

Appendix 4 Table 2. Characteristics of the interventions in each study

Nr.	Study (Author & Year)	Description of Intervention 1	Duration of exercise (weeks)	Volume of exercise (h per week)	Description of Intervention 2	Duration of exercise (weeks)	Volume of exercise (hours per week)	Description of Intervention 3	Duration of exercise (weeks)	Volume of exercise (h per week)
[1]	Adamsen 2009	Conventional medical care	-	-	Supervised group based multimodal high and low intensity exercise. 3/week high intensity physical training for 90 min (30 min of warm-up exercises, 45 min of resistance training, and 15 min of cardiovascular training) followed by 30 min relaxation training. 1/week 90 min of body awareness training followed by 30 min of relaxation training. 2/week 30 min of massage. Six devices used for resistance training: a leg press, a chest press, a pull down, an abdominal crunch, a lower back, and a knee extension. 1-RM was assessed every other week. 5-8 reps at 70 to 100% of 1-RM. The resistance training was estimated to have an intensity of 5.5 METs (4 MET h/ session). Cardiovascular training involved interval training on stationary bicycles with a workload of 70-250 W, equivalent to 85-95% of each participant's maximum heart rate (15 METs (3.75 MET h/ session)).	6	9 h 43 MET h			
[2]	Ahles 1999	Standard treatment	-	-	Swedish/Esalen massage: combination of effleurage and petrissage to the shoulders, neck, face, and scalp (effleurage: smooth, long, rhythmical strokes up either side of the spine and out across the shoulders, with both hands working simultaneously; petrissage: gentle kneading. Additionally, slow steady pressure was applied, intermittently, to acupressure points in the upper back, shoulders, neck, and face.	3	1 h			
[3]	Al-Majid 2015	Usual care	-	-	Treadmill Training: Baseline testing to determine VO2 max. Exercise started within 1 week of the first cycle of chemotherapy and ended with the completion of chemotherapy (9-12 weeks). First week: 20 min at heart rate corresponding to intensity at 50-60% maximal heart rate. Workload increased progressively in next weeks until participants achieved a heart rate that corresponded to an intensity of 70-80% of maximal heart rate. All exercisers were able to achieve target intensity by Week 5 (range 4-5 weeks). Each exercise session started with a 5-min warm-up and ended with a 5-min cooldown. Participants completed an average of 32 sessions (range 26-39) at an average incline of 7% (range 5-12%) and average speed of 3.4 mph (range 2.5-3.7).	12	0.6 h to 2 h			
[4]	Alibhai 2014	Control			Individualized, moderate-intensity, 12-week home-based exercise program with weekly telephone support from a certified exercise physiologist. Exercises tailored to ability and consisted of aerobic, resistance and flexibility components. 3-5 days of exercise/ week at a moderate intensity. Duration increased with a target of 30 min/session (150 min/week). Once-weekly group sessions including supervised activity, similar to the home-program (i.e., light to moderate intensity aerobic and resistance-based exercises) for 1h and education for 0.5h.	12	Target: 2.5 h			
[5]	Alibhai 2015	Usual care			Combined: resistance and endurance exercises. Supervised exercise sessions 4-5 days per week throughout admission; light to moderate intensity exercise 30 to 60 min: treadmill, hall walking or stationary cycling, resistance (bodyweight, resistance bands, and free weights), and flexibility training (static stretching). Aerobic exercise intensity monitored with a 0 to 10 RPE scale, target was a RPE of 3-6 (50-75% of their heart rate reserve). Resistance exercises for large muscle groups using bodyweight, resistance bands, and free weights.	5	2 h to 4 h			
[6]	Andersen 2013	Conventional medical care	-	-	Four high- and low-intensity activities were practiced in the mornings, 4 days/week, 1.5-2.5h/day. (1) High-intensity physical training (heavy resistance and cardiovascular training) - 10 min intervals on stationary bicycles with an effort of 85-90% of max hart rate. (2) Relaxation training in groups - progressive relaxation of the major muscle groups. (3) Body awareness training - yoga and Pilates techniques. (4) Massage - individually assessed, could be relaxing, facilitative or therapeutic. Each active exercise session started with 30 min warm-up and ended with cool-down exercises	6	9 h			

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					consisting of dynamic exercises with the large muscle groups, stretching and coordination training.					
[7]	Arnes 2007	Standard care	-	-	Three individual, face-to-face, 60-minute sessions at 3 to 4 weekly intervals. Session 1- Cognitive approach; Clarify meaning of CRF, Clarify aim and effectiveness of coping strategies. Behavioural approach; Self-monitoring of CRF and sleep disturbance using diary. General approach; Education on CRF written information. Session 2- Cognitive approach; Goal setting. Behavioural approach; Activity scheduling, Graded task management, Distraction. General; written information on management CRF, Praise and encouragement. Session 3- Cognitive approach; Clarify aim and effectiveness of current CRF coping strategies. Behavioural approach; Modification of goal setting, activity scheduling, and graded task management. General approach; written information on management CRF, Praise and encouragement.	9 -12	3x1 h over the study period (not per week)			
[8]	Backman 2014	Standard information on physical activity	-	-	Daily walks of 10 000 steps, equivalent to approximately 8km of walking. A pedometer was assessed to count the steps and self-reports through a trainings diary were used to estimate the achievement. Additionally, the participants attended a supervised group walk, one hour per week over 10 weeks.	10	Average 11.5 h			
[9]	Badger 2011	Control attention condition	8	Average 0.5 h	Telephone-delivered interpersonal counselling (TIP-C), developed from standard interpersonal psychotherapy (IPT), combined with cancer education. The intervention addressed (1) mood and affect management, (2) emotional expression, (3) interpersonal communication and relationships, (4) social support, and (5) cancer information. The TIP-C intervention targets the social support behaviours of both cancer survivors and their partners using interpersonal communications techniques. A master's prepared nurse or social worker with psychiatric and oncology expertise delivered the intervention which was recorded.	8	Average 0.5 h			
[10]	Baker 2012	Standard medical care	-	-	The Haven integrated support program, providing psychological support, information and a range of complementary therapies specifically designed to support the physical and emotional needs of patients with breast cancer before, during and after standard medical treatment. A two-day Haven Support Workshop, and a maximum of 12 h of 1:1 therapy consultation time was offered, including therapies such as nutrition, counselling, touch therapies, herbal medicine and homeopathy. Groups and classes for art therapy, ear acupuncture, yoga, meditation and Qigong.	During the first 1-4 months of 6 moths total	2-day workshop 12 h therapy during the study			
[11]	Banasik 2011	Waiting list	-	-	Yoga lessons 2 times/week lasting 90 min each. Traditional Iyengar yoga routines that progressively increased in difficulty as participants gained strength and flexibility.	8	3 h			
[12]	Bantum 2014	Waiting list	-	-	A six-week online workshop adapted from CDSMP, a patient education course. Each session included approximately 30-35 webpages of didactic material (in the "Learning Center" of the STC) geared towards skills building, information about specific content, and the encouragement of weekly action plans to build self-efficacy. Examples of content include improving diet by making healthier food choices, increasing exercise, stress management via relaxation training, improving communication with health care providers, processing and communicating emotional experiences and fatigue management.	6	No indication in h/week			
[13]	Bargi 2016	Sham inspiratory muscle training with a pressure of 5% of the maximal inspiratory pressure.		3.5 h	Inspiratory muscle training with a pressure threshold loading device (Powerbreather® classic). The Treatment group received Inspiratory muscle training at 40 % of the maximum inspiratory pressure. Instructions: maintain a breathing set which consisted of consecutive 10–15 diaphragmatic breathing and 5–10-s resting following the set. As soon as the patients managed to follow the	6	3.5 h			

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					instructions, they were encouraged to maintain 25–30 breaths. Groups were trained for 30 min/day, 7 days/week for 6 weeks. Six sessions at home and one session under supervision at the department per week.					
[14]	Barsevick 2004	Control intervention with focus on nutrition. 3 telephone sessions with information provided on nutrition and healthy diet. Sessions were equal to the experimental intervention in terms of time spent with the individual. Session 1- included a discussion on maintaining a healthy diet. For homework, the participant kept a dietary record for 24 h. Session 2- consisted of a review of the dietary record and a discussion about vitamins. Session 3- consisted of a discussion about minerals and an evaluation of the helpfulness of the information provided. No therapeutic nutritional information or information on symptom management was provided.	5	3 tele sessions over 5 w. (0,5 h, 0,5 h, 0,25 h) not per week	Energy conservation and activity management intervention. 3 telephone sessions with energy conservation and activity management. Session 1- individuals received information on cancer related fatigue and learned energy-conservation skills. Homework between session: daily journal for 1 week to monitor fatigue, sleep, rest, activity, and other symptoms. A journal and priority list provided the basis for the second session. Session 2- the energy-conservation plan to manage valued activities and to minimize the interference of fatigue was created. Session 3- the individual evaluated and revised the plan.	5	3 tele sessions over the study period (30 min, 30 min and 15 min) not per week			
[15]	Barsevick 2010	Control intervention with focus on nutrition. 3 telephone sessions with information about nutrition. Session 1- information about a healthy diet. Dietary record was held between session 1 and 2. Session 2- the record was discussed and adjustments were made. Session 3- information about minerals and fibre, as well as an evaluation of the helpfulness of the information provided.	4	1.2 h over 4 w (not per week)	Energy and Sleep Enhancement (EASE) intervention. 3 telephone sessions with a specially trained oncology nurse during the second, third, and fourth week after the first CTX treatment. Written intervention materials included a handbook specific to the group. Session 1 - information to each participant about the characteristics of symptoms. Discussion of his/her experience of fatigue and sleep disturbance. Diary was held between session 1 and 2. Session 2- information from the daily diary was used to formulate and implement a plan of energy conservation. Session 3- the individual evaluated and revised the plan. The intervention occurred during the second, third, and fourth week after the first CTX treatment.	4	1.2 h over 4 w (not per week)			
[16]	Basen-Enquist 2006	Standard care	-	-	Group meetings 90-min/week for 16 weeks, and every other week for 8 weeks (21 sessions total). Behaviour change methods, based on the trans theoretical model, were used. Group sizes ranged from 7 to 15 participants. The first 50 min of each session were spent teaching cognitive behavioural skills related to exercise. After a 10-min break presentation or discussion was held. Written informational materials relevant to the topic of discussion were provided. Motivational readiness for physical activity was assessed every 4–5 weeks. Booklets were received about increasing physical activity. Methods of self-monitoring, including recording min of activity and recording steps using a pedometer.	6 months	1.5 h for 16 w. + 1.5 h every other w. for 8 w. not per week			
[17]	Battaglini 2006	Control	-	-	Exercise intervention at low to moderate-intensity beginning after surgery. Fitness assessment data were used to develop exercise appropriate for each subject. Cardiovascular endurance assessments performed using modified Bruce treadmill protocols. Muscular strength assessments involved: leg extension, seated leg curl, lat. pull down, and seated chest press. Muscular strength assessments were performed using submaximal muscle endurance protocols that predicts 1RM. The format for each exercise session followed initial administration of a cardiovascular activity (approximately 6-12 min) including walking on a treadmill, the use of a cycle ergometer, or elliptical equipment, followed by an entire body stretching session (5-10 min), resistance training (15-30 min), and cool down period that included stretching activities for 8 min.	21	2 h			

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[18]	Baumann 2010	Standard care	-	-	Exercise intervention. ADL daily training (except weekends) walking on hospital's corridor, stepper training (30-cm high, intervals, 5x20 steps with 1 min break), stretching and coordination training. The intensity was intended to match the patient's subjective feeling of 'slightly strenuous' to 'strenuous' (Borg scale), 20 min/day during conditioning, not during aplasia and after engraftment 1/day. Bicycle ergometer Aerobic training (WHO-test: increasing the load by 25W every 2min, up to a heart rate of 180 minus the patient's age. 80% of the achieved watt load was patient's training load.) During aplasia (on weekend the patients got a training program and could exercise alone), 10 min/day from day -6 until 1 day before the scheduled discharge. During aplasia 2/day, after engraftment 1/day.	41 days 25 days	Aerobic 1.7 to 3.2 h post-transplant ADL 20 min/day post chemo			
[19]	Baumann 2011	Standard care	-	-	ADL-training after aplasia: walking on hospital corridor, stair climbing (30cm step, 5x20 steps with 1 min break), stretching, coordination training, strengthening. Borg scale: slightly strenuous – strenuous. Daily in the afternoon after aplasia (except on weekends). 20 min/day. During chemotherapy and after engraftment. Not during aplasia. Aerobic endurance training. Cycle ergometer during chemotherapy and aplasia. 80% of achieved watt load in WHO-test. 2/day during aplasia, 1/day during chemotherapy and engraftment in the morning (except on weekends. During the whole inpatient time.	-6 day until end of hospitalisation	Aerobic 0.8 h to 1.7 h ADL 1 h 40min			
[20]	Bennett 2007	Two telephone calls without motivational interviewing content	-	-	Motivational interviewing calls. One in-person counselling session followed by 2 MI telephone calls over 6 months. This session lasted approx. 30 min. All patients received a pedometer, but were not required to walk if they preferred another form of moderate-intensity exercise. Goal: to encourage all participants to advance toward a goal of 30 min of moderate-intensity planned physical activity on most days of the week. The counsellor telephoned each participant 2 weeks after the in-person session to help solve problems, followed by 2 telephone calls at 2 months and 4.5 months after enrolment. Telephone calls were planned to last about 20 min. The conversation included motivational strategies directed at solving problems, offering encouragement, and reformulating goals.	6 months	Goal: 3.5 h per week 1.2 h counselling over 6 months not per week			
[21]	Berglund 1994	Control	-	-	11 2h sessions over seven weeks. Week 1-4: 2 sessions/week, 1 devoted to physical training and 1 to information. Week 5-7: 1 session/week of coping training. Physical training: Aimed to increase mobility, muscle strength and general fitness. Two relaxation methods in every session: progressive muscle relaxation and relaxation with positive images. Information: An oncologist informed about cancer in general and the effects of radiation, chemotherapy and hormonal treatments. Opportunities were given to ask questions. A psychologist informed about the concept of crisis, emotional reactions and the concept of development through crises. A dietitian informed about what is important in the diet. Coping: Session 1; role playing of returning to work. Session 2; anxiety; what is anxiety. Session 3; problem situations at medical check-ups, claim patients' rights.	7	11 x 2 h over 7 week (first 4 w 2x/week, last 3 w 1x/week)			
[22]	Boesen 2005	Control	-	-	Health education, consisting information about malignant melanoma and proper follow up routines. Information on cancer-preventive behaviour, for example exposure to the sun. Methods for stress management and coping methods. Stress management: stress awareness (stress monitor questionnaires), actual management of stress (relaxation followed by guided imagery) and a compact disk with relaxation an imagery exercises to use daily. Coping methods: concepts of active and avoidance coping and effective problem solving based on illustrations of coping scenarios.	6	2.5 h			
[23]	Bourke 2011 feasibility	Standard care	-	-	Supervised exercise sessions comprising 30 min of aerobic exercise [intensity of 55%–85% of age-predicted maximum heart rate and/or ratings of perceived exertion, 11 to 15 on the Borg Scale, 2 and 4 sets of resistance exercises (body weight resistance and free weights) targeting large skeletal muscle groups. 2 trainings/week for the initial 6 weeks and 1 training/week for the following 6 weeks.	12	Aerobic up to 2.5 h Resistance training not indicated			

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[24]	Bourke 2011 pilot	Standard care	-	-	Self-directed exercise (e.g., brisk walking, cycling, and gym exercise) for at least one 30-minute session per week during the initial 6 weeks and at least 2 sessions per week for the final 6 weeks, using a log book to record activity. Up to a total of 5 sessions per week of exercise. Nutrition advice was given. Supervised home-based exercise sessions and dietary advice. First 6 weeks: 2 group-based supervised exercise sessions/week, 30 min aerobic exercise (e.g., using treadmills, rowing ergometers, and cycling ergometers) at an intensity of 55% to 85% of age predicted maximum heart rate (based on the formula 220 – age in years). Between 2 and 4 sets of 8 to 12 repetitions (with a rest of 30 –90 seconds between sets) of resistance exercises aimed at large muscle groups (quadriceps, deltoids, pectorals, latissimus dorsi, hamstring muscles), using body weight resistance and free weights. Aerobic activities at home 1/week (e.g., cycling, gym exercise at an intensity of 11–13 on the Borg scale) documented through an exercise log book. The final 6 weeks: participants attended the university facility 1/week and were asked to perform 2 home-based exercise sessions/week. Nutrition advice was given including healthy eating seminars in a group, lasting approx. 15-30min.	12	Not indicated in h/week			
[25]	Bourke 2014	Standard care	-	-	Supervised aerobic and resistance exercise. Aerobic exercise 30 min at an intensity of 55–75% of age predicted maximum heart rate or 11–13 on the Borg scale using stationary cycles, rowing ergometers, and treadmills. Between 2 and 4 sets with 8–12 repetitions of resistance exercises beginning at an intensity of 60% of one rep. max with progression through increasing volume before weight. This was undertaken 2/week from weeks 1–6, and 1/week from weeks 7–12. During week 1-6, men were asked to undertake at least one self-directed independent exercise session (e.g., brisk walking, cycling, and gym exercise) for at least 30 min, 1/week. This requirement was increased to 2/week during weeks 7–12. A behavioural component and nutrition advice were provided for approximately 20 min, every 2 week throughout the intervention.	12w	Aerobic 0.5 h Resistance exercise not indicated 2x/week w1-6 1x/week w7-12 Home program 0.5 h 1x/week w1-6 2x/week w7-12			
[26]	Bower 2012	Control with health education. Health lectures about topics of interest to breast cancer survivors followed by questions and discussion. The topics included 1) cancer-related fatigue; 2) introduction to cancer survivorship; 3) psychosocial issues in cancer survivorship; 4) weight and chronic disease management; 5) cancer genetic predisposition testing and counselling for breast/ovarian cancer syndromes; 6) stress and cancer; 7) diet, nutrition, and cancer survivorship; 8) sleep hygiene; 9) cognitive problems after cancer treatment; 10) osteoporosis and cancer survivorship; 11) body image and sexuality; and 12) finding meaning and achieving goals.	12	2 h	Lyengar yoga, taught by a certified Junior Intermediate lyengar yoga instructor and an assistant under the guidance of a senior teacher. Focus on passive inversions (i.e., supported upside-down postures in which the head is lower than the heart) and passive backbends (i.e., supported spinal extensions). In supportive postures, the shape of the pose is supported by props (e.g., blocks, bolsters, blankets, wall ropes, belts) rather than being held by the strength of the body.	12	3 h			
[27]	Bower 2015	Wait-list	-	-	Mindfulness, relaxation, and the mind-body connection; experiential practice of meditation and gentle movement exercises (e.g., mindful walking)	6	2 h			
[28]	Bridge 1988	Control	-	-	Relaxation group. Subjects were taught a relaxation technique which by a process of direct concentration focuses sensory awareness on a series of individual muscle groups. They were also given instructions for diaphragmatic breathing, which slows	6	2 h	Relaxation plus imagery group. Same intervention as for relaxation group. But in addition, subjects were	6	2 h

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					respiration, induces a calmer state, and reduces tension. They were given a tape which repeated the breathing instructions and contained the relaxation. It was suggested to them to practise this at home for at least 15 min/day.			taught to imagine a peaceful scene of her own choice as a means of enhancing the relaxation. They were given a tape that repeated the breathing instructions and contained the relaxation and imaging exercise. It was suggested to them to practise this at home for at least 15 min/day.		
[29]	Broderick 2013	Standard care	-	-	Aerobic exercise, individually based. For the most deconditioned participants, falling into the 'poor' fitness classification on baseline assessment, aerobic intensity zones started at a low level [35–55 % heart rate reserve (HRR)] and increased up to 50–60 % HRR by week 8. Participants falling into the 'fair' and 'average' fitness categories started at a HRR of 40–60 % and 45–65 % at week 1, and increased up to 55–70 % and 65–75 %, respectively, by week 8. Stations included treadmill, rowing machine and stationary bicycle. Warm-up and cool-down, lasting 10 min. Participants were also given a home exercise program; week 1 - 'Walk for at least 20 min at a brisk pace for at least 1/week which progressed to the week 8 - 'Walk for at least 45 min at a brisk pace at least 3–5 days/week.	8	Approximately 1.75 h 2.75 h			
[30]	Brown 2006	Standard care	-	-	Exercise intervention.8 sessions with a theme focused on one or more of the 5 domains of quality of life (i.e., mental, emotional, physical, social, spatial). Sessions began with 20 min of exercises conducted by a physical therapist followed by educational information, cognitive-behavioural strategies, discussion, and support. Intervention included seated active range of motion exercises of upper and lower extremities, progressing to resistive exercises with an elastic band. Subjects were encouraged to increase the number of repetitions. Stretching exercises were included. Functional lower extremity exercises (e.g., marching in place) were added.	4	3 h			
[31]	Burnham 2002	Control (no exercise)	-	-	Low intensity exercise. The aerobic-exercise program was performed on treadmills, stationary bicycles and stair-climbing machines. The exercise intensity for the low-intensity group started at 25-35% HRR, building to approximately 40% HRR by week10. The duration of the aerobic exercise was initially 14 min and was divided equally among the three exercise modalities (4 min and 40 s on the treadmill, stair climber, and stationary bicycle in a rotational order). The aerobic-exercise period was increased by 2 min a week, such that it was 32 min during week 10.	10	0.75 h to 1.6 h (Increased during the study period)	Moderate intensity exercise. The aerobic-exercise program was performed on treadmills, stationary bicycles and stair-climbing machines. Exercise intensity for the moderate exercise group started at 40-50% HRR and rose to approximately 60% HRR by the 10th week. The duration of the aerobic exercise was initially 14 min and was divided equally among the three exercise modalities (4 min and 40 s on the treadmill, stair climber, and stationary bicycle in a rotational order). The aerobic-exercise period was increased by 2 min a week, such that it was 32 min during week 10.	10	0.75 h to 1.6 h (Increased during the study period)
[32]	Cadmus 2009 Impact	Standard care	-	-	Home-based exercise program, based on the theory of planned behaviour and the trans theoretical model. Each participant received an educational book, a binder containing specialized weekly informational handouts, and a Polar heart rate monitor (used to maintain activity at 60–80% of predicted maximal heart rate). Participants recorded each session in the 7-Day physical activity log and returned these logs 1/month. Each participant was taught	26	Average 2.4 h			

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					exercise techniques and principles during weekly phone-based meetings. Calls lasted approx. 20 min and included detailed discussion of physical activity performed in the previous week and goal setting for the upcoming week. If the goal of 30 min of activity 5 days/week was not achieved, specific barriers and possible strategies were discussed.					
[33]	Cadmus 2009 Yes	Standard care	-	-	Supervised training program. Participants exercised at a local training club 3 days/week, supervised by exercise physiologists from the study staff. Participants exercised an additional 2 days/week either at the health club or on their own. Participants wore Polar heart rate monitors during all exercise sessions to maintain the goal of 60–80% of predicted maximal heart rate and recorded each session in a physical activity log.	Average 26	2.5 h			
[34]	Caldwell 2009	Standard care	12	4 (2 h)	Walking and Resistance Bands with light intensity.	12	4 (2 h)			
[35]	Campbell 2005	Standard care	-	-	Supervised exercise programme 2/weekly. The classes consisted of a warm-up, 10 - 20 min exercise (varied from week to week) included walking, cycling, low-level aerobics, muscle-strengthening exercises, circuits etc.), a cool down and relaxation period. The heart rates were monitored throughout the class to ensure that they were exercising at a moderate level (60–75% age- adjusted heart rate maximum). Each week, for 6 weeks, a specific theme was addressed, with the intention of guiding the women into becoming independent exercisers. The 6-week block was repeated on a rolling basis allowing all participants to hear the same themes.	12	0.3 to 0.6 h (excl. warm-up and cool-down)			
[36]	Campo 2013	Control	-	-	Tai Chi Chih intervention. A westernized form that is safe for senior populations and was led by an experienced instructor. It consisted of 19 simple, repetitive, nonstrenuous movements and 1 standing pose. Participants were informed that all movements could be performed sitting if needed. Each session began with a 20-min warm-up that consisted of a seated meditation, self-massage of acupressure points and light stretching, followed by 30 min of Tai Chi Chih movements and 10 min of closing movements. Each week 1 to 2 new movements were added, until the entire form was practiced during the last 3 weeks.	12	3 h			
[37]	Campo 2014	Stretching Control Group consisting of light stretching exercises including upper and lower body stretching exercises that targeted main muscle groups. The intensity and duration of the stretching exercises were progressively increased. Twice per week for 60 min plus home based exercising based on a DVD.	12	2 h Plus home-based.	Qigong classes twice per week for 60 min. Start with five min meditative focus on the breath, followed by sitting exercises, then standing movements, and ended with a final five-minute meditative focus on the breath. As the study progressed, a larger proportion of time was spent performing the standing movements than the sitting exercises. Eccentrically-biased muscular focus into the Qigong standing movements (e.g., Rocking chair, Tai Chi Ruler, etc.) was integrated to increase the intensity of the intervention, Home-based exercising were instructed based on a DVD.	12	2 h plus home-based			
[38]	Cantarero-Villanueva 2011	Standard care	-	-	Multimodal physical therapy program. The program consisted of a total of 24 h of physical training and 12 h of physical therapy recovery procedures, conducted 3 times/week for 90 min each. The intensity of the aerobic training was established following the recommendations of the American College of Sport Medicine. Multimodal physical training was followed by 30–40 min of low intensity interventions for improving recovery after exercise. This period included stretching of the muscles used during previous exercise and massage (myofascial release techniques), which has the ability to improve recovery after exercise.	8	3.5 h			
[39]	Cantarero-Villanueva 2013	Standard care	-	-	Aquatic exercise intervention. Water-based sessions 3 times/ week for 8 weeks in a heated deep swimming pool measuring 25 times 12.5 meters with a depth ranging from 1.40 to 2.00 meters. The water temperature was 28C, the room temperature was 30C, and the relative humidity was 90%. The intensity of the aerobic exercise was maintained through the use of the revised Borg Rating of Perceived Exertion scale. The endurance exercises were	8	3 h			

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[40]	Carson 2009	Waiting list	-	-	considered moderate as the parameters set for each exercise included 2 to 3 sets of 8 to 12 repetitions. The program was supervised by a fitness specialist and by 2 physical therapists. Yoga of Awareness program. The intervention consisted of eight weekly 120-min group classes. Yoga of Awareness is an innovative, comprehensive yoga program, which for this study was tailored to address hot flashes, fatigue, and mood disturbances. Each class included approximately 40 min of gentle stretching poses, 10 min of breathing techniques, 25 min of meditation, 20 min of study of pertinent topics, and 25 min of group discussions.	8	2 h			
[41]	Cerulli 2014	Control	-	-	Two 1-hour therapeutic riding sessions per week for 16 weeks. Sessions consisted of 1) warm up, horse caring, and grooming; 2) riding; and 3) unsaddling and grooming activity.	16	2 h			
[42]	Chakrabarty 2015	Routine care	-	-	Yoga: pranayama, morning and evening for 5 days a week for 6 weeks (from the day of starting radiotherapy until the last day of radiotherapy). Patients performed Nadi Sodhana for approximately 5 min (21-25 cycles), Sheethali for approximately 5 min (50-60 cycles) and Brahmari for approximately 8 min (10 cycles). The initial sessions on pranayama were given in the Yoga Department for 1 week. The patients performed pranayama morning and evening for the next 5 weeks in a separate room in the hospital under supervision.	6	5 h			
[43]	Chan 2011	Standard care	-	-	Psycho-educational intervention group. A 40-minute educational package plus coaching of progressive muscle relaxation was delivered to patients within one week prior to the beginning of the course of radiotherapy, and reinforced three weeks after commencing it. The education package consisted of leaflets and discussion on the selected symptoms and their self-care management. Patients were encouraged to practice progressive muscle relaxation daily and as required. They were given a telephone reminder at the end of the second week to enhance participation in the 3d weeks sessions.	12	Not defined, patients were training at their own volume after instruction			
[44]	Chan 2016	Usual care	-	-	Multidisciplinary psycho-educational intervention. Three weekly sessions over 4.5 hours each. Themes were nutrition, cognitive abilities, psychological distress, physical effects, fatigue, medication use, adjustment back to normal life, identification of survivorship issues, exercise and physical activity.	3	4.5 h			
[45]	Chandwani 2010	Waiting list	-	-	Yoga intervention group. Multidimensional yoga including (a) preparatory warm-up movements synchronized with breathing (10 min); (b) maintenance in selected postures (forward-, backward-, and side-bending asanas in sitting and standing positions, cobra posture, crocodile, and half-shoulder-stand with support) (25 min); (c) deep relaxation technique (in corpse posture, 10 min); (d) alternate-nostril breathing (pranayama) (5 min); and (e) meditation (10 min) (all times are approximate). Participants received a 60-minute audio CD of the yoga program and a manual with photographs and instructions for home practice. Patients were encouraged to practice the full yoga once per day outside the classes.	6	2 h			
[46]	Chandwani 2014	Waiting list	-	-	Yoga intervention group. Participants attended up to three 60-minute classes per week during their 6 weeks of radiotherapy, included the following: (1) preparatory warm-up synchronized with breathing; (2) selected postures, or asana (forward-, backward-, and side-bending asanas in sitting and standing position, cobra posture, crocodile, and half-shoulder-stand with support); (3) deep relaxation (supine posture); (4) alternate-nostril breathing, or pranayama; and (5) meditation.	6	3 h	Stretching intervention group. Participants attended up to three 60-minute classes per week during their 6 weeks of radiotherapy. The program included exercises recommended specifically for women undergoing or recovering from breast cancer treatment. The exercises included standing,	6	3 h

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[47]	Chang 2008	Standard care	-	-	Walking exercise intervention group. The program consisted of 12 min walking in the hospital hallway on five days per week. The trained research assistant accompanied patients continuously to follow the protocol. Patients were encouraged to walk at a speed to reach their target heart rate (resting heart rate plus 30).	3	1 h	lying down, and sitting positions and approximated the gross movements of the yoga exercises.		
[48]	Chen 2011	Usual care	-	-	Power striding, jogging, stair activity; (220 - age - resting Heart Rate) x 60 % + resting HR, 20-30 min, 3-5 times per week.	8	1 h to 2.5 h			
[49]	Chen 2013	Control	-	-	Qigong intervention. Five 40-min qigong classes/week during 5 or 6 weeks. Participants were given a DVD with the qigong program and printed materials with similar instructions and were encouraged to practice qigong on their own. After a brief introduction, each session was separated into the following 3 parts: 1) The preparation exercise consisted of relaxation; synchronizing the breath with slow, shallow squatting movements; and synchronizing the breath with gentle arm movements in front of the abdomen. 2) For the main exercise, participants walked in a circle, synchronizing their breathing, arm movements, and steps and focusing on the movement of their body with the goal of calming their mind, relaxing various parts of the body and the mind, and revitalizing the "life-force". 3) Finally, the ending exercise consisted of breathing exercises, opening and closing of the dantian, and self-massage practiced in a standing position.	5-Jun	3.5 h			
[50]	Cheville 2013	Control	-	-	Exercise intervention. Incremental walking and home-based strength training. The intervention comprised an initial one-on-one, 90-minute instructional session in rapid, easy strength training as well as a pedometer-based walking program and was followed by bimonthly telephone calls directed toward reviewing and advancing the programs.	8	1.5 h. introduction followed by individual training (volume unknown)			
[51]	Choi 2012	Control	-	-	Home-based exercise program developed from the findings of Winningham (1990) and data from the Korea Athletic Promotion Association (2007). The exercise sessions consisted of outdoor 8 to 60 min brisk walking (moderate intensity) 3 times a week and strengthening exercises (moderate intensity) including 5 min warm-up, 45 min of exercises and 10 min of cooling-down (stretching) exercises.	8	3 to 6 h			
[52]	Clark 2006	Control	-	-	Music therapist interviewed patients with three objectives in mind. First, the participant identified preferred music styles for use as relaxation or distraction. Second, the therapist discussed and demonstrated relaxation techniques that could be used with the music. The techniques discussed included progressive muscle, relaxation, imagery and positive self-talk. Third, the therapist explained to the participants that they would be receiving a cassette tape of music selected according to the preferences and specifications identified in the session. The music therapist instructed participants to listen to the music at any time during the therapy and particularly at times of increased anxiety, pain, fatigue or depression.	Average 4.82	No indication			
[53]	Classen 2001	Control	-	-	Weekly 90-minute sessions, with therapists trained to facilitate discussion of the following themes: (1) fears of dying and death, including dealing with the deaths of group members; (2) reordering life priorities; (3) improving support from and communication with family and friends; (4) integrating a changed self and body image; and (5) improving communication with physicians. Each session ended with a self-hypnosis exercise to help patients manage stress and deal with pain. Patients were encouraged to use this exercise at home.	1 year	1.5 h			

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[54]	Cohen 2004	Control	-	-	Weekly Yoga classes. All the practices come from a tradition practiced for centuries by Tibetan monks and lay practitioners and employ imagery and exercises that are not demanding physically. The program was divided into four aspects: 1) controlled breathing and visualization, 2) mindfulness, 3) postures from the Tsa lung, and 4) the preliminary set of postures from the Trul khor (sngon 'gro). Participants also were provided with printed materials after each class that covered a new area of the program. After the last class, patients also were given an audiotape that walked them through all the techniques. They were encouraged to practice the techniques at least once per day. Participants who missed a class were encouraged to attend a make-up class at another time.	7	No indication in h/week			
[55]	Coleman 2012	Usual care	-	-	Participants received a set of color-coded exercise stretch bands with varying resistance and a notebook and videotape to illustrate the exercises. The exercise program consisted of three components: (a) daily stretching exercises for the hamstrings, shoulder rotation, calves, hip flexors, and triceps, (b) strength and resistance training for the extremities, and (c) aerobic walking. The strength resistance training, which occurred on alternating days from aerobic walking, consisted of biceps curls, triceps extensions (chair push-ups), chair stands, and hamstring strengthening. Aerobic walking was done at a level that allowed patients to reach 65%–80% of their maximum heart rate. Strength resistance training was performed at an intensity of 60%–80% of the one repetition maximum (1RM). All patients mailed or faxed an activity summary each week.	15	Individually based			
[56]	Cormie 2013	Usual care	-	-	Resistance exercise sessions for 12 weeks. Sessions were conducted in small groups of 1-5 participants. Sessions were 60 min in duration, commencing 5-min warm-up and a 10-min cool-down consisting of low-level aerobic exercise and stretching. The resistance exercise included eight exercises that target the major muscle groups of the upper and lower body. Participants were instructed to perform the exercises using controlled, smooth movements at a set cadence of 1–2s for both eccentric and concentric phases. The resistance exercise load progressed from 12–8 repetition maximum (RM) with two to four sets per exercise. Participants were encouraged to supplement the resistance exercise sessions with home-based aerobic exercise sessions involving walking and/or stationary cycling, with the aim of accumulating a total of at least 150min of moderate-intensity aerobic exercise each week	12	2.5 h			
[57]	Cormie 2015	Control	-	-	Exercise intervention, in small groups of up to 8-10 participants. Sessions lasted approx. 60 min and involved moderate to high intensity aerobic and resistance exercises including warm-up and cool-down. The aerobic exercise component included 20–30 min. of cardiovascular exercise using a variety of modes (walking or jogging on a treadmill, cycling or rowing on a stationary ergometer or exercising on a cross trainer machine). Target intensity was set at approximately 70-85% of estimated maximum heart rate. The resistance exercise component involved 8 exercises (leg press, leg extension, leg curl, calf raise, chest press, lat pulldown, biceps curl and triceps extension). Intensity was manipulated from 6-12 repetition maximum, using 1-4 sets per exercise. Participants were encouraged to supplement the supervised exercise sessions with home-based aerobic exercise.	3 months	2.5 h			
[58]	Cornette 2016	Standard Care	-	-	Home-based exercise programme including strength and aerobic training. Three times a week.	27	2.5 h			
[59]	Courneya 2009	Usual care	-	-	Exercise program designed to maximize cardiovascular fitness. 10 Sessions were supervised by exercise physiologists and completed on an upright or recumbent cycle ergometer three times/week for 12 weeks. Intensity began at 60% of the peak power output, which corresponded with baseline peak oxygen consumption (VO2peak), and was increased by 5% each week to 75% by the fourth week.	12	0.75 h to 1 h w1-4 increasing 5 min/w w5-12			

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[60]	Courneya 2003a	Control	-	-	Duration began at 15 to 20 min for the first 4 weeks and increased by 5 min per week to 40 to 45 min in the ninth week. Home-based, personalized exercise program. Participants could choose the mode of exercise they preferred (e.g. swimming, cycling). If they had no preference they were prescribed walking. The goal was to have participants exercising at least 3–5 times per week, for 20–30 min, at 65% to 75% of the predicted heart rate maximum. Progression towards this goal varied depending on motivation and capability. For some participants, early weeks were characterized by shorter duration (e.g. 10–15 min) and lower intensity (e.g. 50% to 60% maximum heart rate) that gradually increased to the desired goal.	16	Goal: 20-30 min, 3-5 /week			
[61]	Courneya 2003b	Control	-	-	Supervised exercise training based on each participant's cardio pulmonary fitness level at baseline. Participants trained 3 times/week for 15 weeks on recumbent or upright cycle ergometers. Exercise intensity was set at the power output that elicited the ventilatory equivalent for carbon dioxide to ensure optimal training adaptations. This training intensity corresponds to approximately 70% to 75% of maximal oxygen consumption in untrained subjects. Exercise duration began at 15 min for weeks 1 through 3, and then systematically increased by 5 min every 3 weeks thereafter to 35 min for weeks 13 through 15. Warm-up and cool-down periods consisted of 5 min of cycling at the power output of the ventilatory equivalent for oxygen (approx. 50% of peak oxygen consumption).	15	0.25 h weeks 1 through 3, increased by 5 min every 3 weeks. 0.5 h for weeks 13 through 15.			
[62]	Courneya 2003c	Control	10w	1.5 h	Exercise intervention. Home-based, personalized exercise program. Individuals were prescribed walking although they could choose an alternative mode of exercise if they preferred (e.g. swimming, cycling). The goal was to have participants exercising at least 3–5 times per week, for 20–30min, at 65–75% of their estimated heart rate maximum as soon as was safely possible. Progression towards this goal varied, however, depending on individual motivation and capabilities. There were no exercise meetings or exercise group activities and all costs of the exercise program were covered for the participants (e.g. fitness testing, parking).	10	0.3 to 0.6 h, 3-5 times/w			
[63]	Courneya 2007	Usual care	-	-	Aerobic exercise three times per week on a cycle ergometer, treadmill, or elliptical beginning at 60% of their maximal oxygen consumption, or VO2max, for weeks 1 to 6 and progressing to 70% during weeks 7 to 12 and 80% beyond week 12. Exercise duration began at 15 min for weeks 1 to 3 and increased by 5 min every 3 weeks until the duration reached 45 min at week 18.	Median 17w	0.25 h w 1 -3 increased by 5 min every 3 w, 0.75 h w 18	Resistance exercise three times per week performing two sets of eight to 12 repetitions of nine different exercises at 60% to 70% of their estimated one-repetition maximum.9 The exercises were leg extension, leg curl, leg press, calf raises, chest press, seated row, triceps extension, biceps curls, and modified curl-ups. Resistance was increased by 10% when participants completed more than 12 repetitions.	Median 17w	No indication in h/week
[64]	Courneya 2008	Control	-	-	Exercise training program individually tailored to each participant and aimed at improving cardiorespiratory fitness. All exercise training sessions were supervised by exercise physiologists and consisted of three cycle aerometry sessions per week for 12 weeks at 60%–100% of baseline peak power output.	12w	No indication in h/week			
[65]	Cramer 2015	Waiting list	-	-	Yoga: weekly, 90-minute, traditional Hatha yoga based on the teachings of Sivananda Saraswati, over a period of 12 weeks. Additional meditation practices derived from the Karma Kagyu school of Tibetan Buddhism according to Lama Ole Nydahl.	12	1.5 h plus home-based yoga			
[66]	Cramer 2016	Usual care	-	-	Yoga: weekly 90 min classes of traditional hatha yoga.	10	0.5 h			

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[67]	Culos-Reed 2006	Control	-	-	Yoga program intervention. The class was held over a period of 75min in a quiet and dimly lit yoga studio according to the following schedule: 0–10 min; gentle breathing, laying supine, with legs flexed at the hip and supported by a wall. The pelvis is in a neutral position, and arms are abducted with palms facing toward the ceiling. 10–60min; a series of 6–10 modified Yoga asanas which are comprised of gentle stretching and strengthening exercises of specific groups of muscle, tendons and ligaments inside of the participant's pain free zone (these asanas changed over the course of 7 weeks as participants' flexibility and strength improved). 60– 75 min; shevasana or relaxation (corpse pose).	7	1.25 h			
[68]	Culos-Reed 2010	Control	-	-	Exercises intervention, tailored to ability but primarily consisted of walking, stretching, and light resistance exercises (i.e., TheraBand), which the participant could perform at home. Additionally, exercise equipment (physio ball and TheraBand) was provided to each participant to encourage and facilitate his home-based PA program. Participants were also asked to attend weekly booster sessions in a group based format, including activity and discussion. The activity included workout, similar to the home program whereby individualized feedback was provided. The education and group discussion focused on common concerns facing new exercisers with a new topic each week, including goal setting, monitoring behaviour, over- coming barriers, role of a positive attitude and social support, relapse prevention, and the role of nutrition.	16	Home program not indicated 1 h/week Group sessions 1.5 h			
[69]	Daley 2007	Usual care	-	-	Exercise therapy intervention. Heart rate (HR) and ratings of perceived exertion (RPE) were assessed every 2 min during sessions. Exercise therapy sessions involved moderate intensity exercise (65% to 85% of age-adjusted HR maximum and RPE of 12 to 13). A variety of cognitive behavioural techniques for promoting exercise behaviour change were explored with participants during sessions.	8w	2.5 h	Placebo training. Instead of aerobic exercise they performed light intensity body conditioning/stretching (e.g., flexibility and passive stretching) exercises during which HR was maintained below 40% heart rate reserve (HR typically was kept below 100 beats per minute). No exercise counselling or behavioural change advice was provided; instead, conversations were centred on topics of everyday life (i.e., weather, news items, and families). HR and RPE were assessed every 5 min. Participants were otherwise asked to continue with their lifestyle as normal.	8w	2.5 h
[70]	Danaher Hacker 2011	Control	-	-	Strength training intervention. The training consisted of a comprehensive program of progressive resistance to strengthen the upper body, lower body, and abdominal muscles using elastic resistance bands and body weight for resistance. 11 pre-selected exercises with concentric and eccentric muscle contractions were shown. Subjects were seen once or twice a week during their regularly scheduled clinic visit to exercise under the supervision of research staff. Progression of the exercise prescription was structured to first increase the number of sets from 1 to 2 sets of 8-10 repetitions and then to increase the resistance level of elastic bands.	6	1-2 trainings /week, 11 exercises each, no indication of time			
[71]	Danhauer 2009	Waiting list	-	-	Restorative yoga intervention, consisting of 10 weekly 75-minute classes taught by a yoga instructor with cancer-specific yoga training. The classes combined physical postures (asanas), breathing (pranayama), and deep relaxation (sava- sana).	10	1.25 h			
[72]	De Luca 2016	Control	-	-	Strength and aerobic training protocol. Resistance training 40 min, followed by aerobic training 30 min. Warm up, cool down, core.	24	3 h			

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[73]	Decker 1992	Control	-	-	Relaxation therapy intervention. Patients who were receiving relaxation treatment met individually for six 1-hour sessions with one of three female graduate students supervised by the first author. In addition to relaxation training, support focused on concerns related to cancer radiation treatment and its effects and on the physical and emotional sensations experienced. Patients were instructed to perform Progressive Muscle Relaxation each day at home and were provided with a relaxation tape and written relaxation instructions.	no indication of duration	6 h excl. home practice every day			
[74]	Dhruva 2012	Control	-	-	Yoga intervention. The pranayama protocol consisted of four breathing practices, which were chosen by the principal investigator for their ease of use and potential for efficacy after extensive discussion with the study yoga therapists. These breathing practices were taught and practiced during weekly 60-minute sessions by two certified yoga instructors. The participants were expected to practice the techniques at least 10–15 min twice a day at home.	2 cycles of chemotherapy (no indication of weeks)	3.3 h to 4.5 h			
[75]	Dibbel-Hope 1989	Control	-	-	Dance/movement therapy group – Authentic movement. Authentic Movement is a simple form of self-directed expressive movement, which involves a mover/client (or group of movers) and a witness/therapist. The mover usually moves with eyes closed to attend to and bring a clearer focus to one's own inner experience.	6	3 h			
[76]	Dimeo 1999	Control	-	-	Exercise intervention. Daily program of aerobic exercise comprised of "biking" with a bed ergometer (Rotomed). This device allows the simulation of biking motion without the patient leaving the bed. The patients "biked" for 1 minute with an intensity sufficient to reach a heart rate equivalent to at least 50% of the cardiac reserve, calculated as 220 - age - resting heart rate. The procedure was repeated 15 times with pauses of 1 minute between bouts; therefore, training was performed for a total of 30 min each day.	Hospital admission until hospital discharge	3.5 h			
[77]	Dimeo 2004	Relaxation intervention. The progressive muscle relaxation technique (Jacobson method) consists of a systematic programme of contraction and relaxation of muscle groups (face, neck, shoulders, arms, forearms, hands, back, abdomen, buttocks, thighs, legs and feet. During training, participants tightened each muscle group progressively; after reaching a maximal contraction, tension was held for about 5 sec; then, participants relaxed for 30 sec while focussing on breathing. This procedure was repeated for each muscle group. Sessions lasted approximately 45 min and were repeated on Mondays, Thursdays and Fridays for 3 weeks.	3	2.6 h	Exercise intervention. Programme consisted of biking on a stationary bike for 30 min daily 5 days per week following an interval-training pattern. During the first week, exercise duration was 5x3 min per day. Exercise duration was increased to 4x5 min per day in the second week and to 3x8 min in the third week. Patients were instructed to keep a pedalling frequency of about 50 cycles per min. Training intensity corresponded to a heart rate of about 80% of the maximal heart rate in the stress test.	3	2.5 h			
[78]	Do 2015	Waiting List (Cross-Over Trial)			5 times per week, supervised by a physiotherapist. 10 min stretching, strengthening exercises with 8-12 repetitions using TheraBand at 60-80% of 1-RM. Core muscles exercises with a Ball. 40 min aerobic exercises at 40-75% of VO2max.	4	5 h			
[79]	Dodd 2010	Control	-	-	Exercise during second chemotherapy. It consisted of a programme individualized to the participant's fitness level, based on the baseline exercise treadmill test. The prescription was adjusted by the exercise physiologist through weekly follow-up phone calls to maintain the exercise prescription. It consisted of a mode (cardiovascular/aerobic exercise, e.g., walking, jogging, or bicycling), frequency (3-5 times per week), intensity (training heart	1 year (throughout the study)	1 h to 2.5 h	Exercise intervention after the second chemotherapy. Same protocol as for intervention during second chemotherapy.	6-8 (after completing chemotherapy)	1 h to 2.5 h

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[80]	Dodds 2016	Waiting List			rate corresponding to 60%V _{O2peak}), and duration (20-30 min of continuous exercise). The intensity of the exercise was targeted to achieve Borg Scale of 12–14. Cognitively-based compassion training consisting of eight weekly sessions and a booster session at week 12. Development of meditative concentration, development of non-judgmental awareness of thoughts, internal bodily states and environmental circumstances (mindfulness); examination of the causes of suffering, practicing of self-compassion; practice in equanimity and the perspective that all persons are alike in the common search for happiness and freedom from suffering. Evaluation of thoughts and feeling contributing to social bias by categorizing individuals as "friends, strangers, or difficult persons"; practice of appreciation and gratitude for benefits received through social interconnection and interdependence; practice in affection and empathy; Meditative exploration of first stage of compassion, i.e. the wish that all beings be happy and free from suffering and its causes; meditative strategies for deepening the aspiration for happiness and freedom from suffering for self and others, with focus on developing active compassion. Participants were asked to meditate at least three times per week at home for 30 minutes.	12	4 h			
[81]	Dolbeault 2009	Control	-	-	Intervention group receiving psychoeducational structured classes based on cognitive behavioural techniques principles. Patients were taught to routinely use thought records, to practise problem-solving and cognitive restructuring, to communicate better with caregivers and health professionals through role-play, and to practice relaxation. Unlike a comprehensive CBT approach, all psycho-educational exercises were initiations combined with general medical information and peer exchanges on defined themes (causes and significance of cancer, impact of treatments on body image, managing uncertainty, improving communication with loved ones, etc.).	8	2 h			
[82]	Donnelly 2011	Standard care	-	-	Physical activity intervention. Participants were facilitated to participate in a moderate intensity, home-based physical activity intervention that included walking and strengthening exercises. The intervention included an initial, individual face to face consultation with a physiotherapist, based on the Trans-Theoretical Model and physical activity consultations guidelines; followed by weekly telephone calls for 10 weeks, a final face to face consultation at week 12 and two monthly follow-up calls. The aim of the program was to meet physical activity guidelines of 30 min of physical activity, on at least 5 days of the week.	26	2.5 h			
[83]	Drouin 2005	Placebo stretching condition, performing a general stretching protocol 3-5 days /week. Each participant was given written and verbal instructions, as well as one training session on proper stretching techniques by a licensed physical therapist.	7	1h-3h45min	Aerobic exercise intervention. Patients were instructed to perform self-monitored walking in their neighbourhoods or on treadmills in their homes following a home-based individualised walking programme. 20 to 45 mins of walking 3 to 5 times/week at 50% to 70% max HR.	7	1 h to 3.75 h			
[84]	Eakin 2012	Usual care	-	-	Intervention of physical activity. The programme involved 16 calls, 15–30 min duration over 8 months. The intervention contained social cognitive theory and was implemented according to the Chronic Disease Self-Management Intervention Model adapted from our previous trials. The intervention target for all women was to exercise at least 4 days per week, for at least 45 min, including aerobic-based (moderate- to-vigorous intensity) exercise (such as brisk walking) each session, as well as strength-based exercise at least twice per week.	37	At least 3h excl. strength. - based exercise			

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[85]	Edelman 1999	Control	-	-	Cognitive behavioural therapy intervention. Participants received a manual at the start of the programme, as well as handouts and homework exercises at every session. In the first few sessions, participants were taught basic cognitive skills, including how to identify and challenge maladaptive thoughts and beliefs. Behavioural techniques were introduced in the second session, with a discussion on deep relaxation meditation as a tool for managing anxiety. Participants were given a relaxation tape and encouraged to practice at home on a regular basis. The first hour of each session was spent discussing the homework exercises. The second half of each session was spent discussing a particular theme.	26	Not indicated in h/week			
[86]	Ergun 2013	Control	-	-	Home exercise intervention. Subjects performed aerobic exercise and education. Subjects performed brisk walking for 30 min/day for 3 days/week. Single 30-minute education regarding the adverse effects of breast cancer.	12	1.5 h	Exercise intervention with supervision. Subjects performed education, aerobic exercise and resistive exercise for 45 min/day for 3 days/week and brisk walking for 30 min/day for 3 days/week under the supervision of a specialist doctor of Physical Therapy and Rehabilitation. Single 30-minute education regarding the adverse effects of breast cancer.	12	3.5 h
[87]	Eyigor 2010	Control	-	-	Exercise program: Subjects were recommended walking exercise of 20-30 min a day, 3 days/week for 8 weeks (same as control). Further, patients performed Pilates exercise for an hour a day, 3 times a week for 8 weeks, under the supervision of a Pilates exercise specialist physiotherapist in the rehabilitation unit. Intensity of the exercises increased every week.	8	4 h to 5.5 h			
[88]	Ferguson 2016	Supportive care	-	-	MAAT, Memory and Attention Adaption Training- 8 weekly visits of 30 to 45 minutes each.	8	0.5 to 0.75h			
[89]	Fillion 2008	Control	-	-	Intervention of stress management, psycho-education and physical activity, composed of 4 weekly group meetings of 2.5 h and 1 short telephone booster session (5-15 min). One hour was devoted to the supervision of walking training by a kinesiologist or a trained research nurse, and 1.5 h to the psycho-educative, fatigue management sessions, which were codirected by 2 oncology nurses. The nurses were trained in cognitive-behavioural approaches and were supervised by a health psychologist.	4	2.5 h			
[90]	Foster 2015	Usual care	-	-	The purpose of this intervention is to increase participant's self-efficacy to manage cancer related fatigue. A detailed description can be found in Grimmet et al. 2013.	6	0.5 h			
[91]	Freeman 2015	Control	-	-	Live Therapy. Mind-body connection, mental imagery. Delivered by a therapist present.	5	4 h	Tele therapy Mind-body connection, mental imagery. Delivered over Videoconference	5	4 h
[92]	Fukui 2000	Control	-	-	Psychosocial group intervention, including health education, coping skills training, stress management, and psychologic support. Groups of 6-10 patients met for 1.5 h weekly for 6 weeks. At the end of the first session, each patient was provided with a 20-minute instructional audiotape with relaxation and imagery exercises. Patients were recommended to practice independently using the tape at home twice a day.	6	1.5 h			
[93]	Furzer 2015	Usual care (waiting list)	-	-	Combined resistance and endurance exercises. After warm-up; 30 min maximal per session cardiovascular training at 50 % of heart rate maximum (HRmax) or at an average rating of perceived exertion (RPE) of 10-13, Gradual progression was by increasing HR intensity by -5 % weekly once duration reached 30 min, in order to achieve 70% HRmax or 11-14 RPE by week 6. Then increasing	12	3 h			

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					intensity (~85%HRmax or 13–16 RPE) and decreasing work duration (10–15 min). Resistance training: 6 machine and 2 dumbbell exercises targeting major muscle groups. 3 sets of 10–15 repetitions at 50 % of 1-RM. Increased weight if 3 sets of 15 yielded an RPE below 12. From week 6 to 12: 2 to 3 sets of 6 to 8 repetitions at 80 % of 1 RM with a minimum 90-s recovery between sets.					
[94]	Galiano-Castill 2016	Control	-	-	Telerehabilitation, Combined, using the e-CUIDATE system (www.cuidateconnosotros.com). 3x/week, 1) warm-up, 2) resistance and aerobic exercise training, and 3) cool- down.	8	4.5 h			
[95]	Galvao 2010	Control	-	-	Resistance and aerobic exercise intervention. Participants undertook combined progressive resistance and aerobic training twice a week for 12 weeks. The resistance exercises included the chest press, seated row, shoulder press, triceps extension, leg press, leg extension and leg curl, with abdominal crunches also performed. The aerobic component of the training program included 15 to 20 min of cardiovascular exercises (cycling and walking/ jogging) at 65% to 80% maximum heart rate and perceived exertion at 11 to 13 (6 to 20 point, Borg scale). Sessions were conducted in small groups of one to five participants under direct supervision of an exercise physiologist.	12	30-40 min aerobic, resistance training not indicated.			
[96]	Galvao 2014	The Physical Activity group received a pedometer and a modified educational booklet with a recommendation to perform 150 min per week of moderate physical activity during the entire 12 months period.	26	2.5 h	Combined progressive resistance training and aerobic training twice per week during 6- months. The resistance exercises included chest press, seated row, shoulder press, triceps extension, leg press, leg extension, leg curl and abdominal crunches. 12-to-6-repetition maximum for two to four sets per exercise. The aerobic training consisted of 20 to 30 min of cardiovascular exercise (cycling and walking or jogging) at 70-85% maximum heart rate and RPE at 11-13 on the 6 to 20-point Borg scale. Additionally, two aerobic exercise session per week were done at home. Participants were told to continue a home-based exercise programme for another 6-months (we only include the first 6-months in our meta-analysis).	26	2.5 h per week plus 1 h aerobic exercise at home.			
[97]	Garssen 2013	Usual care	-	-	The intervention delivered was a stress management therapy consisting of four sessions of relaxation, guided imagery techniques, and counselling that aimed to promote active coping, alert relaxation, and a positive attitude to change. The training sessions were conducted by the same trained clinical psychologist at Day 5 and Day 1 pre-surgery, and at Day 2 and Day 30 post-surgery (Figure 1). The sessions lasted 45–60 min each and took place in the hospital. An audio CD player and audio CD with the same instructions were given to the patient to use at home.	5	4x0.75 to1h over 5 weeks (excl. home-conducted training)			
[98]	Gielissen 2006	Waiting list	-	-	Cognitive behaviour therapy intervention. Therapy was focused on six modules/parts of post cancer fatigue. They involved coping with the experience of cancer, fear of disease recurrence, dysfunctional cognitions concerning fatigue, dysregulation of sleep, dysregulation of activity, and low social support and negative social interactions. Therapy was adapted to everyone. To determine which modules were necessary, each perpetuating factor was measured with specific questionnaires. The number of sessions was determined by the number of modules used and reached goals. Therapy sessions varied between five and 26 sessions (mean, 12.5 sessions; standard deviation [SD], 4.7 sessions) with a duration of 1h during a 6-month period.	26	0.5 min on average			
[99]	Goedendorp 2010	Usual care	-	-	Cognitive behaviour intervention. Participants received up to ten 1-hour sessions during 6 months. The number of sessions and the time spend on each element varied among individual patients, depending on problems encountered. The methods used were: restructuring of cognitions and beliefs, education and behavioural instructions, and providing emotional support. The intervention focused on six elements. (a) Physical activity (b) Fatigue-related	26	Up to 0.3 h (Ca. 23 min or up to 10x1h lessons for 6 months)	Brief nurse instruction intervention. It consisted of two 1-hour sessions and a booklet. In the first session, the nurse explained how to break the negative spiral of low physical activity and	26	Up to -5 h (Increased from 5 min/week to 1h/day over the study period)

Nr.	Study (Author & Year)	Description of Intervention 1	Duration of exercise (weeks)	Volume of exercise (h per week)	Description of Intervention 2	Duration of exercise (weeks)	Volume of exercise (hours per week)	Description of Intervention 3	Duration of exercise (weeks)	Volume of exercise (h per week)
					cognitions (c) Sleep-wake rhythm (d) Effects of cancer and treatment (e) Cancer in contact with others (f) Plans. A protocol was developed and the therapists received training and supervision every 2 weeks, during which each case was discussed.			fatigue. To demonstrate this, the patient's level of physical activity was determined before diagnosis and in the previous week. These levels were estimated with the questionnaire physical activity (QPA). Consequently, patients were advised to increase their physical activity level stepwise (5 min per week, up to 1 hour per day, for 5 days a week, by walking or cycling) up to 300 min per week. Patients who were physically active at this level were encouraged to maintain like that.		
[100]	Gokal 2015	Usual care	-	-	Home-based, unsupervised moderate intensity walking. Participants received an intervention booklet and recommendations to improve adherence to the interventions. They were recommended to start with 10 min of walking and then to increase to 30 min five times a week.	12	0.8 to 2 h			
[101]	Goodwin 2001	Control	-	-	Group psychosocial support intervention. Women attended weekly meetings lasting 90 min. Each group consisted of 8-12 women and two leaders. The therapy was intended to foster support among group members and to encourage the expression of emotions about cancer and its broad ranging effects on their lives (physical, emotional, social, and spiritual). Women were encouraged to interact with each other and to support each other outside of the group sessions. Participants were given the opportunity and support to speak about the effects of the illness, its treatment, and changes in their self- image, roles, and relationships with family members, friends, co- workers, health care providers, and others.	52	1.5 h			
[102]	Hacker 2016	Usual care with health education	-	-	Resistance training, using elastic 7 resistance bands to strengthen the upper body, lower body, and abdominal muscles.	6	not indicated			
[103]	Hagstrom 2015	Usual care	-	-	Supervised resistance training three times per week for approximately 60 min per session. Three sets of eight to ten repetitions were performed of each exercise prior to moving on to the following exercise. Loads were initially prescribed based on individualised eight-repetition maximums which were measured during the first training session for each programme. Loads were adjusted each time an individual had adapted to achieve the ability to complete 10 repetitions prior to muscular failure. The exercise prescription was split into two 8-week programmes progressing from an introductory machine-based prescription to a more exercises included leg extension, leg curl or Romanian deadlift, lat pull down, machine bench press, seated row, back extension, prone hold or sit ups. In addition, a structured warm up included skill development of the deadlift and barbell squat ensuring competency in movement patterns for the commencement of programme 2. Programme 2 exercises included barbell squat, deadlift, free weight barbell bench press, leg press, barbell bent over row and assisted chin up. Exercises were substituted when deemed necessary due to musculoskeletal limitations. On average, participants performed six different exercises per session. advanced free weight-style prescription.	16	3 h			
[104]	Haines 2010	Control with flexibility and relaxation activities. Static stretching was performed for Quadriceps, Hamstrings Gastrocnemius, Biceps,	12 months	0.5 h. per training (number of training/week not indicated)	Intervention with home-based strength, balance, shoulder mobility and cardiovascular endurance. Patients received a multimedia instructional package along with equipment to facilitate completion of the program. The DVD described exercises including Warm up, Lunges, Biceps curls, Push ups, standing hip adduction, seated	12 months	0.6 min. per training (number of training/week not indicated)			

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[105]	Hawkes 2013	Triceps, Trapezius and Pectoralis major. Usual care	-	-	Rows, Sit to stand to sit, Overhead press, Heel raises, Shoulder rolling, Four quadrant step and 20 min of walking. Telephone health coaching intervention, including 11 telephone delivered health coaching sessions over a 6-month period (biweekly for 5 months, followed by final telephone session 4 weeks later to promote self- management techniques and maintenance of behavioural improvements), a participant handbook, regular motivational postcard prompts, a pedometer, and the quarterly study newsletter sent to UC participants. The coaching was focusing on physical activity, weight management, dietary habits, alcohol, and smoking.	6 months	2.5 h			
[106]	Hayama 2012	Control	-	-	Deep breathing intervention, consisting of a four-step sequence. Step 1 was deep breathing with arms raised, step 2 included abdominal breathing, step 3 comprised thoracic breathing and step 4 was deep breathing with arms raised again. Each participant breathed deeply 10 times during each step. The participants were encouraged by the researcher to breathe deeply in the supine position by inhaling deeply and then exhaling slowly. One deep breathing intervention lasted approximately 10 min. Participants had been advised to wear comfortable clothes during the intervention.	From pre-to post chemotherapy	1.1 h			
[107]	Hayes 2013	Usual care	-	-	Exercise intervention, involving 16 scheduled sessions (in person or via telephone) with a designated exercise physiologist, starting weekly and tapering to monthly contacts after 4 months. Exercise prescription was exercise physiologist-driven during the first third to half of the programme and became more patient driven over time. At all stages of the intervention, women were progressing towards (or maintaining) the overall goal of exercising at least 4 days per week for 45 min and incorporating both aerobic and strength-based exercises (on at least 2 days per week).	8 months	At least 3 h			
[108]	Heim 2007	Standard care	-	-	Exercise intervention. Subjects received a brochure with instructions for 9 muscle strength and 9 stretching exercises for all large muscle groups. Furthermore, instructions for aerobic exercises (walking program), coordination, and relaxation were given. The exercises were demonstrated by an instructor, and the patients were encouraged to protocol their daily training exercises, intensity, repetitions, and duration of aerobic training. Physical activity in addition to the prescribed training program had to be documented as well. Three months after discharge, the patients received questionnaires by mail and were asked to return them together with their documentation of daily training.	12	1 h endurance 3x resistance, time not indicated			
[109]	Heiney 2015	Usual care	-	-	Teleconference in groups of 10 participants. Psychosocial intervention including discussions on problem-solving skills. Information and storytelling. STORY = Sisters Tell Others and Revive Yourself.	8	not indicated			
[110]	Kuehl 2016	Control	-	-	Dance sessions including stretching, relaxation, movement games and rhythmic body movement Interactions, emotional expressions, and communications were encouraged.	3	3 h			
[111]	Hoffman 2012	Standard care	-	-	Mindfulness-based stress reduction intervention. A Standardized program divided into 8 weekly classes of 2 h in length, except the first and last classes were 2.25 h in length, plus one 6-hour day of mindfulness in week 6. The classes consisted of the following formal mindfulness practices: a body scan, gentle and appropriate lying and standing yoga-based stretches, sitting meditation, some group discussions, didactic teaching, and home practice on topics including perceptions of and reactions to life events, stress physiology, and mindfulness in communication and everyday life. Home practice was delivered by four 45-minute compact discs of formal mindfulness practices and a manual. Participants were asked to practice for 40 to 45 min for 6 or 7 d/wk. Time and the amount of formal home practice were recorded by using weekly record sheets.	8	6.7 h to 8 h including home classes			

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[112]	Hoffman 2017									
[113]	Hojan 2016	Usual care			Moderate-Intensity physical exercise five days per week. 30 min aerobic exercises consisting of brisk walking, running indoors or on a treadmill, or different cycling activities. 15 min resistance exercises with two sets of eight repetitions at 70 to 75% of the estimated 1-RM. Exercises were bicep curl, triceps extension, leg extension, leg curl and abdominal crunch.		5 h			
[114]	Hornsby 2014	Usual care			Three individual cycle ergometer session per week for 12 weeks. Intensity initially set at 60% of baseline peak workload for 15-20 min duration. Duration and / or intensity were then subsequently increased up to 30 min at 65% peak workload. During week 5 and 6, intensity varied between 60 and 65% for 30 to 45 min for two sessions and one session was 20-25 min at ventilatory threshold. From seventh week, onwards: 60-70% peak workload with one threshold workout for 20-30 min. Weeks 10 to 12, two session at 60-70% peak workload with one interval session at 100% peak workload (30 sec at peak, 60 sec active recovery for 10-15 min.).	12	1.5 h			
[115]	Hu 2012	Usual care	-	-	Supervised stair activity, at 30 to 40 % maximal Heart Rate. 30 min, 2 times per day.	7	7 h			
[116]	Hubbard 2016	Usual care			15-minute warm-up with range of motion and pulse-raising exercises. 20- to 30-min cardiovascular and strengthening exercises. 10-min cool down. One relaxation session per week. Weekly information sessions on: physical activity, healthy eating, stress management and relaxation, cancer misconceptions and drug therapy	6	3 to 4 h			
[117]	Husebo 2014	Control	-	-	The intervention consisted of a home-based exercise program that combined strength and aerobic training performed throughout the period of adjuvant chemotherapy. The strength training prescription included exercises with resistance bands for arms and legs and strength training for the upper body, and the subjects were recommended to perform this training three times per week. The aerobic prescription consisted of a daily 30 min of brisk walking, which could be split into periods of 10- minute walks.	Duration of chemotherapy	3.5 h aerobic Resistance training 3x/week no indication of duration			
[118]	Hwang 2008	Control	-	-	Exercise intervention. Patients assigned to the exercise group attended a supervised exercise program 3 times per week for 5 weeks. The 50-min program consisted of a 10-min warm-up, 30 min of exercise (including stretching exercises focused on the shoulders, aerobic exercise such as treadmill walking and bicycling, and strengthening exercise), and a 10-min cool-down (relaxation period). Heart rates were monitored throughout the class to ensure that patients were exercising at the target heart rate of 50 - 70% of the age-adjusted heart rate max.	5	2.5 h			
[119]	Hwang 2012	Usual care	-	-	Exercise intervention. Participants in the exercise group exercised on a treadmill or cycling ergometer in the outpatient clinic three times a week for 24 sessions. Exercise training consisted of 2–5-min intervals, alternating with high intensity [80% VO ₂ peak, or a rate of perceived exertion (RPE), and active recovery of moderate intensity (60% VO ₂ peak, or a RPE of 11–13). Each exercise session lasted for about 30–40 min, including 10-min warm-up and 5 min cool-down phases, under one-to-one supervision from a physical therapist. The exercise program, including interval intensity and duration, was adjusted by the physical therapist every 1–2 weeks based on the individual's exercise response.	8	1.5 h to 2 h			
[120]	Irwin 2016	Control	-	-	warmup, followed by aerobic exercise, resistance training exercises, and a cool-down period	12	3 h			
[121]	Jacobsen 2002	Control	-	-	Professional stress-management therapy (PSMT) intervention. Participants met individually with a clinician in a private clinic area for approximately 60 min before the initiation of chemotherapy treatment. Participants then received training in the use of paced	Trough 4 chemo-cycles	1 h	Self-administered stress-management therapy (SSMT). Participants met individually with a clinician	Trough 4 chemo-cycles	Not indicated

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					abdominal breathing as a method of relaxation. This instruction was followed by an active relaxation exercise. The exercise combined abbreviated progressive muscle relaxation training with use of relaxing mental imagery. Finally, participants received brief instruction in the use of coping self-statements using techniques borrowed from stress inoculation training. After the session, the clinician prescribed daily practice of the three techniques before the start of chemotherapy.			for approximately 10 min before the initiation of chemotherapy treatment. Participants received a packet of instructional resources to be used for SSM. The packet included a 15-minute pre-recorded videotape, a 12-page booklet and a 35-minute audiotape with active relaxation. Participants were instructed to first view the videotape and then follow the directions in the booklet regarding further training, practice, and use of stress management techniques. The techniques were the same as in the PSMT group.		
[122]	Jarden 2009	Usual care	-	-	Multimodal intervention. Each session began with 'psychoeducation', based on behavioural and cognitive therapy techniques, followed by 4-min warm-up, stationary cycling was then initiated for 15–30 min/day. Individual rest intervals were allowed and training did not exceed 75% of the max heart rate. Daily dynamic exercises included neck movements, shoulder rotations, hip flexion/extension, standing calf raise, ankle dorsi and plantar flexion. Resistance training was performed 3times/week using free hand and ankle weights, bicep curl, shoulder press, triceps extension, chest press, flyer, squat, hip flexion, knee extension, and leg curl and extension. Weight was adjusted to perform 2 sets and up to 12 reps. Daily core exercises for abdominal and back muscles were added. Progressive relaxation was recommended twice weekly for 20 min.	4 to 6	5h50min			
[123]	Jensen 2014	Aerobic exercise intervention. Supervised sessions lasting 45 min on a bicycle ergometer twice a week for 12 weeks. Starting with 60 % of their predetermined pulse rate in week 1–4, the working load was intensified to 70–80 % in week 5– 12. The exercise duration started with 10 min in week one and was increased up to 30 min in week 12. Warm-up and cool- down periods also included 5 min of light aerobic exercises and stretching.	12	40min-1h20min	Resistance exercise intervention. Supervised training sessions over 45 min, including warm-up and cool-down periods, twice a week until a total of 24 sessions over a period of 12 weeks was achieved/completed. Resistance training of large muscle groups, including legs, arms, back, and knees, was performed after warm-up training on a bicycle ergometer. Strength exercises were performed at 60–80 % of the one- repetition maximum (1-RM) and consisted of two to three sets of 15–25 repetitions each. Warm-up and cool-down periods contained 5 min of light aerobic exercises and stretching.	12	1h30min			
[124]	Johns 2015	Waiting list	-	-	mindfulness practices of the body scan, sitting meditation, gentle hatha yoga, walking meditation, and compassion meditation.	7	2.5 h			
[125]	Johnston 2011	Control	-	-	Self-care and acupuncture intervention. First, patients were taught to improve self-care by optimizing exercise routines, improving nutrition, implementing additional evidence-based cognitive behavioural techniques such as stress management in four weekly 50-minute sessions. Second, patients received eight weekly 50-minute acupuncture sessions. The acupuncture was individualized according to one of four different symptom patterns of dysfunction that could trigger CRF and other problems. Four energy associated points were also used. Across all treatment sessions, patients got advice according to TCM diagnosis, engaging in a TCM-based	10	10			

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					perspective, refocusing away from a quick fix mentality to a longer term holistic perspective.					
[126]	Jones 2014	Control			Walking. The AT prescription was developed using a non-linear approach adhering to the principles of training, permitting the design of patient-specific (individualized) exercise prescriptions with the aim of increasing VO2peak. Specifically, in non-linear prescriptions, AT sessions is sequenced in such a fashion that training-induced physiological stress was continually altered in terms of intensity and duration in conjunction with appropriate rest and recovery sessions to optimize VO2peak adaptation (Supplemental Fig. 1). The ultimate goal was five supervised walking sessions per week, 30 – 45 min/session, at 55% to 100% of VO2peak for 6 months. AT intensity was based on the treadmill speed / grade corresponding to a specific percent of VO2peak (e.g., 55%, 65%) elicited during the pre-randomization or mid-point* CPET. *VO2peak was re-assessed at month 3 (mid-point) to re-prescribe AT sessions to ensure continual VO2peak improvements. A minimum of 3 walking sessions / week were required to be supervised while the remaining 2 sessions could be performed either in a supervised or home-based setting. During supervised sessions, AT intensity and safety was monitored continuously via heart rate while blood pressure was monitored at the beginning, middle, and end of each session.	26				
[127]	Korstjens 2008	Waiting list	-	-	Physical training intervention. Each session consisted of individual aerobic bicycle training (0.5 hour), based on baseline graded exercise testing, muscle strength training (0.5 hour), and group sports and games (1 hour). Sports and games, such as badminton, soccer, swimming, and balancing games, were included. Additionally, patients received information on exercise physiology, illness perceptions, and self-management to support them in regulating their training.	12	4 h	Multidisciplinary rehabilitation intervention. Cognitive behavioural training and physical training. Patients received the same training as the physical training group. CBT included interactive psychoeducation and structured self-management skills training. This training was in line with a cognitive behavioural problem-solving therapy protocol for individual cancer patients and a group problem-solving protocol successfully applied in patients with nonspecific low back pain. The first 3 weeks focused on exchanging participants experiences with cancer, psychoeducation about stress, relaxation, fatigue, exercise physiology, illness perceptions as well as on promoting optimism and self-efficacy. From week 4 onward, participants were primarily trained in applying self-management skills to realize personal goals.	12	6 h
[128]	Kampshoff 2015	Waiting list	-	-	Combined strength and endurance training. For this meta-analysis, we combined the low intensity and the high intensity programmes. Two times per week. Six resistance exercises targeting large muscle groups. Two sets of 10 repetitions. Workload was defined with an indirect 1-RM test. High intensity group started at 70% of 1-RM and gradually increased to 85% of 1-RM. Every 4 weeks the physiotherapist conducted the indirect 1-RM test to adjust the workload. Endurance was trained in the first 4 weeks with 2 times 8-minute cycling programmes with alternating workloads defined with the maximum short exercise capacity (MSEC) estimation by a steep	12	2 h plus 3 x 0.5 h physical activity at home			

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					ramp test. The high intensity group cycled 30 seconds at a workload of 65% of the MSEC and 60 seconds at 30%. The Low intensity group cycled at 45% of MSEC and 60 seconds at 30%. Every four weeks, the steep ramp test was repeated to adjust the intensity. From the 5 weeks on, one 8-minute block was replaced with an additional endurance session with cycling 3 x 5 min intervals at constant workload with 1 minute rest between. The intensity was defined by the heart rate reserve (HRR) using the Karvonen formula. The high intensity group trained at least 80% of HRR and the low intensity group at 40-50% of HRR. Participants were motivated to be physically active at moderate intensity for at least 30 min three times per week.					
[129]	Kiecolt-Glaser 2014	Waiting list	-	-	Hatha yoga intervention. Subjects attended 90-minute classes twice a week for 12 weeks. To maximize adherence, the yoga teacher called any woman who missed a class. Home practice was strongly encouraged, and women recorded their total home plus class practice time in weekly logs.	12	3 h			
[130]	Kim 2005	Control	-	-	Exercise and relaxation breathing exercise (RBE) intervention. Intervention lasted for 30 min every day for six weeks. It consisted of physical exercise combined with relaxation breathing exercise. Before the intervention, a cassette-recorded tape of RBE was offered to the exercise group. Each patient was instructed about the cassette-recorded tape of RBE for 10 min by a researcher. The researchers developed the tape. The tape was 30 min in length and sterilized with ethylene oxide. RBE composed of a three-step sequence. The patients were taught to do RBE in a supine position in bed.	6	3.5 h			
[131]	Kim 2010	Control	-	-	Active resistive exercise intervention. Active resistive exercise was performed for 15min/d, 5 days a week for 8 weeks. The prescribed exercises included (1) seated row, (2) bench press, (3) latissimus dorsi pull-down, (4) 1-arm bent-over row, (5) triceps extension, and (6) biceps curl. Patients performed 2 supervised sets of 10 repetitions of each exercise for 2 weeks, followed by 2 sets of 10 unsupervised repetitions of each exercise for 6 weeks. A 0.5-kg dumbbell was used for the first 2 weeks, and a 1-kg dumbbell was used for the next 6 weeks.	8	1.2 h			
[132]	Kim 2011	Control	-	-	Simultaneous stage-matched exercise and diet intervention. Prescribed exercise and a balanced diet through stage-matched telephone counselling and a workbook. Exercise program with moderate intensity (type to be selected by the participant) for a minimum of 30 min per day at least five days/week. Participants were given a portable heart rate monitor and their target heart rate were set (40%–59% heart rate reserve). The dietary goal was to achieve a balanced diet, defined as a diet quality index (DQI) score lower than 6 with 20% of energy or less from fat, 6% or less from saturated fat, and 65% or less from carbohydrates; cholesterol 300 mg per day or less; seven or more vegetable and fruit servings per day; 75%–125% of the recommended dietary allowance for protein; 75%–125% of the recommended dietary allowance for calcium; and 10 g of sodium or less per day.	12	2.5 h (at least)			
[133]	Kim 2013	Control	-	-	Meditation intervention. The meditation form used in this study was Brain Wave Vibration meditation. This is based on the Korean traditional exercise "Danhak" which is a traditional Korean training technique. This is a modern brain health technique that combines simple movements, such as lightly shaking one's head side-to-side, movements of a part of the body in a rhythmic fashion, as well as music, action, and positive messages. The meditation therapy used in this study consisted of 60-min sessions twice a week, and the test group received a total of 12 sessions at twice a week for 6-weeks.	6	2 h			
[134]	Knols 2011	Control	-	-	Physical exercise intervention. Subjects received a 12-week, supervised program, incorporating both endurance and resistive strength exercises. The program was performed weekly twice in a physiotherapy practice or fitness centre near the patient's home.	12	1 h (cardio only)			

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					Ergometer cycling was used as cardiovascular training. All patients started with a 10-min warm-up on an ergometer cycle or a walk on a treadmill. The exercise was built up to maintain aerobic performance for at least 20 min, at a predefined individual heart rate (from 50 to 60%, increasing up to 70–80% of the estimated maximum heart rate). Cardiovascular training was combined with progressive resistance training to address cancer-related decrease in muscle strength. This training was done using dumbbells to also address physical coordination.					
[135]	Kovacs 2012	Control	-	-	Comprehensive, complex psychosocial intervention, operating on different levels of spiritual plane, life management and behavioural health. Part one: 5 days where patients received information on healthy life-style such as healthy food preparation and exercise (yoga, relaxation, meditation). Part two: regular home-based exercise, 1-1.5 h daily. 3-times brisk walking, cycling, swimming or jogging, and 15 min relaxation or light yoga. Furthermore, proper sleep rhythms (7 to 8 h of sleep) and healthy eating guidelines. Half an hour a day relaxation. Part three: group psychotherapy during 14 weeks, once a week 5 h (topics: developing an active approach to healing, reduction of anxiety, development of an active fighting spirit, reducing fears about the future, beliefs revision, stress management, relaxation, healing image, idea of creating power, suppressing negative emotions, etc.)	Part one: 5 days Part two: no indication Part three: 14 weeks	Part one: full-time Part two: 5 h to 7.5 h Part three: 5 h			
[136]	Kwiatkowski 2013	Control			Physical training, dietary education and physiotherapy intervention. Physical activity (endurance, strength training, aqua gymnastics) for 2h daily, supervised by a physiotherapist. SPA cares consist of bath, shower and massage for half an hour per day. Personal physiotherapy cares were also given if needed considering the entire body (usually physiotherapy performed in anticancer centres only focus on lymphedema or pain/difficulties reconstruction). Dietary meals with adapted menus at the thermal resort, and dietary education.	2	17.5 h (only physical activity and SPA cares, no indication of time for dietary education and personal physiotherapy)			
[137]	Larkey 2015	Sham Qigong: Sham Qigong sessions of 60 min twice a week for the first two weeks then once a week. Participants were asked to practice at home 5 days a week for 30 min a day. Both classes were called "rejuvenating movement".	12	3.5 h	Qigong sessions of 60 min twice a week for the first two weeks then once a week. Participants were asked to practice at home 5 days a week for 30 min a day. Both classes were called "rejuvenating movement".	12	3.5 h			
[138]	Lengacher 2012	Control	-	-	Mindfulness-based cognitive therapy (MBCT) intervention that included: (a) educational material related to relaxation, meditation, and the mind–body connection; (b) meditation practice in weekly group sessions and homework assignments; and (c) group discussion of barriers to the practice of meditation and application of mindfulness in daily situations; and (d) supportive interaction between group members. The formal meditative training consisted of 4 types of techniques (sitting and walking meditation, body scan, and gentle Hatha yoga) that focus attention on the breath. One 2-h session/w taught by a licensed clinical psychologist trained in MBSR. In addition, the program included group support sessions focused on emotional/psychological responses (e.g., anxiety, depression and fear of recurrence).	6	2 h			
[139]	Lengacher 2016	Standard treatment	-	-	Mindfulness-Based Stress Reduction for Breast Cancer (MBSR[BC]) addressing specific needs, concerns and symptoms of breast cancer. Educational material, practice sessions of four meditative techniques (Sitting meditation, walking meditation, body scan, and gentle Hatha yoga) and discussion of barriers to practice in daily situations. Teaching of integration of mindfulness into daily activities.	6	2 h plus 0.25 to 0.75 h per day homework			
[140]	Ligibel 2012	Control	-	-	Telephone-based motivation to physical activity. Calls were more frequent during the early period of the study and became less frequent over time. Initial calls focused on goal setting and	16	Goal: 3 h			

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					performance assessment to build self-efficacy for exercise behaviours, while later calls concentrated upon the adequacy of plans for relapse prevention. A Participant Workbook was handed out, which included additional information regarding the importance of exercise in cancer populations, guidelines for exercise safety, and journal pages to track weekly exercise. The weekly exercise target was performance of at least 180 min of moderate-intensity physical activity. Participants could choose their own form of exercise and were provided with a pedometer to wear daily.					
[141]	Ligibel 2016	Control	-	-	Moderate-intensity aerobic exercise program; target goal was 150 minutes of moderate intensity exercise per week. Participants received a heart rate monitor and a pedometer.	16	2.5 h			
[142]	Litterini 2013	Resistance exercise intervention. Unless contraindicated, resistance exercises were performed on circuit weight training equipment. Free weight exercise was substituted when equipment-based exercise could not be performed. To help prevent musculoskeletal injuries, participants warmed up prior to beginning exercise. All participants started with 1 set of 8 to 15 repetitions. Unless a lifting restriction was imposed, resistance was set to a level where the participant felt he or she needed a short (1-2min) rest at the end of a set. Amount of resistance, repetitions, and sets were increased as tolerated. Participants in both groups performed flexibility exercises during a cool-down period after exercise.	10	1 h to 2 h	Cardiovascular exercise intervention. Unless contraindicated cardiovascular exercises were performed on a machine. Participants were asked to exercise at a rate of 10 to 12 (or fairly light) on the Borg Rating of Perceived Exertion Scale. Oxygen saturation levels were monitored in patients with known lung involvement or disease, those requiring supplemental oxygen, and/or those who became short of breath during exercise. Physician orders were obtained to initiate or increase oxygen if saturation levels fell below 90%. Participants who had pain with lower extremity weight bearing or who had compromised spinal integrity exercised by walking in a lap pool. The duration and intensity of the cardiovascular exercises were progressed as tolerated. Participants in both groups performed flexibility exercises during a cool-down period after exercise.	10	1 h to 2 h			
[143]	Littman 2012	Waiting list	-	-	Yoga intervention based on vini yoga, developed for use with overweight and obese breast cancer survivors without prior yoga experience. Participants were given a goal of practicing five times per week, including at least one 75-minute facility-based class. Women were permitted and encouraged to attend two or three classes if they desired; the remainder of their weekly practices (i.e., two [if they attended 3 classes] to four [if they attended 1 class] sessions were to be completed at home). Each yoga practice opened with 5–10 min of centring exercises to promote relaxation and internal focus, followed by 50–60 min of seated and standing poses, and closed with 10–15 min of guided relaxation, breathing exercises, and meditation. Key poses included cobra (bhujangasana), sunbird (chakravakasana), lunges, warrior variations, bridge, forward bends, triangle, twists, and corpse (savasana).	24	At least 2.5 h			
[144]	Loh 2014	Usual care	-	-	Qigong low-moderate intensity internal Qigong (Zhi Neng Qigong) group session. 10 min. warming up phase, 70 min. exercise, 10 min cool down. Two breaks of 5 min. were included. Additional two 30-minute routine at home per week with a recorded CD.	8	1.5 h group plus 2 times 0.5 h	group line-dancing with moderate intensity movements. 10-minute warm up period; 60-minute dancing sequences and a 10-minute cool down. Additional two 30 min. sessions at home.	8	1.5 group plus 2 x 0.5 at home
[145]	Loudon 2014	Standard Care	-	-	One Yoga group class of 90 min per week plus a 45-minute yoga-session DVD. The session included breathing practices, physical postures, meditation and relaxation techniques according to the Satyananda Yoga tradition.	8	1.5 h plus home based.			

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[146]	Lutgendorf 2010	Usual care	-	-	Healing Touch intervention (approximately 20–30 min) that included five specific HT techniques designed to promote calm and facilitate balancing of energy flow in the body. The techniques included: (1) "grounding and centring", in which the practitioners set their intent to support the patient's healing and healthy function of the immune system; (2) "pain drain", a technique designed to reduce congestion of energy in a specific area to assist in removing toxins from the liver; (3) "chakra connection", a technique designed to facilitate opening and balancing the energy centres and restoring the body's normal pattern of energy flow; (4) "magnetic unruffling", a technique used to cleanse and clear congested energy, toxins, and emotional distress; and (5) "mind clearing", a technique using eleven sequential hand positions on the head, neck, and face which is thought to promote relaxation, peacefulness, and focus.	6	1.3 h to 2 h	Relaxation training intervention (approximately 20–25 min) using manualized relaxation scripts. The manualized relaxation intervention included passive progressive relaxation, autogenic relaxation, relaxation with nature imagery, and relaxation with imagery of a patient-selected special place. Three primary therapists provided the intervention.	6	1.3 h to 1.6 h
[147]	Lötzke 2016	Traditional physical exercises	12	1.5 h	One weekly session of 60 min; Hatha yoga.	12	1.5 h			
[148]	May 2009	Physical training (twice weekly, 2 h per session) consisted of a personalized exercise program based on baseline exhaustive exercise testing. Each session consisted of individual exercise [aerobic bicycle training (30 min) and muscle strength training (30 min)] followed by group sports (60 min). During the training, the participants used heart rate monitors, the Borg Scale for dyspnea and fatigue [6], and training logs to monitor and evaluate their performance and received feedback, information, and support from their therapists in regulating their performance.	12	4 h	Physical training and Cognitive-behavioural intervention. This (once a week, two h per session) was based on a cognitive-behavioural problem-solving protocol and a group problem-solving protocol. The first 3 weeks focused primarily on exchanging participants' experiences with cancer, psycho-education about stress, relaxation, fatigue, exercise physiology, illness perceptions, and on promoting optimism and self-efficacy for self-management. From week 4 onward, participants were primarily trained in applying self-management skills to realize personal goals by practicing the following steps - solving process: (1) problem orientation; (2) problem definition and goal setting; (3) generation of alternative solutions; (4) decision-making; and (5) solution implementation. This group also received the same physical training as in the physical training group.	12	6 h			
[149]	McKenzie 2003	Control	-	-	Resistance training including specific exercises, beginning with light weight and progressing as tolerated by each subject. The exercises included: seated row, bench press, latissimus dorsi pull down, one arm bent-over rowing, triceps extension, and bicep curl. Two sets of 10 repetitions for each exercise for the first week, three sets of 10 thereafter. The training sessions consisted of a 5- to 7-minute period of aerobic warm-up such as cycling or walking, 5 min of stretching, the strength training program and a cool-down period. After 2 weeks, upper-body aerobic exercise, using an arm cycle was added to the program. After a program that began with five 1-minute bouts of cycling at a resistance of 8.3 W, the program progressed to 20 min of continuous cycling with a resistance of up to 25 W.	8	Up to 20 min cycling No indication of resistance training			
[150]	McNeely 2008	Standard care	-	-	Progressive Resistance Exercise Training (PRET) based on baseline testing results. The program included the same muscle groups as in the TP training, consisting of 2 sets of 10 to 15 repetitions of 5 to 8 exercises, starting at 25% to 30% of their 1-repetition maximum (1-RM) strength and slowly progressing to 60% to 70% of their 1-RM strength. Guidelines for exercise performance included maintenance of proper posture and scapular stability (e.g., no winging of scapula) and a rating of perceived exertion on the Borg scale of no greater than 13 to 15 of 20. The response to exercise in terms of post exercise pain and muscle soreness was recorded on the training log at the subsequent exercise session, and the prescription was modified as necessary. The resistance weight was increased by 1 kg to 2.5 kg once the participant could complete 2 sets of 15 repetitions with proper form.	12	Not indicated (2-3 sessions/week)			
[151]	McQuade 2016	Waiting list	-	-	Three 40 min Qigong / Tai Chi classes per week taught by a trained qigong master. Preparation exercises for 6 min (guided breathing, the Great Tai Chi Circle, and grounding and centring exercises);	8	2 h	Three 40 min classes of light resistance exercises and stretching. The level of	8	2 h

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					main exercises for 20 min including the 8-form Yang style tai chi; ending exercises for 9 minutes.			exertion was matched to the Tai Chi group. Three levels of resistance elastic tubes; 8 to 12 repetition per set.		
[152]	Mehnert 2011	Control	-	-	Training intervention program in a group with on average 5 patients for 90 min twice weekly over a 10-week period. The content of the physical exercise training consisted of 2 overall sessions: i) gymnastics, movement games, and relaxation (including warm up, dance and movement games, physiotherapeutic exercises, relaxation); and ii) moderate walking and jogging conducted outside (including a brief education about the training, moderate to vigorous walking and jogging adjusted to the physical capacities of the participants at 60% VO2max).	10	3 h			
[153]	Midtgaard 2013	Health evaluation program, receiving three individual health evaluation sessions (baseline, 6, and 12 months) that included feedback following fitness testing and education on the health benefits of regular exercise. Each session lasted ~15min and was delivered verbally and face-to-face by a member of the research team.	-	-	Rehabilitation program, consisting of individual (x3) and group-based (x6) counselling, combined with once weekly high-intensity group-based exercise training. Supervised exercise training consisted of once weekly group-based session comprising of aerobic and resistance training for a total of 90 min/session. Aerobic training consisted of high-intensity interval training on stationary cycle ergometers. Intervals ranged from 30 s (maximum intensity) to 6 min (90%–95% of HRmax) at an exercise-to-recovery ratio of 1:2 to 3:1, respectively. Resistance training consisted of 3 sets of 8–10 repetitions at 70%–90% of one repetition maximum (1RM) involving leg press, knee extension, chest press, pull down, abdominal crunch, and lower back extension (Technogym). Intensity was increased when 12 repetitions could be carried out with proper form.	1 year	At least 3 h			
[154]	Miladinia 2017	Control	-	-	Three massage session of 10 min each per week	5	0.5 h			
[155]	Milne 2008	Control	-	-	Training intervention including an aerobic component that utilized the cycle and rowing ergometers, the mini-trampoline, and the step-up blocks. The cardiovascular training conducted for 20 min and ended with a 5 min cool down. The resistance training consisted of 12 different exercises. The specific exercises were: chest press, chest extension, biceps curls, triceps extension, leg extension, leg curls, hip abduction and adduction, back extension, abdominal crunches, standing fly's and leg press. For each exercise, participants performed two sets of 10–15 repetitions of lightweights and progressed to a heavier weight once the current weight and repetitions could be achieved easily and with good form. Finally, 5 min of stretching was performed at the beginning and end of each session to increase flexibility.	12	1.25 h cardio No indication in h/week for resistance training			
[156]	Moadel 2007	Control	-	-	Yoga intervention consisting of 12 1.5-hour weekly classes. Participants were permitted to attend more than one class per week, with such activity documented. Based on Hatha yoga techniques, the intervention incorporated the following three major yoga components: physical stretches and poses; breathing exercises; and meditation. All exercises were done in a seated or reclined position. Mats, blankets, and blocks were used for support. Patients were asked to practice yoga at home daily and given an audiotape/compact disk for guidance.	12	1.5 h			
[157]	Mock 2005	Control	-	-	Exercise intervention were the patients received a written prescription to walk five to six times per week at a moderate pace in the target heart rate range (approximately 50–70% of maximum heart rate) as tolerated. The regimen was a brisk 15-minute walk that increased to 30min as training progressed. In addition, the program was detailed in a booklet and a video provided to the patients in the exercise group to ensure standardization across subjects and across the eight clinical sites. All exercise participants kept daily diaries of exercise periods including pulse rates, perceived exertion rates, and fatigue levels.	6	1.75 h to 3.5 h			
[158]	Molassiotis 2015	Standard Care	-	-	Inspiratory muscle training with a pressure threshold device (Philips Respironics). Five sessions weekly for 30 min a day divided in two sessions. Sessions at the beginning were only 3 to 5 min long. Two	12	2.5 h			

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[159]	Monga 2007	Control	-	-	of the five sessions were supervised. Inspiration was 1.5 to 2 seconds, expiration 6 seconds. Intensity was set at 40% of maximum inspiratory pressure. Progression of maximum 5% per week to a maximum of 70% of maximum inspiratory pressure. Training interventional group including aerobic exercise 3 times a week for 8 weeks. Patients exercised in the morning, before receiving their daily radiotherapy. The exercise protocol consisted of a 10-minute warm-up, a 30-minute aerobic segment consisting of walking on a treadmill, and a 5- to 10-minute cool down period. Patients were instructed to maintain their target heart rate throughout the aerobic component of the program. Patient's maximum heart rate was calculated during a pre-participation maximal oxygen consumption assessment. During the program, weekly resting heart rate measurements and target heart recalculations took place.	8	2.5 h			
[160]	Montgomery 2014	Attention control	-	-	CBTH (CBT therapy and hypnosis) intervention. This group received an initial CBTH training session lasting 30 min. First, the ABC model of cognitive-behavioural therapy (A, activating events; B, beliefs; C, consequences) was taught. Second, patients were taught to complete a thought record worksheet that was based on the ABC model. Third, patients were taught behavioural strategies (e.g., activity scheduling, distraction) to help manage fatigue. Patients also received a 15-minute hypnosis session after CBT. Hypnosis began with relaxing imagery followed by suggestions for reduced distress and reduced fatigue during radiotherapy. The standardized hypnosis session concluded by providing patients with instructions for how to use hypnosis on their own. Patients did not have to learn or maintain hypnosis on their own over the course of radiotherapy because they received a live session every week.	6	No indication in h/week			
[161]	Moros 2010	Control	-	-	Three sessions of 60 min per week consisting of ten min warm up, 20 min ergometer cycling, 10 min walking on a treadmill and 15 min abdominal and pelvic floor training, as well as 5 min of stretching and relaxation.	18-22				
[162]	Mustian 2009	Control	-	-	The intervention was provided to the patient via a single, 45-minute followed by home based training. The first component was moderately intense aerobic exercise (60%–70% of heart rate reserve) 7 days a week. Using the pedometer, patients were instructed to record the number of steps they walked daily for one full week. Patients were encouraged to reach 10,000 steps a day. The second component of the exercise program conducted therapeutic resistance band exercises, 7 days a week. 1 set = 8– 15 repetitions for each of the 11 exercises (i.e., bicep curl, triceps extension, overhead press, rows, chest press, internal and external rotation, lateral and front raises, horizontal adduction, and abduction).	4	5.25 h aerobic exercise No indication in h/week for the resistance band exercises			
[163]	Mustian 2011	Standard care	-	-	Polarity therapy intervention. The therapist used anatomical hand positions, known as connectors, to examine energy flow, discover trigger points (energy impediments), and restore homeostatic energy flow. Examples of these hand positions include placing both hands over the ears or on the soles of the feet of the participant. These trigger points might have manifested as tenderness, tightness, warmth, coolness, heaviness, density, or any sense of discomfort. They were felt by the therapist and/or communicated by the patient. The hand positions were gentle contact, not manipulative, forceful, or mechanical, and were maintained for a sufficient duration to relieve the trigger point discomfort as discerned by the Polarity Therapist.	3	1.25 h	Active control group receiving massage. The group was designed as a control condition for the touch and personal attention received during polarity therapy and did not have the energy balancing features. The massage therapists used a modified Swedish massage technique applied over the clothing and without the use of lubricant. Strokes used included compression, light moving touch, and static holds. Areas of the body to be massaged were left to the discretion of the patients	3	1.25 h

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								and could include back, neck, upper and lower limbs, head, hands, and feet.		
[164]	Mutrie 2007	Usual care	-	-	Group exercise intervention group. Participants were encouraged to attend two classes and do one additional exercise session at home each week. Classes consisted of a warm-up of 5-10 min, 20 min of exercise (for ex. walking, cycling, low level aerobics, muscle strengthening exercises, or circuits of specifically tailored exercises), and a cool-down an relaxation period. The exercise classes lasted 45 min in total. Participants were monitored throughout the class to ensure that they were exercising at a moderate level (50-75% of age adjusted maximum heart rate).	12	2.25 h			
[165]	Naraphong 2014	Usual care	-	-	Cultural sensitive exercise program (CSEP), containing two components; information and confidence for an exercise routine. Participants were asked to choose Activities that involved walking on their own and that required low- to moderate-intensity levels (<3–6 METs) to perform each day for at least 20 min per session (or at least two 10-min sessions to reach a maximum of 20–30 min). The participants were taught to wear a pedometer and increased their total daily steps by 5% over the average number of steps walked weekly during the 12-week intervention period. The researcher conducted weekly phone calls for all 12 weeks to monitor exercise participation and to make adjustments to the patient's walking prescription for the next week as needed.	12	1.7 h to 2.5 h excl. initial session 30-40 min and phone calls once a week			
[166]	O'Brien 2014	Standard care	-	-	Pre-radiotherapy fatigue information and support (pre-RFES) intervention. Participants received one 1-h session between 1 and 7 days before commencing chemotherapy. The session consisted of a PowerPoint presentation on a laptop computer, and participants took home a handbook, goal-setting sheet and progress diary. Two follow-up phone calls using a structured script were made 2 and 4 weeks after the first session to reinforce key information.	6	1 (only one single session before chemotherapy and two follow-up telephone calls) not per week			
[167]	Oh 2008	Usual medical care			Patients assigned to the intervention group received usual medical care and were invited to attend a medical Qigong (group therapy) program, held in the hospital where they were treated. The MQ program was run for 8 weeks with two supervised 90-min sessions per week. Participants were also encouraged to undertake home practice every day for at least one hour. The MQ intervention program was a modified traditional Qigong program, developed and delivered by the first author (BO), an experienced MQ instructor. The instructor is a Chinese medicine practitioner with >20 years' experience of Qigong who trained in traditional Qigong in Korea, Daoist Qigong in China and Buddhist Qigong in Australia and has received clinical training in mind–body medicine at the Harvard Medical School.	8	7.5 h to 8.5 h			
[168]	Oh 2010	Usual care	-	-	Patients assigned to the intervention group received usual medical care and were invited to attend a medical Qigong (group therapy) program, held in the hospital where they were treated. The MQ program was run for 10 weeks with two supervised 90-min sessions per week. Participants were also encouraged to undertake home practice every day for at least half an hour. The MQ intervention program was a modified traditional Qigong program, developed and delivered by the first author (BO), an experienced MQ instructor. The instructor is a Chinese medicine practitioner with >20 years' experience of Qigong who trained in traditional Qigong in Korea, Daoist Qigong in China and Buddhist Qigong in Australia and has received clinical training in mind–body medicine at the Harvard Medical School.	10	6.5 h			
[169]	Oldervoll 2011	Control	-	-	Exercise intervention group. Participants performed in groups of two to eight patients supervised by a physiotherapist. Each session lasted 50-60 min and included a warm-up (10-15 min), circuit	8	2 h			

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					training with six stations (30 min), and stretching/relaxation (10-15 min). The exercise program was tailored to the individual patient's level of physical functioning. Exercise was performed for 2 min, with a 1 min interval in which the patients moved to the next station, continuing for 30 min in total. The stations were as follows: step up-down, resistance band pull down, balance on trampoline, stand up-lay down-roll-stand up, stand up-sit down, bicycling/treadmill walking.					
[170]	Pinto 2003	Wait-list control	-	-	Exercise intervention group. Subjects attended sessions three times per week for 12 weeks with make-up sessions. Initial exercise prescriptions including mode, intensity and duration were based on the exercise stress test. Each subject began the exercise program at an individually appropriate exercise intensity and achieved cardiovascular training at 60–70% of peak heart rate by the end of the 12-week intervention. Over the 12 weeks, the exercise session developed into 10 min of warm-up (cardio-vascular and flexibility), 10min of cool down (cardiovascular and flexibility) and 30 min of cardiovascular activity in one's target heart rate zone.	12	2.5 h			
[171]	Pinto 2005	Control	-	-	Home-based physical activity intervention. Participants received in-person instructions on how to exercise at a moderate-intensity level, how to monitor heart rate, and how to warm up before exercise and cool down after exercise. They were given home logs to monitor physical activity participation and a pedometer to wear during walks for exercise. During the first few weeks of the intervention, participants were encouraged to exercise for at least 10 min on at least 2 days each week, and the goals were gradually increased over the 12 weeks to 30 min of accumulated physical activity per day on at least 5 days per week. ^{14,32} The program promoted moderate- intensity activities at 55% to 65% of maximum heart rate such as brisk walking, biking, swimming, or use of home exercise equipment.	12	0.3 h to 2.5 h (volume increased during the 12 weeks)			
[172]	Pinto 2013 breast cancer	Control	-	-	Exercise intervention group. Participants received in-person instructions on how to exercise at a moderate-intensity level, monitor heart rate, and how to warm up before and cool down after PA. They were given home logs to monitor PA participation and a pedometer (Digiwalker, Yamax Corporation, Tokyo, Japan). The intervention was individualized to the participant's baseline physical activity (and motivational readiness) such that, inactive participants were encouraged to be physically active for at least 10 min on at least 2 days/week, and the goals were gradually increased over the 12 weeks to 30 min/day on at least 5 days/week. Starting points and rates of physical activity progression varied across participants because these were individualized to increase the motivation and confidence of the participants.	12	0.3 h to 2.5 h min (volume increased during the 12 weeks)			
[173]	Pinto 2013 colorectal cancer	Control	-	-	Home-based exercise intervention. Participants received in person instructions on how to exercise at a moderate- intensity level, monitor heart rate and how to warm up and cool down. Participants were given home logs to monitor physical activity participation and a pedometer to wear during walks. During the first few weeks, participants were encouraged to exercise for at least 10 min on at least 2 days/week, and the goals were gradually increased over the 12 weeks to 30 min/day on at least 5 days/week. The program promoted moderate-intensity aerobic activities at 64– 76% of estimated max heart rate such as brisk walking, biking, or use of home exercise equipment. Each participant received a weekly call to monitor physical activity participation, identify relevant health problems and reinforce participants for their efforts.	12	0.3 to 2.5 h (volume increased during the 12 weeks)			
[174]	Pinto 2015	Reach To Recovery control group. participants were provided RTR informational booklets and coaches provided information and support for	12	?	Physical activity plus Reach to Recovery group. Same as Pinto 2005. The coaches built a supportive relationship with participants and assesses their motivational readiness, monitors physical activity, identifies and solves barriers to physical activity using techniques based on constructs from social cognitive theory and transtheoretical approach).	12	Not indicated			

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		participants' questions and concerns about breast cancer.								
[175]	Poorkiani 2010	Control	-	-	Rehabilitation intervention group. Subjects underwent rehabilitation programs such as physiotherapy, education and consultation beside medical care. Physiotherapy included electrotherapy, exercises and massage therapy done during 10–30 sessions three times per week to reduce pain, arm lymphedema and to increase the shoulder range of motion. Education was given individually and face to face according to patients' educational needs during two to four sessions of duration 45–90 min. At the end, instructed materials were given to patients in the form of instructional pamphlets. A nurse who was an expert in psychoanalysis held one to three consultation sessions of 30–60 min duration, individually.	8	3.6 h to 10 h			
[176]	Post-White 2003	Standard care	-	-	Therapeutic massage intervention. A written Swedish massage protocol with defined strokes was followed, using Biotone massage gel, consisting of apricot, grapeseed, and sesame oils. The participants began the massage lying prone, with effleurage strokes (gentle rhythmic gliding strokes) applied to the upper back, then petrissage and friction/rubbing of the lower back, hips, buttocks, and extremities. In the supine position, the therapist used effleurage and gentle petrissage to the upper chest, neck, face, scalp, and the anterior torso, abdomen, legs, and feet. The massage was sometimes modified to avoid tumour or surgical sites and to adapt the depth of touch according to individual tolerance.	4	3 h	Healing touch intervention. The protocol developed by Healing Touch International Levels 1-3, used both touch and no touch techniques. Energy techniques included centring, unruffling, magnetic unruffling, full-body connection, mind clearing, chelation, and lymphatic drain to modulate the energy field. The session began with the therapist setting the intent for the greatest good of the subject and performing an energy field assessment to determine areas of increased or decreased energy flow. Unruffling was done over the body to release areas of blocked energy and was followed by one or more of the other techniques, depending on the individual assessment. The session ended with a grounding technique for the subject.	4	3 h
[177]	Prinsen 2013	Waiting list	-	-	Physical activity program and CBT. In six modules, CBT focused on six perpetuating factors of post cancer fatigue, including insufficient coping with the experience of cancer, fear of disease recurrence, dysfunctional cognitions concerning fatigue, dysregulation of sleep, dysregulation of activity, and low social support. Patients also practiced physical activity twice a day, starting with 5 to 10 min of walking or cycling. The activity was increased by 1 min per day each time the activity was performed, ending at a maximum of 120 min per day. Gradually, physical activities were replaced by other activities.	6 moths	0.5 h to 14h (5-10 min daily in the beginning, up to 2 h daily towards the end of the study) plus 6 x CBT modules, duration unknown			
[178]	Pruthi 2012	Control	-	-	Yoga intervention group. Participants received three individual therapeutic yoga sessions (60 min). The first session was individualized at the time of consent, and participants were given information on yoga practise assessment and the first component of yoga, pranayana (breath work). The second and third individual yoga sessions started 1 week after surgery at a local yoga studio. The yoga offered was a combination of gentle and hatha yoga, which included pranayama and gentle movements of the upper and lower body on a chair or mat. Those in the yoga group were asked to attend one weekly 60-minute gentle yoga classes for 8 weeks during the postoperative period (week 4 to week 12). All participants received a gentle yoga DVD to use at home at least once per week.	12	1 h to 2 h			

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[179]	Purcell 2011	Control	-	-	Pre- and post-radiotherapy fatigue education and support. The programme aimed to employ self-care behaviours designed to minimise fatigue. The programme was based upon the Health Belief Model. Programme components included sessions (60 min) delivered using a structured PowerPoint presentation 1 week prior to radiotherapy planning and 1–2 weeks after the completion of radiotherapy, a participant handbook, a goal setting sheet and progress diary. Two follow-up phone calls using a structured script were provided 2 and 4 weeks after each education session to reinforce information. Session content addressed radiotherapy and its processes; potential treatment side effects including fatigue; and behavioural strategies to reduce fatigue including activity modification, participation in exercise/activity, maintaining weight/nutrition, sleep, hygiene tips and relaxation strategies.	Time course of one radiotherapy	2 x 1 h over the study (not per week)	Pre-radiotherapy fatigue education and support. Same pre-radiotherapy program as in the pre- and post- group but only one session held prior to radiotherapy.	Time course of one radiotherapy	1 session of 1 h
[180]	Rabin 2011	Control	-	-	Internet-based physical activity intervention. Participants in the Intervention group were introduced the physical activity (PA) website and each website feature by a researcher. The researcher stressed the importance of entering weekly PA goals, logging PA performed, and completing the monthly questionnaires on the website to trigger the generation of feedback reports. To ensure that participants were exercising safely, they were instructed to take their heart rate during PA and decrease PA if their heart rate exceeded 70% of their maximum predicted heart rate. In addition, Intervention participants responded to weekly emails asking if they experienced specific physical symptoms (e.g., chest pain) during or after PA, injury, or other medical issues that might impact PA.	12	No indication in h/week			
[181]	Rahmani 2015	Control	-	-	Mindfulness and Yoga in 8 group sessions (once per week)	8	2.0 h			
[182]	Rauchfuß 2010	Control	-	-	Massage intervention group. Over a five-week period, the intervention group received bi-weekly 30-min classical massage. The massage was applied on the back and head/neck areas.	5	1 h			
[183]	Ream 2006	Usual care	-	-	Supportive intervention. The intervention evaluated in this study comprised four principle components: assessment/monitoring of fatigue; education on fatigue; coaching in self-care; and provision of emotional support. It aimed to enable patients to manage fatigue through energy conservation and management and to optimize activity and functioning. It was principally underpinned by Winningham's Psychobiological Entropy model. The educational element of the intervention was underpinned by an investigator-designed information pack that was provided to patients prior to chemotherapy. This pack presented information on exercising, balancing activity with rest, prioritizing and delegating activities, dietary supplements, relaxation, diversion, and sleep-enhancement techniques.	12	No indication in h/week			
[184]	Ream 2015	Control	-	-	Tele CBT. Motivational interviewing over the telephone- delivered version of "Beating Fatigue"	52	Not indicated			
[185]	Reich 2014	Waiting list	-	-	Weekly 2-h sessions with a psychologist; addressed concerns and training to use mindfulness and attention to adapt to emotional and psychological symptoms such as anxiety, depression and fear of recurrence, and physical symptoms such as fatigue, pain or sleep disturbances.	6	2 h			
[186]	Reif 2013	Waiting list	-	-	Patient education intervention. Subjects received a structured patient education program consisting of six weekly sessions à 90 min designed for groups of 8 cancer survivors. The topics and methods of the sessions were dimensions of fatigue, aetiology and treatment of fatigue, time and energy management, healthy sleep and enjoyment, coping with emotions, implementing new strategies and exchanging experiences.	6	1.5 h			
[187]	Reis 2013	Control	-	-	Non Impact Aerobics (NIA) exercise intervention. Participants met individually with the principal investigator. Participants received instructions and a demonstration about the NIA techniques and a NIA DVD for home use. Participants were advised to practice NIA	12	1 h to 3 hr			

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					20–60 min at least three times per week for 12 weeks and record their activities in an exercise log. At 6 weeks and 12 weeks, participants met individually with the principal investigator and discussed variations in movement to enhance NIA practice.					
[188]	Rief 2014	Control (breathing exercises)	12	0.75 h	Isometric muscle training for 30 min. Two weeks supervised, then home-based three times a week.	12	1.5 h			
[189]	Rogers 2009	Usual care	-	-	Physical activity behaviour change intervention. Participants completed 6 discussion group sessions with a clinical psychologist during the first 8 weeks, 12 individual exercise sessions with an exercise specialist during the first 6 weeks, and 3 individual counselling sessions with an exercise specialist during the final 6 weeks of the intervention. The program objective was to gradually transition the participant to a home-based program with the goal of engaging in 150 min of moderate intensity activity (primarily walking) by the final weeks of the intervention.	12	Goal: 150 min activity			
[190]	Rogers 2013	Control	-	-	Resistance exercise intervention. The 12-week intervention consisted of twice weekly supervised sessions during the first 6 weeks of the intervention (at the clinical site of radiation therapy treatments) followed by 6 weeks of twice-weekly home-based sessions supported with weekly telephone counselling, written materials, and DVD. The average time required for a supervised session was 1 hour, with the maximum time being 1 hour 15 min, depending on the number of repetitions completed and the time required to provide instruction on proper exercise technique. Sessions using resistance bands occurred on 2 non-consecutive days per week. Up to 10 repetitions of 9 different exercises using each of the major muscle groups were performed.	12	2 h			
[191]	Rogers 2014	Control	-	-	Exercise intervention group. The intervention combined aerobic walking with strength training using resistance bands. For the aerobic component, participants were gradually advanced by week 9 to 40-min bouts of moderate- intensity walking four times per week with no more than 1 d in between bouts, resulting in a total weekly goal of 160 aerobic min. Participants attended 26 individual supervised exercise sessions with an exercise specialist (three per week for the first 2 weeks and two per week for the last 10 weeks). Participants were also instructed to exercise at home (two walking sessions per week in the last 10 weeks of the intervention). The resistance training occurred twice weekly during the same sessions as the supervised aerobic walking.	12	2.7 h aerobic twice weekly resistance exercise, no indication of h/week			
[192]	Rogers 2016	Usual care	-	-	Social cognitive theory-based BEAT Cancer intervention included 12 supervised exercise sessions with an exercise specialist that were tapered over the first 6 weeks to an exclusively unsupervised home-based program					
[193]	Saarto 2012	Control	-	-	One year exercise intervention. The focus of the intervention was on home-based exercise training, while the weekly supervised training sessions were included to motivate and educate participants, and to offer them peer support. Supervised training was organized for the exercise group once a week in groups of 5 to 15 individuals. The supervised training of the exercise group consisted of two different classes that alternated weekly, step aerobics class and circuit training class. The 60-minute aerobics and circuit training classes included warm-up and cool-down. Home training was aimed to be carried out at least twice a week (but three times a week was recommended) so that the total training would comprise a minimum of three training sessions per week.	52	1 h supervised session plus at least 2 h (recommended 3 h) home training			
[194]	Sadeghi 2016	waiting list	-	-	Small group discussion on accurate representation of the symptom of fatigue, plan to conserve energy (develop energy conservation skills); review daily routines, structure their activities according to energy levels	5	Not indicated			

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[195]	Santa Mina 2013	Aerobic exercise intervention. The prescription was training 3-5 days per week, with moderate - vigorous intensity for 30-60 min per session. Participants could select any modality of aerobic exercise available to them while the standard recommendation focused on walking. Training was prescribed at an intensity of 60-80% of heart rate reserve using the measured maximum heart rate from the baseline assessment.	24	1h30min-5h	Aerobic exercise intervention. The prescription was training 3-5 days per week, with moderate - vigorous intensity for 30-60 min per session. Participants received 3 resistance bands (light, moderate, and heavy resistance), an exercise mat, and a stability ball. Training was performed for 2-3 sets of 8 to 12 repetitions each at an intensity of 12-15 on approximately 60-80% of 1-repetition maximum; 1RM. The resistance exercises were: ball squats, hamstring curls, push-ups, upright row, triceps extension, bicep curl, seated row, lateral raise, abdominal crunches on the ball, and hip extensions.	24	1.5 h to 5 h			
[196]	Schjolberg 2014	Usual care	-	-	Patient education intervention. It involved three 2-h sessions held once a week that were tailored to the specific needs of patient groups. The intervention aimed to improve the knowledge and skills of patients to help them to alleviate fatigue. The intervention identified various components, which included effective strategies to reduce fatigue, promote a balance between activity and exercise, conserve energy and promote restorative activities. The intervention was face to face in groups and all the sessions were presented by the first author and a co-chair who were well educated in cancer nursing and experienced in education.	3	2 h			
[197]	Schmidt 2012	Control	24	1	Gentle resistance exercise intervention. Subjects completed one training set of 20 repetitions with a hypothetical 50% of the maximum weight, using 11 workout machines. The training took place on the following devices: squat, chest press, leg curl, rowing, leg extension, upper arm curl, upper arm extensors, shoulder press, abdominal bench and lats pull down. Subjects received their training programme once per week for one hour for each workout for half a year.	24	1 h			
[198]	Schmidt 2015	Relaxation, twice weekly for 60 min. Progressive muscle relaxation without any aerobic or muscle strengthening components.	12	2 h	Resistance exercises, twice weekly for 60 min. The progressive resistance training consisted of eight different machine-based resistance exercises (3 sets, 8–12 repetitions at 60%–80% of 1 repetition maximum)	12	2 h			
[199]	Schuler 2017	Usual care	12		We combined two intervention groups, both groups got a structured individual home-based exercise programme with strength and endurance training. The planned volume was three times endurance per week and two times strength training per week, for 20 to 30 min per session. The intensity was aimed about 13 points on a 6 to 20 Borg scale. One of these two groups had additional physiotherapy twice a week.	12	1.5 h to 2.5 h			
[200]	Segal 2001	Usual care	-	-	Self-directed exercise intervention. Participants received a home exercise prescription and were asked to exercise five times per week for a 26-week period. In the beginning of the study, participants were shown a standardized series of warm-up and cool-down exercises and were provided a progressive walking program at an exercise intensity of 50% to 60% of the predicted maximal oxygen uptake. After, they trained on their own, but received an interim fitness evaluation at 13 weeks and were contacted by telephone every 2 weeks during the 26-week training period. During the call, the exercise specialist checked on progress and worked with the participants to overcome any barriers to exercise they were experiencing.	26	Not indicated in h/week	Supervised exercise intervention. Participants received a supervised exercise program three times per week for 26 weeks in the rehabilitation area of the Ottawa Regional Cancer Centre. ²⁴ During each exercise class, the exercise specialist led a 7- to 10-minute warm-up. Participants then completed walking exercise at their prescribed pace. The exercise specialist then led a standard cool-down. Patients were also expected to exercise at home on at	26	Not indicated in h/week

Nr.	Study (Author & Year)	Description of Intervention 1	Duration of exercise (weeks)	Volume of exercise (h per week)	Description of Intervention 2	Duration of exercise (weeks)	Volume of exercise (hours per week)	Description of Intervention 3	Duration of exercise (weeks)	Volume of exercise (h per week)
								least 2 other days each week.		
[201]	Segal 2003	Control	-	-	Resistance exercise intervention, consisting a 12-week individual program with nine strength-training exercises carried out under supervision 3 times per week, at 60% to 70% of one-repetition max (1-RM; the maximum amount of weight that can be lifted once), estimated from the standard load test. Two sets of 8 to 12 repetitions of the following nine exercises were performed: leg extension, calf raises, leg curl, chest press, latissimus pulldown, overhead press, triceps extension, biceps curls and modified curl-ups. Patients were instructed to increase the resistance by 5 lb when they could complete more than 12 repetitions.	12	Not indicated in h/week			
[202]	Segal 2009	Usual care	-	-	Resistance exercise intervention. Participants exercised three times per week performing two sets of eight to 12 repetitions of 10 different exercises (leg extension, leg curl, seated chest fly, latissimus pulldown, overhead press, triceps extension, biceps curls, calf raises, low back extension, and modified curl-ups) at 60% to 70% of their estimated one-repetition maximum (1 RM). Resistance was increased by 5 lb when participants completed more than 12 repetitions.	24	Not indicated in h/week	Aerobic exercise intervention. Participants exercised three times per week on a cycle ergometer, treadmill, or elliptical trainer beginning at 50% to 60% of their predetermined peak oxygen consumption (VO ₂ peak) for weeks 1 to 4 and progressing to 70% to 75% for weeks 5 to 24. Exercise duration began at 15 min and increased by 5 min every 3 weeks until it reached 45 min.	24	1.25 h 2.75 h (progressive during study)
[203]	Shang 2012	Control	-	-	Exercise intervention. The exercise prescription was a brisk 10-minute walk that increased to 30 min for 5 days per week as training progressed. The intensity of this walking prescription was to reach approximately 50% to 70% of maximum heart rate, consistent with the American College of Sports Medicine guidelines for ill populations. Participants were instructed to reach the desired goal of continuous exercise for 20 to 30 min each session; however, very deconditioned individuals were told to assume a slower pace of 2 sessions of 5 to 10 min per day. Exercise participants were asked to wear pedometers daily throughout the study and to complete a daily exercise log.		1.7 h to 2.5 h			
[204]	Sohl 2016	Usual care; empathic attention session to account for nonspecific effects of yoga	-	-	Three in-person Yoga sessions with awareness meditation, movements, and breathing and relaxation; plus audio recording of a 15-min Yoga session which the patients should practice four times per week at home.	8	1 h			
[205]	Spahn 2013	Control	-	-	Multimodal mind-body medicine treatments (MMMTs) intervention. The MMMT was led in a day clinic setting by a multi professional team and included nutrition counselling, relaxation exercises, physical exercises, stress reduction, basics of cognitive restructuring, and hydrotherapy. A special role was assigned to the integration of mindfulness techniques. In each of the 10 weeks, patients attended in steady groups of 10 to 20 patients a 1-day clinic element of 6 h duration. All patients were asked to practice the newly learned methods at home as often as possible. They were additionally given supervised sessions on walking by an experienced sports therapist (weeks 1, 3, and 10) and were instructed to continue walking at home 3 x 30 min/wk.	10	7.5h (6 h of MMMTs and 3x0.5 h walking) 3x walking instruction not included			
[206]	Specia 2000	Waiting list	-	-	Exercise intervention, provided over the course of seven weekly, 90-minute sessions. Week 1: Introductions and reasons for participation are shared. Exercise focusing on full and relaxed breathing and guided awareness. Week 2: A visualization exercise is used. Gentle yoga stretches are introduced. Week 3: Group discussion and problem solving about home practice. Meditation for home practice. Week 4: The relationship between breathing and emotional response is explored. Week 5: The relationship between cognition and emotion is explored. Self-monitoring as homework.	7	10.5 h			

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					Week 6; Self-monitoring reviewed. Visualization and imagery as adjuncts to meditative practice are taught. Week 7; Previously presented material is reviewed and integrated. The nature of the intervention as a starting point rather than a conclusion is reinforced.					
[207]	Sprod 2010	Control	-	-	3-months exercise intervention. Subjects attended supervised exercise sessions 2 or 3 days per week for the duration of the study. Exercise sessions were 60 min in duration and "whole body" in focus. Sessions generally included a warm-up lasting 10min, aerobic exercise and resistance training for 40 min, and stretching and cooling down for 10 min. The exercise intensity prescribed was based on the results of the initial treadmill assessment, and ranged from 30 to 55% of heart rate reserve (HRR). Resistance training and flexibility exercises emphasized all the major muscle groups as did the low intensity cool-down.	12	2 h to 3 h	6-months exercise intervention. Apart from intervention time exactly same protocol as for the 3 months' intervention.	24	2 h to 3 h
[208]	Sprod 2012	Control	-	-	Tai Chi Chuan exercise group. Sessions consisted of a 10- min warm-up, 40 min of Yang-style tai chi chuan using the 15-move short form which are the first 15-moves of the traditional 104-move long form, and 10 min of guided breathing, imagery, and meditation.	12	3 h			
[209]	Sprod 2015	Control	--	-	Yoga twice per week 75 min YOCAS® program, a standardized programme consisting of breathing exercises, postures, and mindfulness exercises. The postures included 16 gentle hatha and restorative yoga poses, of which there are seated, standing, transitional, and supine poses. The meditation exercises included meditation, visualization, and affirmation. Low intensity [<3 metabolic equivalents (METs)].	4	2.5 h			
[210]	Stan 2016	Resistance exercises based on a DVD; 3 to five times a week; each session about 20 minutes. Exercises with elastic bands (Rapid Easy Strength Training (REST) by Mayo Clinic). Five exercises for upper body and five exercises for lower bod; as well as core muscles.	12	1 h to 1.5 h	Yoga based on a DVD; 3 to 5 times a week. Relaxed breathing aiming to softening the body and calming the mind, warm-up with exercises for all the muscles and joints aimed to decrease fatigue, soft yoga (improving flexibility and decreasing anxiety), seated sun salutation (energizes the body and enhances positive mindset), standing yoga (increases strength and builds self-confidence), chair stretches (to release muscle tension and invite inner focus), and guided relaxation (to aid in the healing process and restore emotional equilibrium).	12	Not indicated; DVD duration was 1.5 h			
[211]	Stanton 2005	Control	-	-	Standard print material and peer modelling videotape group. Subjects received a personalized letter and Facing Forward, as well as an author-developed and professionally filmed videotape entitled, Moving Beyond Cancer. This 23-minute film addressed re-entry challenges in four life domains: physical health, emotional wellbeing, interpersonal relations, and life perspectives. Designed to promote adaptive peer modelling, the film observes four breast cancer survivors as they describe their experience in each of the four domains, as well as active coping skills they used to meet associated challenges.	26-52 (some subjects conducted 6 months, some 12 months)	Not indicated in h/week	Standard print material, videotape, two sessions with cancer educator, and informational workbook group. Subjects participated in one individual in-person session and one telephone session. In the first session of approximately 80 min, women reviewed their cancer-related concerns in the four life domains described previously, identified a primary concern and their associated goals, developed an approach-oriented action plan to address that concern (e.g., getting more information, seeking social support), and addressed barriers to their plan. At this session, they also were given the Moving Beyond Cancer videotape and an author-constructed 60-page manual entitled, Moving Beyond Cancer.	26-52 (some subjects conducted 6 months, some 12 months)	Not indicated in h/week

Nr.	Study (Author & Year)	Description of Intervention 1	Duration of exercise (weeks)	Volume of exercise (h per week)	Description of Intervention 2	Duration of exercise (weeks)	Volume of exercise (hours per week)	Description of Intervention 3	Duration of exercise (weeks)	Volume of exercise (h per week)
								Your Guide to a Successful Recovery.		
[212]	Steindorf 2014	Relaxation, twice weekly for 60 min. Progressive muscle relaxation without any aerobic or muscle strengthening components.	12	2 h	Resistance exercises, twice weekly for 60 min. The progressive resistance training consisted of eight different machine-based resistance exercises (3 sets, 8–12 repetitions at 60%–80% of 1 repetition maximum)	12	2 h			
[213]	Sturm 2014	Standard care (both groups received Supportive consultation: fatigue counselling, nutrition counselling, psychooncology)	-	-	Both groups received Supportive consultation: fatigue counselling, nutrition counselling, psychooncology. 60 min dance classes twice a week, led by a choreographer. 60 minutes with defined phases: (1) warm up (releasing tensions, increasing circulation, body awareness, alignment, balance, rhythm exercises); (2) emphasis on isometric muscle work, focusing on balance and breathing, followed by sessions on healthier movement patterns; (3) emphasis on "moving through space"; and (4) group choreography and warm down.	5	2 h			
[214]	Taso 2014	Usual care	-	-	Twice a week 60-minute programme including warm-up (10 min of meditation and breathing exercises), Yoga (40 min): Anusara yoga, gentle stretching and relaxation exercises.	8	2 h			
[215]	Thorsen 2005	Standard care	-	-	Physical activity intervention. Subjects received a supervised home-based flexible training program designed by an exercise instructor. The exercise period lasted for approximately 14 weeks with a minimum of two exercise sessions per week of at least 30 min. However, more sessions with longer duration were allowed. In dialogue with the patients, types of activities were decided based on the patients' wishes and opportunities. Walking was most frequently chosen, but cycling, strength training, water activities, aerobics, cross-country skiing, jogging, and ball games were also chosen. The patients were advised to maintain their exercise intensity comparable to a level between 13 and 15 (slightly strenuous to strenuous) on Borg scale (ranging from 6-20).	14	At least 1 h			
[216]	Travier 2015	Usual care	-	-	Two sessions per week: Aerobic and strength exercise classes incorporating principles of the Bandura social cognitive theory. The one hour classes included 5 min warm up, 25 min aerobic exercise and 25 min muscle strength training and 5 minute of cooling down. The intensity was adapted based on a cardiopulmonary exercise test and a 1-RM test. Intensity was based on the heart rate at the ventilator threshold (VT). The training included interval training of 3 times 2 min increasing to 2 times 7 min at VT heart rate or 3 times 4 min decreasing to one times 7 min below VT. The heart rate and the perceived exertion was monitored. Strengthening exercises included all major muscle groups and started with 2 times 10 repetitions at 65% 1-RM increasing to 1 time 10 repetitions at 75% 1-RM and 1 times 20 repetitions at 45% of the 1-RM. Training intensity was adapted every four weeks. Participants were encouraged to active for at least 30 min on at least three other days.	18	2 h			
[217]	Vadiraja 2009 after	Control support therapy (supportive counselling)	-	-	Integrated yoga program with a combination of a set of asanas (postures done with awareness) breathing exercises, pranayama (voluntarily regulated nostril breathing), meditation and yogic relaxation that are based on principles of stimulation and relaxation taken from ancient Indian texts called Upanishads. Two supervised sessions per week for 12 weeks and additional home practice on the remaining days.	12	2 h plus additional home practice			
[218]	Vadiraja 2009 during	Control support therapy (supportive counselling)	-	-	Integrated yoga program with a combination of a set of asanas (postures done with awareness) breathing exercises, pranayama (voluntarily regulated nostril breathing), meditation and yogic relaxation that are based on principles of stimulation and relaxation taken from ancient Indian texts called Upanishads. Participants were asked to attend a minimum of at least three in person sessions/week for 6 weeks during their adjuvant radiotherapy treatment in the hospital with self-practice as homework on the	6	"At least 3 h			

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					remaining days. All sessions started with easy yoga postures, breathing exercises and pranayama and yogic relaxation. After this preparatory practice for about 20min, the subjects were guided through any one of the meditation practices for the next 30min. The instructions were recorded on an audio tape so that the patients could practice the same at home.					
[219]	Vallance 2007	Standard physical activity recommendation group. Subjects received the advice to perform 30 min of moderate/vigorous physical activity on 5 days of the week.	12	2h30min	Print material and standard physical activity. In addition to standard physical activity recommendation, subjects received a copy of Exercise for Health: An Exercise Guide for Breast Cancer Survivors.	12	2.5 h	Step pedometer and standard physical activity. Subjects received a Digi-Walker SW-200 pedometer (New Lifestyles Inc, Lee's Summit, MO) and a 12-week step calendar.	12	2.5 h
[220]	Van der Lee 2012	Control	-	-	<p>Mindfulness-based cognitive therapy (MBCT) intervention, based on the book from Segal et Al. about MBCT. Information about the relation between cancer and fatigue, how fatigue can become chronic and how MBCT can help to cope with fatigue was given. Participants received information and instructions about a particular theme each week and were encouraged to practice at home for 45min, 6 days a week. Patients were given compact disks with breathing instruction and awareness exercises to facilitate practice at home.</p> <p>The intervention included eight sessions of 2.5h group therapy and one long session of 6h. Plus one 2.5 h follow-up session 2 months after the ninth session.</p>	9	2.5 h plus one long session of 6 h. Follow up session 2.5 h after 2 months			
[221]	Van Vulpen 2016	Usual care	-	-	Combined strength and aerobic exercises; twice a week; 10 min warm-up, 40 minutes aerobic and strength exercises; 10 min cool down. Intensity of aerobic exercises was based on heart rate at the ventilatory threshold as determined during baseline test; Aerobic training included interval training with 3 x 2 min increasing to 2 x 7 min at ventilatory threshold and 3 x 4 min decreasing to 1 x 7 min below ventilatory threshold. Muscle strength exercises were done for all major muscle groups with 2 x 10 repetitions at 65% of 1-repetition maximum and gradually increased to reach 1 x 10 repetition at 75% 1-RM and 1 x 20 repetitions at 45% 1-RM.	18	2 h			
[222]	Vargas 2014	Control group with a one-day seminar covering breast cancer-related health information and outlines of some stress management techniques including relaxation.	-	-	<p>Group-based cognitive behavioural stress management.</p> <p>Weekly 2 h sessions for 10 weeks. Groups of eight women. Sessions included didactic presentations, instructions in empirically supported cognitive behavioural techniques and relaxation exercises such as progressive muscle relaxation.</p>	10	2 h			
[223]	Wang 2011	Usual care	-	-	Walking program intervention. The intervention comprised a 6-week home-based walking program and a plan of strategies to boost women's exercise self-efficacy. The theoretical basis of this intervention was the Bandura's Self-Efficacy Theory (BSET). The key components of the BSET included person, efficacy beliefs, behaviour, outcome expectations, and outcome. The exercise intervention was of low to moderate intensity measured by a heart rate maximum (HRmax) from 40% to 60% or the modified Borg Scale between 0.5 and 2, 3 to 5 sessions per week, and at least 30 min per session or the accumulation of 10-minute sessions to reach 30 min.	6	2.5 h at least			
[224]	Wang 2014	Routine Care	-	-	Yoga four times 50 min per week. Yoga consisted of pranayama (5 min), asana practice (30 min) and nidra (10 min).	16	3.5 h			
[225]	Wangnum 2013	Control	-	-	Multidisciplinary education intervention. Patients in this group received training from specialists who were experts in different fields of medical health care. The first meeting (physical therapist, nutritionist, psychological nurse) lasted up to 90 min. The second meeting (third week) took around 60 min. The nutritionist spent about 30 min reviewing the information that had been previously	9	Approx. 0.5 h			

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					explained to the patients. The third (sixth week) meeting took up to 60 min. The psychological nurse spent 10 min talking to the patients to review the information that had previously been given to them and listen to the problems they had experienced during the treatment. At the fourth (ninth week) meeting, each specialist summarized the results and informed the participants that the study was terminated.					
[226]	Wenzel 2013	Usual care	-	-	Home-based walking intervention. The exercise intervention consisted of the walking prescription. The targeted exercise prescription was a brisk 20- to 30-minute walk with a 5-minute warm-up period and a 5-minute cool-down period 5 days per week. Exercise was prescribed to reach approximately 50%–70% of maximum heart rate. If participants were unable to reach this goal, they were instructed to begin with a slower pace of two sessions of 5–10 min per day and gradually progress to a continuous walk. Exercise participants were asked to wear pedometers daily throughout the whole study period and to record pedometer steps on a daily exercise log.	5-35 Depending on patient and his cancer treatment	Goal: 2.5 h to 3.5 h			
[227]	Willems 2016	waiting list	-	-	Web-based tailored psychosocial intervention with cognitive behavioural elements; eight modules covering return to work, fatigue, anxiety and depression, social relationship and intimacy issues, physical activity, diet and smoking cessation. The advice was personalised based on a questionnaire.	26	no indication			
[228]	Windsor 2004	Control	-	-	Aerobic exercise intervention. The exercise intervention was home-based, moderate-intensity, continuous walking for 30 min on at least 3 days of each week of radiotherapy at a target heart rate of 60–70% calculated maximum heart rate (as a guide to the intensity of the activity).	4	1.5 h at least			
[229]	Winters-Stone 2012	Placebo exercise intervention. Participants in the placebo exercise group performed a series of whole body stretching and relaxation exercises in a seated or lying position. Exercises were selected to minimize muscular forces so that little stimulus to the musculoskeletal system was applied. An exercise placebo group was used as a control rather than a sedentary usual care group so that the attention from the study team and social interactions among participants would be similar across groups and because we felt it would be unethical to ask the control group to remain sedentary because of the known risks of inactivity for cancer survivors.	12 months	3	Resistance and impact training 2 supervised classes and 1 homebased session per week for 12 months. The POWIR program aimed to increase musculoskeletal health and function in older adults through resistance plus impact training. Resistance training with free weights and included dumbbells, barbells, and weighted vests (loaded as percentage body weight) used for multi-joint, functional resistance training (including wall-sits, squats, bent-knee dead lifts, multidirectional lunges, 1-arm row, chest press, lateral raise, and push-ups). Home-based exercise: resistance bands and body weight with upper- and lower-body exercises.	12 months	3 h			
[230]	Winters-Stone 2015	Relaxation Participants in the control group performed a series of seated or lying whole-body stretching and relaxation exercises aimed to minimize weight-bearing forces and muscle activation. For home exercise, control participants followed a written guideline of stretches and relaxation used in class. A gentle exercise placebo group was used as a control rather than a usual care group to equalize attention,	52	?	Resistance Training and impact training 2 supervised classes and 1 homebased session per week for 12 months. The POWIR program was based on our prior interventions in people without cancer ^{27,28} and was aimed to increase musculoskeletal health and function in older adults through resistance plus impact training. ²⁹ Free weights were used to apply resistance and included dumbbells, barbells, and weighted vests (loaded as percentage body weight). Resistance exercises were all multi-joint and emphasized movements common to activities of daily living, including wall-sits, squats, bent-knee dead lifts, multidirectional lunges, 1-arm row, chest press, lateral raise, and push-ups. Impact exercise, consisting of 50 two-footed jumps, was included to mechanically load the skeleton for bone outcomes. ²⁶ For home exercise, resistance bands replaced free	52	3 h			

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[231]	Winters-Stone 2016	maximize retention, and minimize contamination. Usual care	26	-	weights and body weight replaced weighted vests for upper-body exercises and lower-body exercises, respectively. Patients and their spouses were exercising twice one hour together per week for six months. Resistance exercises with 8 to 15 repetitions at intensities starting from 4 to 15% of body weight (weighted vest for lower body exercises and from weight that could be lifted for 15 repetitions to a heavier weight that could be lifted 8-times using free weights. 8 to 10 different exercises per session. 5-min dynamic aerobic warm-up and 5 to 10 min stretching cool-down.	26	2 h			
[232]	Wiskemann 2011	Control	-	-	Exercise intervention, with 3 endurance (up to 5 during hospitalization) and 2 resistance training sessions/week. Warm-up and cool-down with aerobic activity (e.g., walk/rise on tiptoe) and stretching. Endurance training in the outpatient setting was recommended primarily as (brisk) walking for 20 to 40 min; bicycling and treadmill walking during hospitalization. Strength training included exercises for the upper and lower extremities with and without a set of color-coded stretch bands with different levels of resistance (8-20 repetitions, 2 or 3 sets). Three different strength-training protocols were used: (1) focused on extremities, (2) the entire body, or (3) bed exercises (limited to inpatient period). Training intensity was adapted using the Borg scale (target scores 12-14 for endurance and 14-16 for resistance exercises).	1-2 w before admin, during chemo and 6-8 w after chemo.	No indication in h/week			
[233]	Xu 2012	Usual care	-	-	Home-based: walking and stair activity, plus cycling at 55 to 65 % of maximal Heart Rate. 20 to 30 min, 3 to 5 times per week,	8	1 h to 2.5 h			
[234]	Yagli 2015	Combined. Physiotherapy training program, each session included warm-up and breathing exercises (15 min), physical exercises (40 min) and cool-down exercises (5 min)	8	1h	Yoga, warm-up and breathing exercises (15 min), asanas (15 min), relaxation and meditation in supine position (30 min)	8	1 h			
[235]	Yates 2005	Control	-	-	Educational intervention. The psychoeducational intervention aimed to improve patients' knowledge and skills to enable them to perform self-care behaviours designed to minimize fatigue and was based on Green's PRECEDE (Predisposing, Reinforcing, and Enabling Causes in Educational Diagnosis and Evaluation) model of health behaviour. The intervention involved three individualized sessions tailored to the patient's specific needs and circumstances. The first session was, on average, 20 min in length and delivered face to face in the clinic at the patient's second course of chemotherapy. The second and third sessions were conducted by phone 1 week apart and were, on average, 10 min in length.	3	13 min			
[236]	Yeo 2012	Usual care	-	-	Home walking intervention, based on Every Step Counts-A Walking Exercise Program for Persons Living with Cancer. Participants were instructed to walk at home, in their neighbourhood (if safe), at an exercise gym or in a shopping mall for as far as possible, wearing appropriate footwear. They were instructed to stop or slow down if they experienced physical symptoms such as uncomfortable shortness of breath, chest pain, or bodily pain. The goal was to eventually walk for 90-150 min per week in three to five sessions. Patients were asked to keep a weekly diary-type log. Patients received a monthly follow-up telephone call.	12w	1.5 h to 2.5 h			
[237]	Yuen 2006	Control	-	-	Energy conservation intervention. Patients received 1 to 2 h of individual, face-to-face energy conservation training from an occupational therapist followed by once-a-week telephone monitoring sessions in the subsequent three weeks. Occupational therapists trained participants how to 1.) apply effective energy-use strategies to perform their daily activities without unnecessary or excessive use of energy; 2.) simplify tasks to reduce cognitive and physical demands; and 3.) use labour-saving devices or apply	3	15-30 min tele session 1 h to 2 h face to face training the first week			

Nr.	Study (Author & Year)	Description of Intervention 1	Duration of exercise (weeks)	Volume of exercise (h per week)	Description of Intervention 2	Duration of exercise (weeks)	Volume of exercise (hours per week)	Description of Intervention 3	Duration of exercise (weeks)	Volume of exercise (h per week)
[238]	Yuen 2007	Control	-	-	principles of ergonomics and proper body mechanics to accomplish daily activities. Aerobic exercise intervention. Walking for 20-40 min 3 days/wk. Walking was the most commonly performed mode of aerobic exercise, alternative forms of aerobic activity (swimming, biking, etc.) were allowed. Participants were instructed to initiate each exercise session with 5 min of light activity such as slow walking as a means of "warm-up" and conclude the session with a similar 5 minute "cool-down" period.	12	1 h to 2 h	Resistance exercise intervention. Eight resistance-training exercises (chest press, rowing movement, partial squat, lateral raises, bicep curl, triceps extension, heel raises, and curl ups). Stretching exercises were to be performed at the beginning of each session. Participants were instructed to progress from one circuit of the eight resistance exercises during weeks 1-3 to 2 circuits in weeks 4-6 and finally 3 circuits from week 7 on. Repetitions: 8-12 and rest between the exercises.	12w	No indication in h/week
[239]	Yun 2012	Control	-	-	Internet-based, individually tailored CRH Intervention. The internet based education program consisted the following five components: self-assessment and graphic reports, health advice and online education, enhanced and short message services, care giver monitoring and support, and health professional monitoring. The user's Web page covered seven education areas that contained personally tailored sections based on the TTM model (physical activity, sleep hygiene, and pain control) and education sections based on the CBT model (general introduction, energy conservation, nutrition and distress management). Each area offered different sessions (general introductory session, two sessions on energy conservation, four on nutrition, 10 on physical activity, seven on sleep hygiene, seven or 12 on pain control according to pain severity, and eight on distress management)	12w	No indication in h/week			
[240]	Zhang 2016	Low-impact exercise control group	12	3 h	Tai Chi with simplified Yang style. 10 min of warm-up, followed by Tai Chi practice. Eight-Form Easy Tai Chi.	12	3 h			
[241]	dos Santos Vigarito 2011	Control	-	-	Physical activity intervention. The physical activity program included aerobic activity performed on a treadmill under the supervision of a physical education instructor. The frequency of training was twice a week, for 12 weeks. Each session of aerobic activity lasted 60 min., divided in three phases: warm up (5 min.), main part (50 min.), and cool down (5 min.). Training was prescribed individually, based on the patient's performance in the cardiopulmonary test, the predicted maximum heart rate (HR Max=220-age). Intensity was monitored by HR, and was modified according to the performance of each patient, keeping the HR between 65% and 75% of HR max, but under the anaerobic threshold HR (obtained in the cardiopulmonary test).	12	2 h			
[242]	van Waart 2015	Usual care	-	-	Onco-Move. Home-based walking programme with an intensity of 12 to 15 on a 6 to 20 Borg RPE scale. It is an Individualized, self-managed physical activity program, as proposed by Mock. Plus additional behavioural reinforcement techniques. Five times a week for 30 min.	Variable, about 18 weeks.	2.5 h	OnTrack: a moderate- to high-intensity, combined resistance and aerobic exercise program. Supervised by physical therapists. Two sessions per week, 20 min resistance exercises per session. Six large muscle groups for two series of eight repetitions at 80% of 1-RM. 30 min of aerobic exercises per session at 50 to 80% of maximum at the steep ramp test. The intensity was	Variable, about 18 weeks.	1.6 h plus 2.5 h home-based

Nr.	Study (Author & Year)	Description of Intervention 1	Duration of exercise (weeks)	Volume of exercise (h per week)	Description of Intervention 2	Duration of exercise (weeks)	Volume of exercise (hours per week)	Description of Intervention 3	Duration of exercise (weeks)	Volume of exercise (h per week)
								adjusted with the Borg Scale (goal between 12 and 16). Participants were encouraged to be physically active five days per week for 30 min. Interventions started with the first cycle of chemotherapy and continued until 3 weeks after the last cycle.		
[243]	van Weert 2010	Control	-	-	Physical training intervention. Patients chose their individual goal (i.e., improving exercise capacity, improving muscle strength, coping with fatigue, or coping with physical role limitations) in collaboration with the physical therapist. In accordance with patients' goals, 4 treatment modules were available. All modules consisted of individual aerobic training (20–30 min), muscle strength training (20–30 min) and information. Progressive resistance muscle training of the trunk and the lower and upper extremities was based on the individual 1-repetition maximum (1-RM). Intensity of the aerobic training was determined based on the maximal heart rate (HR max).	12	2 h	Physical training and cognitive behavioural therapy intervention (CBT). Patients got the same physical training as the training intervention. CBT was aimed at training self-management skills based on the cognitive behavioural problem-solving approach. Topics such as distress, exercise physiology, and relaxation were discussed during the first 4 sessions. In sessions 5 to 12, participants primarily were trained to apply self-management skills to realize personal goals by practicing the following steps in the circular problem solving process: (1) problem orientation, (2) problem definition and goal setting, (3) generation of alternative solutions, (4) decision making, (5) solution implementation.	12	2 h
[244]	van der Meulen 2014	Usual care	-	-	The nurse counselling and after intervention (NUCAI). The therapy aimed to help patients manage the physical, psychological and social consequences by giving advice, emotional support, education and behavioural training. The treatment was divided into six components: Evaluating current mental status, discussing current problems, discussing life domains, Providing the after intervention, providing general medical assistance and referring patients to psychological aftercare. Patients received a maximum of six counselling sessions of 45–60min every 2 months over a period of 1 year, starting 6 weeks after the completion of cancer treatment.	1 year	No indication in h/week (0.75 to 1 h /2months for 1 year)			
[245]	von Gruenigen 2009	Usual care	-	-	Lifestyle intervention, consisting of exercise and nutritional counselling with cognitive-behaviour modification. A stepwise, phased approach using strategies outlined by social cognitive theory, indicating focus on establishing short-term goals, and enabling the person to build self-efficacy. The intervention covered topics related to nutrition and exercise and met weekly for six weeks, biweekly for one month, and monthly for 3 months. Participants were contacted either by phone, email, or newsletter every week. The psychologist met with the group during 2 of the 11 sessions and topics included cognitive and behavioural self-management strategies for weight loss and stress management.	1 year	No indication in h/week (1/week for 1 month, every 2nd week for 1 month and monthly for 3 months)			

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