional Complementary Therapy Side Effects Related to Cancer Treatments e.g. Chemotherapy			
	Oxford		
	LoE	GR	AGO
<ul style="list-style-type: none"> Chinese medicinal herbs to treat the side effects of chemotherapy in breast cancer patients 	1b	B	-
<ul style="list-style-type: none"> Homoeopathic medicines for adverse effects of cancer treatments <ul style="list-style-type: none"> Topical calendula (>= 20% Calendula amount) for prophylaxis of acute dermatitis during radiotherapy Traumeel S® mouthwash to treat chemotherapy-induced stomatitis 	1b	B	+/-
<ul style="list-style-type: none"> Topical Silymarin for prophylaxis of acute dermatitis during radiotherapy 	3a	B	+/-
<ul style="list-style-type: none"> Massage to improve on fatigue, pain, anxiety, nausea 	1b	C	+/-
<ul style="list-style-type: none"> Transcutaneous Electrical Nerve stimulation (TENS) against cancer pain 	2b	D	+/-
<ul style="list-style-type: none"> Hydro therapy 	3b	C	+/-

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1. Chinese medicinal herbs

Zhu L, Li L, Li Y: Chinese Herbal Medicine as an Adjunctive Therapy for Breast Cancer: A Systematic Review and Meta-Analysis. Evid Based Complement Alternat Med. 2016;2016:9469276. doi: 10.1155/2016/9469276.

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1. Homeopathic medicines for adverse effects of cancer treatments

Kassab S, Cummings M, Berkovitz S, et al. Homeopathic medicines for adverse effects of cancer treatments. Cochrane Database of Systematic Reviews 2012, Issue 8. Art. No.: CD004845. DOI: 10.1002/14651858.CD004845.pub2.

Topical use of Silymarin

1. M. Becker-Schiebe et al.: Topical Use of a Silymarin-Based Preparation to Prevent Radiodermatitis. Strahlenther Onkol 2011;187:485–91.

2. Lazzeroni M, Guerrieri-Gonzaga A, Gandini S: A Presurgical Study of Oral Silybin-Phosphatidylcholine in Patients with Early Breast Cancer. Cancer Prev Res (Phila). 2016 Jan;9(1):89-95. doi: 10.1158/1940-6207.

Massage

1. Shin ES, Seo KH, Lee SH, et al. Massage with or without aromatherapy for symptom relief in people with cancer. Cochrane Database of Systematic Reviews 2016, Issue 6. Art. No.: CD009873. DOI: 10.1002/14651858.CD009873.pub3.
2. Robison JG, Smith CL. Therapeutic Massage During Chemotherapy and/or Biotherapy Infusions: Patient Perceptions of Pain, Fatigue, Nausea, Anxiety, and Satisfaction. Clin J Oncol Nurs. 2016 Apr;20(2):E34-40. doi: 10.1188/16.CJON.E34-E40.
3. Donoyama N, Satoh T, Hamano T et al., Effects of Anma therapy (Japanese massage) on health-related quality of life in gynecologic cancer survivors: a randomized controlled trial. PLoS one 2018;13:e0196638.

Transcutaneous electric nerve stimulation (TENS) for cancer pain in adults: (von Slide 16 übertragen)

1. Hurlow A, Bennett MI, Robb KA, et al. Transcutaneous electric nerve stimulation (TENS) for cancer pain in adults. Cochrane Database of Systematic Reviews 2012, Issue 3. Art. No.: CD006276. DOI: 10.1002/14651858.CD006276.pub3.
2. Paley CA, Johnson MI, Tashani O et al. Acupuncture for cancer pain in adults. Cochrane Database of Systematic Reviews 2011, Issue 1. Art. No.: CD007753. DOI: 10.1002/14651858.CD007753.pub2.
3. Hurlow A, Bennett MI, Robb KA, et al. Transcutaneous electric nerve stimulation (TENS) for cancer pain in adults. Cochrane Database of Systematic Reviews 2012, Issue 3. Art. No.: CD006276. DOI: 10.1002/14651858.CD006276.pub3.

Hydrotherapie

1. Dalenc F, Ribet V, Rossi AB, et al. Efficacy of a global supportive skin care programme with hydrotherapy after non-metastatic breast cancer treatment: a randomized, controlled study. Eur J Cancer Care 2018;27:doi:10.1111/eec

Additional Complementary Therapy Side Effects Related to Cancer Treatments e.g. Chemotherapy			
	Oxford		
	LoE	GR	AGO
<ul style="list-style-type: none"> Acupuncture in order to improve on <ul style="list-style-type: none"> (Electro)-Acupuncture as adjunct to antiemetic treatment in case of Chemotherapy-induced nausea and vomiting 	1b	B	+
<ul style="list-style-type: none"> Pain <ul style="list-style-type: none"> Cancer pain Aromatase-inhibitor – induced arthralgia TENS – Transcutaneous Electrical Nerve Stimulations to relieve cancer pain 	1b 1a 2b	B B D	+ + +/-
<ul style="list-style-type: none"> Fatigue Anxiety and depression Cognitive dysfunction 	1a 2b 5	B B D	+ + +/-
<ul style="list-style-type: none"> Menopause syndrome in Breast Cancer Patients <ul style="list-style-type: none"> to improve on frequency and severity of hot flashes Electro-Acupuncture to improve on sleep and hot flashes 	1b 1b 2a	B B B	+ +/- +
<ul style="list-style-type: none"> Leucopenia (Moxibustion) 	2b	B	+/-
<ul style="list-style-type: none"> Treatment of chemotherapy induced polyneuropathy <ul style="list-style-type: none"> prophylactically therapeutically 	1b 2b	B B	- +/-
<ul style="list-style-type: none"> Chronic lymph edema after Breast Cancer Treatment 	2b	B	+/-
<ul style="list-style-type: none"> Acu-pressure in order to improve on <ul style="list-style-type: none"> Nausea and vomiting as adjunct to antiemetic therapy Fatigue 	1b 1b	B B	+ +

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	Oxford		
	LoE	GR	AGO
MBSR (Mindfulness-Based Stress Reduction) Program improves quality of life, coping strategies, attentiveness, lowers stress, anxiety, depression, fatigue and sleep disturbances	1a	A	+
Physical exercise / sport min. 150 min. moderate endurance training per week or 75 min. strenuous physical activity in combination with work out exercises (2x per week) improve quality of life, cardio-respiratory fitness, physical performance, sleep, pain, depression, polyneuropathy, lymphedema, fatigue	1a	A	++



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 <small>© AGO e. V. in der DGGG e.V. sowie in der DKG e.V. Guidelines Breast Version 2019.1</small> <small>www.ago-online.de</small> 	<h1>Complementary Treatment</h1> <h2>Mind-Body Medicine</h2>		
	LoE	GR	AGO
Yoga Improves sleep, quality of life, stress, anxiety, depression, fatigue, sleep	1B	A	+
Qi Gong May improve quality of life, fatigue, mood	2a	B	+/-
Tai Chi Improves quality of life, muscular strength, sleep	2a	B	+/-
Hypnosis (in combination with cognitive training) Improves fatigue and muscle weakness under radiation therapy, also reduces distress	1b	A	+
Relaxation techniques Reduction of anxiety and nausea, improvement of quality of life, reduction of psychological stress	2b	C	+/-

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 <p>© AGO e. V. in der DGGG e.V. sowie in der DKG e.V.</p> <p>Guidelines Breast Version 2019.1</p> <p>www.ago-online.de</p> <p>FORSCHEN LEHREN HEILEN</p>	CAM Prevention of Recurrence/Improvement of Overall Survival I Modifiable Lifestyle Factors		
	Oxford LoE GR AGO 2a A ++		
<ul style="list-style-type: none"> Physical exercise (Equivalents to 3–5 hrs moderate walking per week improves DFS and OS, cardio-respiratory fitness, physical functioning) 	2a	A	++
<ul style="list-style-type: none"> Reduce Smoking 	2b	A	+
<ul style="list-style-type: none"> Reduce Alcohol consumption (< 6 g/day) 	2b	A	+

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	Modifiable Lifestyle Factors		
	Nutrition after Breast Cancer Diagnosis Prevention of Recurrence / Improvement of Overall Survival II		
	Oxford		
	LoE	GR	AGO
<ul style="list-style-type: none"> Adherence to normal BMI / weight loss if overweight, irrespective of HR-status 	1a	A	++
<ul style="list-style-type: none"> Low fat diet dietary counseling recommended 	1a	B	+
<ul style="list-style-type: none"> Increased fiber intake (e.g. Flaxseed) 	2a	B	+
<ul style="list-style-type: none"> Adherence to general nutrition guidelines (e.g. DGE, WCRF) in sense of Mediterranean Diet 	2a	B	++
<ul style="list-style-type: none"> Dietary extremes 	2a	B	--



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Adherence to normal body weight/BMI

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Low-Fat Diet

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(Avoidance of high fat dairy products

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Complementary Treatment			
Prevention of Recurrence / Improvement of Overall Survival III			
Dietary Supplements – Herbal Therapies			
	Oxford		
	LoE	GR	AGO
Post treatment vitamin/antioxidant supplements doesn't appear to be associated with increased risk of recurrence (beware of drug/treatment interactions)	2b	B	
Smokers on antioxidant supplements are at higher risk for lung cancer	1b	A	
For Prevention of BC Recurrence:			
▪ Antioxidants	2a	B	+/-
▪ Orthomolecular substances (Selenium, Zinc...)	5	D	-
▪ Vitamine supplementation in pts on a balanced diet (esp. Vit C, E, D)	2a	B	+/-
▪ Artificial carotenoids appear to be associated with worse outcome	2b	B	-
▪ Proteolytic enzymes (Papain, Trypsin, Chymotrypsin)	3b	B	-
▪ Soy-food (natural source of phytoestrogens)	2a	B	+/-
– food or concentrates containing ≥ 100 mg) isoflavones per day	2a	B	-
▪ Black Cohosh (Cimicifuga racemosa)	3b	C	+/-
▪ Mistletoe (Viscum album)	1b	C	-
▪ Thymic peptides (impact on OS)	2a	B	-
▪ Oxygen- and ozone therapy	5	D	--
▪ Antioxidant supplements (after completion of radiotherapy)	2b	B	+/-
▪ Laetrile	1c	D	--
▪ Green tea	3a	C	+/-
▪ Methadone	5	D	--
▪ Cancer bush (Sutherlandia frutescens), Devil's claw (Harpagophytum procumbens), Rooibos tea (Aspalathus linearis), Bambara groundnut (Vigna subterranean)	5	D	-

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General

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Post treatment vitamin and/or antioxidant supplements

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Black cohosh

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St John's Wort

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