SUPPLEMENTARY FILE C: CHARACTERISTICS OF ALL INCLUDED REVIEWS

Article author year	Objective	No. of databases/ sources searched Date range of included studies	Participants	Intervention of interest Control Conditions	No. of included studies/total no. of studies in the review Method of analysis Outcome measure(s) Appraisal instrument
Ada 2010	To examine the beneficial and harmful effects of mechanically assisted walking with body weight support in subacute, non-ambulatory patients after stroke in the short and the long term. Cardiorespiratory fitness is a secondary outcome.	n=4 2006 - 2010	Stroke patients in inpatient rehabilitation n=348 Mean age range 63 to 73	F: 5 sessions/week I: - T: 20 to 60 minutes/session T: Any type of mechanically assisted walking and assisted overground walking Total duration: 4 to 6 weeks or until discharge from inpatient rehabilitation Control conditions: Not-AT	3/6 Meta-analysis, 6MWT PEDro scores
Angevaren 2008	To assess the effectiveness of physical activity, aimed at improving cardiorespiratory fitness, on cognitive function in older people without known cognitive impairment. Cardiorespiratory fitness is a secondary outcome.	n=6 1989 - 2002	Frail older adults with age related illnesses, not cognitively impaired, and not recovering from surgical treatment n=667 Age range 55-91	F: 2 to 7 sessions/week I: 70% HRmax, HR at VT, HR of 95 to 125, 50 to 75% VO2 max, 50 to 65% HRR or 85% HRR T: 8 to 60 minutes/session T: Aerobic exercise programs (walking, cycling, jogging, running, mixed exercise) Total duration: 8 to 26 weeks Control conditions: UC, No-Ex, Not-AT/RT	11/11 Narrative analysis VO2max CLEAR NPT

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Anthony 2013	To examine the beneficial and harmful effects of exercise programmes performed primarily in the seated position for frail older people who are unable to perform standard evidence-based exercise programmes. Cardiorespiratory fitness is a primary outcome.	n=10 1997 - 2005	Frail older adults in various settings n=82 Mean age 80,5	F: 2 sessions/week I: - T: - T: Chair based exercise Total duration: 3 months Control conditions: UC, No-Ex, Not-AT	1/6 Narrative analysis 6 MWD Jaded scale
Baker 2007	To systematically review all health outcomes to concurrent strength, aerobic, and balance training in older adults to assess the current level of evidence regarding the feasibility and efficacy of current guidelines. Cardiorespiratory fitness is a primary outcome.	n=8 1993 - 2007	Community living frail older adults n=479 Mean age range 67 to 84	F: 3 sessions/week I: 13 to 16 on BORG scale, 70% HRmax, 70% HRR, 65-70% VO2peak T: 8.3 to 45 minutes/session T: Walking, cycling ergometer training, rowing ergometer training Total duration: 12 weeks - 6 months Control conditions: No-Ex	4/15 Narrative synthesis 6 MWD, VO2peak Modified from Delphi list (Verhagen et al)
Blankevoort 2010	To investigate whether physical activity can improve mobility, lower-extremity strength, balance, walking endurance and BADL in elderly individuals with dementia. Cardiorespiratory fitness is a primary outcome.	n=6 1995 - 2009	Older adults with dementia n=253 Mean age range 78.8 to 87.1	F: 2 to 3 sessions/week I: start at 30% VO2 max up to 60% VO2max T: 30 to 60 minutes/session T: Walking, strength, balance aerobic exercises, functional skills Total duration: 12 weeks to 2 years Control conditions: UC, No-Ex	5/16 Meta-analysis 2 MWT, 6 MWT, 2-min step test Downs and Black checklist and Sackett et al checklist.

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Bouaziz 2015	To assess the health benefits of endurance training alone or combined with diet for obese people aged over 60. Cardiorespiratory fitness is a primary outcome.	n=8 1995-2014	Obese older adults n=832 Mean age range 61 to 76.2	F: 3 to 7 sessions/week I: 40 to 85% HRR, 50 to 75% VO2max, 60 to 85% HRmax T: 12 to 90 minutes/session T: Cycling on ergometer, walking, treadmill walking Total duration: 12 to 36 weeks Control conditions: UC, No-Ex, AT	26/26 Narrative VO2max (23 studies) Not reported
Bouaziz 2016	To assess the potential health benefits of multicomponent training for adults aged 65 years or over. Cardiorespiratory fitness is a primary outcome.	n=8 2000-2015	Older adults n=NOT REPORTED Mean age range 70 to 83	F: 3 sessions/week I: - T: 90 minutes/session T: Combination of endurance, strength, balance and flexibility training (2 non-RCTs) or combination of endurance, strength, balance, flexibility and coordination training (1 RCT) Total duration: 10 to 36 weeks Control conditions: NOT REPORTED	3/27 Narrative synthesis VO2peak Not specified
Bouaziz 2018	To estimate to what extent the exact benefits of aerobic training are in terms of VO2peak among healthy and unhealthy seniors aged 70 years or older. Cardiorespiratory fitness is a primary outcome.	n=6 1989 -2013	Older adults, both healthy and with chronic health conditions n=348 Mean age range 70 to 79	F: 3 to 4 sessions/week I: 50% to 85% of VO2peak, 40 to 80% of HRR, 50% to 95% of HRmax T: 15 to 60 minutes/session T: Walking, cycling on ergometer, treadmill walking and walking/running on a mini-trampoline Total duration: 12 to 26 weeks Control conditions: UC, Not-AT	10/10 Meta-analysis VO2peak Cochrane Collaboration risk of bias assessment

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Bruns 2016	To assess the effects of prehabilitation in patients aged over 60 years undergoing colorectal surgery. Cardiorespiratory fitness is a secondary outcome.	n=4 2010-2015	Patients undergoing elective colorectal surgery n=353 Mean age range 60 to 72	F: 3 to 7 sessions/week I: 40 to 80% peak HR T: 20 to 30 minutes/session T: Cardiopulmonary aerobic exercise Total duration: 24 to 38 days Control conditions: UC, No-Ex, Not-AT	5/5 Narrative VO2 at VT, 6MWT Cochrane risk of bias tool
Bueno de Souza 2018	To examine evidence from RCTs to determine the effects of mat Pilates on measures of physical functional performance in the older persons. Cardiorespiratory fitness is a primary outcome.	n=5 2011-2017	Healthy older adults in various settings n=156 Mean age 65.8	F: 2 to 3 sessions/week I: - T: 60 minutes/sessions T: Pilates Total duration: 8 to 24 weeks Control conditions: No-Ex	3/9 Meta-analysis 6MWT, VO2max PEDro score
Bullo 2018	To summarize and analyse the effectiveness of Nordic walking interventions on the physical fitness, the body composition, and the quality of life in the elderly population. Cardiorespiratory fitness is a primary outcome.	n=6 2013-2017	Older adults with various health conditions n=536 Mean age 60 to 92	F: 2 to 3 sessions/week I: 60 to 70% max ability, progressive intensity up to 12 to 14 RPE, 50 to 60% HRmax, moderate intensity (12 to 14 RPE), moderate to high intensity (HR 100 to 120 bpm), comfortable pace T: 20 to 80 minutes/session T: Nordic walking Total duration: 6 to 35 weeks Control conditions: No-Ex	9/15 Meta-analysis 6 MWT, 12 MWT, 5mWT, 2minST , VO2max Cochrane Collaboration Back review Group.

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Cugusi 2017	To appraise the available evidence on the health effects and clinical relevance of Nordic walking in individuals with established cardiovascular diseases and, to determine a precise estimate of Nordic walking-induced changes on outcomes in individuals diagnosed with cardiovascular diseases. Cardiorespiratory fitness is a primary outcome.	n=5 2002-2016	Older adults with various cardiovascular diseases: coronary artery disease, peripheral arterial disease, hart failure, post stroke survivors. n=766 Age range 40-80	F: 2 to 5 sessions/week I: - T: 30 to 60 minutes/session or 2.5 to 3km T: Nordic walking Total duration: 3 to 24 weeks Control conditions: UC, No-Ex, AT	15/15 Meta-analysis 6 MWT, VO2peak PEDro score
Dale 2015	To assess the effects of exercise training on exercise capacity, health-related quality of life and levels of physical activity in people with non-malignant dust-related respiratory diseases compared with control, placebo or another non-exercise intervention. Cardiorespiratory fitness is a primary outcome.	n=7 2008-2014	Older adults with non-malignant dust-related respiratory diseases n=39 Mean age range 67 to 72	F: 2 to 3 sessions/week I: 80% of walking speed on initial 6MWT and progressed weekly, initial intensity of 60% peak work at baseline incremental cycle test and progressed weekly T: 15 to 30 minutes/session T: Cycling, walking Total duration: 8 weeks Control conditions: No-Ex	2/2 Meta-analysis 6 MWT, peak work rate. Cochrane Risk of Bias and GRADE.
Doyle 2019	To assess the clinical outcomes of aerobic exercise commenced within two weeks of cardiac surgery. Cardiorespiratory fitness is a primary outcome.	n=5 1984-2016	Older adults undergoing cardiac surgery n=2175 Mean age 66	F: 1 to 14 sessions/week I: 3 to 7 RPE (10pt scale), 10 to 13 RPE, 65 to 75% max HR, anaerobic threshold T: 3 to 60 minutes/session T: Walking, stationary cycling or both Total duration: length of hospital stay to 6 months Control conditions: UC	18/18 Meta-analysis 6MWT, VO2peak Not reported

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Fukuta 2016	To determine the effects of cardiovascular drug or exercise intervention on exercise capacity and quality of life in patients with heart failure with preserved ejection fraction. Cardiorespiratory fitness is a primary outcome.	n=2 2003-2013	Older adults with heart failure with preserved of >40% ejection fraction. n=245 Mean age 67.6	F: 2 to 3 sessions/week I: - T: 20 to 60 minutes/session T: Walking, walking and cycling, cycling and cycling and resistance training Total duration: 12 to 24 weeks Control conditions: UC, No-Ex	5/13 Meta-analysis, 6 MWD, VO2peak Not reported
Gardner 2014	To provide a comprehensive and up-to-date summary of the effects of exercise on treatment-related adverse effects for patients with prostate cancer receiving androgen-deprivation therapy. Cardiorespiratory fitness is a primary outcome.	n=6 2003-2012	Older adults with prostate cancer n=565 Mean age range 63 to 72	F: 1 to 5 sessions/week I: 55% to 85% HRmax, 11 to 15 RPE, 50% to 75% peak oxygen uptake T: 15 to 60 minutes/session T: Walking, aerobic exercises Total duration: 12-24 weeks Control conditions: NOT REPORTED	10/10 Narrative synthesis 6MWT, 400m walk, time to reach RPE15 in treadmill protocol. Downs and Black checklist.
Golledge 2019	To summarize evidence from randomized controlled trials of the efficacy of structured home exercise programmes, in comparison to controls not receiving an exercise programme, in improving walking performance and objectively measured physical activity in patients with peripheral artery disease Cardiorespiratory fitness is a secondary outcome.	n=5 1966-2018	Older adults with peripheral arterial disease n=524 Mean age range 57 to 70	F: 3 to 5 sessions/week I: until severe leg discomfort experienced, a speed that evokes strong claudication pain, severe discomfort (12–14 on Borg rating), a brisk pace that elicits pain within 3–5minutes T: 10 to 50 minutes/session T: Walking Total duration: 6 to 36 weeks Control conditions: No-Ex	11/11 Meta-analysis 6 MWT Cochrane collaboration tool for assessing risk of bias

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Gomes-Neto 2019	To determine the effects of whole-body vibration training on metabolic abnormalities, mobility, balance and aerobic capacity in older adult patients with type 2 diabetes and to provide information concerning the vibration exercise regimens that may be most suitable for improving health in this population. Cardiorespiratory fitness is a primary outcome.	n=5 2011-2017	Patients with type 2 diabetes n=59 Age range 45 to 80	F: 3 sessions/week I: - T: 12 to 24 minutes/session T: Whole to body vibration training alone or in combination with exercises on the spot Total duration: 8 to 12 weeks Control conditions: NOT REPORTED	2/7 Meta-analysis 6 MWT PEDro score
Halloway 2015	To examine the effect of prehabilitation randomized clinical trial interventions on physical activity behaviour and dimensions of physical fitness in older adults. Cardiorespiratory fitness is a primary outcome.	n=5 1996-2014	Frail older adults scheduled for total hip arthroplasty n=30 Mean age range 67	F: 2 to 4 sessions/week I: - T: 30 minutes/session T: Walking, individual exercises Total duration: 3 to 6 weeks Control conditions: UC	1/7 Meta-analysis 6 MWT Not reported
Hernandez 2015	To identify and characterize the scientific literature regarding the effects of exercise on Alzheimer's Disease. Cardiorespiratory fitness is a secondary outcome.	n=5 2003-2013	Patients with Alzheimer's disease n=131 Age not reported, but likely>65	F: 3 to 5 sessions/week I: moderate to intensive (subjective inability to speak a sentence) T: 15 to 45 minutes/session T: Walking, multimodal exercise, cycling Total duration: 2 to 6 months Control conditions: No-Ex, No control	5/14 Narrative synthesis 6 MWT, SWT, VO2 Own criteria

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Heyn 2008	To compare endurance and strength outcomes of cognitively impaired and cognitively intact older adults who participate in similar randomized exercise trials, and to provide a quantitative answer concerning the relative benefits of exercise for impaired and non-impaired elderly. Cardiorespiratory fitness is a primary outcome.	n=13 1974-2004	Older adults with and without cognitive impairment n=1057 Mean age range 74 to 91	F: 2 to 5 sessions/week I: - T: 30 to 90 minutes/session T: Aerobic training, variable-intensity group exercise program, multicomponent functional fitness training, endurance exercises Total duration: 2 to 40 weeks Control conditions: No-Ex	15/41 Meta-analysis 1 mile walk, 6MWT, 2 MWT, max Walking Time, 6 min aerobics, Walking endurance. UTMB/TLC Interventions Trial Quality Form
Howes 2017	To update and extend the available evidence for the physical and cognitive effects of active computer gaming in older adults. Cardiorespiratory fitness is a primary outcome.	n=4 2003-2015	Healthy and frail older adults n=427 Mean age range 71 to 85	F: 1-4 sessions/week I: - T: 45 to 90 minutes/session T: Active computer gaming Total duration: 4 weeks to 6 months Control conditions: No-Ex, Not-AT, AT	8/25 Meta-analysis 6 MWT Cochrane Risk of Bias and GRADE.
Huang 2002	To determine the effects of controlled endurance or aerobic exercise training on physiological changes in cardiovascular function and pulmonary function among older adults aged 60 years and over. Cardiorespiratory fitness is a primary outcome.	n=4 1983-2001	Sedentary healthy older adults n=2102 Mean age range 67 to 67	F: 1 to 5.2 sessions/week I: 60 to 85% HRmax, 52 to 82% VO2max, 35 to 80% HRR, 100.4 to 129 bpm as absolute number of HRmax T: 18,7 to 60 minutes/session T: Walking, jogging, cycling, aerobic dance and aerobic games Total duration: 8 to 52 weeks Control conditions: UC	41/41 Meta-analysis VO2max Not reported

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Huang 2005	To determine the effects and direction of endurance training programs on VO2max in sedentary older adults, to quantify the magnitude of observed changes, and to examine the influence of certain variables, such as study design, individual physical characteristics, and characteristics of training programs on the changes. Cardiorespiratory fitness is a primary outcome.	n=6 1983-2000	Sedentary healthy older adults n=2102 Mean age range 67 to 68	F: 1 to 4.9 sessions/week I: 60% to 85% HRmax, 50% to 82% VO2max, 35% to 80% HRR, 107 to 129 bpm HRmax T: 20 to 60 minutes/session T: Walking, jogging, cycling, stair to climbing, aerobic dance, tai chi chuan, outdoor performance or aerobic games Total duration: 8 to 52 weeks (22.7±12.1 weeks) Control conditions: UC	41/41 Meta-analysis VO2max Jadad scale
Huang 2016	To qualify the dose–response relationship between different training regimens and the induced VO2max improvements. Cardiorespiratory fitness is a primary outcome.	n=not reported, hand searching 1983-2000	Sedentary healthy older adults n=2102 Mean age range 67 to 69	F: 2.9 to 4.9 sessions/week I: exercise intensity varied and was expressed as percent maximum heart rate (% HRmax), percent VO2max reserve (%VO2R) % VO2max, % VO2R, % HRR, or HRmax T: 20 to 60 minutes/session T: Walking, jogging, running, cycling, stair climbing, aerobic dancing, outdoor aerobic performance, and aerobic games Total duration: 8 to 52 weeks Control conditions: UC	41/41 Meta-analysis VO2max Instrument not reported

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Hurst 2019	To systematically review and meta-analyse the effects of same session combined exercise training on measures of fitness in adults aged over 50 years, while also exploring the modifying effects of study and subject characteristics. Cardiorespiratory fitness is a primary outcome.	n=5 1991-2018	Healthy community-dwelling older adults n=1131 Mean age 70.1	F: 2 to 3 sessions/week I: 50 to 75% HRmax, 60 to 80% HRR, 80% HRVT2 or RPE 12 to 14 T: 30 to 90 minutes/session T: Combined (strength and endurance) training and endurance training ((Treadmill) walking, running, cycling, cross-trainer, stationary cycling, dance) Total duration: 6 to 52 weeks Control conditions: UC, AT, RT	24/27 Meta-analysis VO2peak, 6MWT Cochrane Collaboration's tool for assessing risk of bias
Hwang 2015	To examine the effectiveness of dance programs in improving the physical health of all older adults, both those with health conditions and those considered healthy. Cardiorespiratory fitness is a primary outcome.	n=1 2004-2013	n=97 Mean age range 52	F: 2 sessions/week I: - T: 50 minutes/session T: Dance Total duration: 12 weeks Control conditions: UC	1/18 Narrative analysis VO2max Criteria provided by Sackett and Megens and Harris
Kanach 2018	To examine the effects of structured exercise (defined as aerobic walking, with or without complementary modes of exercise) on performance measures, mobility, functional status, healthcare utilization and Quality of Life, in older adults hospitalized for acute medical illness. Cardiorespiratory fitness is a primary outcome.	n=3 2000-2014	Older adults who were hospitalized for an acute medical episode: chronic respiratory disease, COPD, diabetes mellitus. n=556 Mean age range 60 to 78	F: 5 to 35 sessions/week I: 125% of best 6 MWD, 85% predicted VO2max T: 10 to 60 minutes/session T: Aerobic walking, combined training with aerobic component Total duration: hospital length of stay to 18 months Control conditions: UC, No-Ex	4/11 Narrative analysis VO2max, 6 MWD, endurance shuttle walk Cochrane Risk of Bias assessment

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Keogh 2012	To systematically review the literature for the chronic benefits of exercise in reducing symptoms and improving quality of life in prostate cancer patients. Cardiorespiratory fitness is a primary outcome.	n=3 2003-2010	Patient with prostate cancer n=289 Mean age range 66 to 72	F: 2 to 7 sessions/week I: - T: - T: Aerobics training or aerobics training combined with either strength or eccentric training Total duration: 8 to 26 weeks Control conditions: NOT REPORTED	12/12 Narrative analysis 400 m walk, 6 MWT, SWT, METS, VO2max An adaptation of Sackett reported by Megens and Harris.
Kuijlaars 2019	To systematically review RCTs on the short- (4mo) and long-term (>4mo) effectiveness after hospitalization on body functions, activities, and participation (conform the ICF) of supervised home-based exercise therapy in older patients (65y) after hip fracture compared with a control intervention (including usual care). Cardiorespiratory fitness is a secondary outcome.	n=3 1997-2014	Older adults after hip fracture n=67 Mean age 79.3	F: 1 to 2 sessions/week I: 65 to 75% predicted HRmax T: 30 to 40 minutes/session T: Walking and stair walking Total duration: 3 months Control conditions: No-Ex	2/9 Meta-analysis 6MWT PEDro scale.
Lam 2018	To examine the effects and characteristics of physical exercise training on physical function and quality of life in people with cognitive impairment and dementia and to examine the effect of subject characteristics on training efficacy. Cardiorespiratory fitness is a secondary outcome.	n=5 1994-2016	Older adults with cognitive impairment dementia n=402 Mean age 82.0	F: 2 to 4 sessions/week I: 30 to 60% VO2max,62 or 40% of heart rate reserve that gradually progressed to 85% T: 30 to 90 minutes/session T: Aerobic training, walking exercise, or multimodal exercise Total duration: 9 weeks to 12 months Control conditions: UC, No-Ex	7/43 Meta-analysis 6MWT PEDro scale.

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Lee 2017	To systematically review the effects of Pulmonary Rehabilitation or Exercise Training in non-Cystic Fibrosis bronchiectasis on (1) measures of exercise capacity and muscle strength; (2) health related quality of life; (3) symptoms; and (4) frequency of exacerbations and mortality. Cardiorespiratory fitness is a primary outcome.	n=6 2005-2014	Older adults with non-cystic fibrosis bronchiectasis n=164 Mean age range 57.3 to 71.2	F: 2 to 7 sessions/week I: 80% peak HR achieved on initial incremental exercise test, 75 to 85% of VO2max, 60% max of 6MWT T: 30 to 45 minutes/session T: (Treadmill) walking, cycling, stair climbing, ski machine Total duration: 8 weeks Control conditions: Not-AT, Ex-Adv	4/4 Meta-analysis 6MWD, SWT, endurance exercise capacity (set at 85% VO2peak uptake of maximal incremental treadmill test) Cochrane Risk of Bias.
Leggio 2019	To analyse the effects of the exercise training on cardiovascular outcomes in patients with heart failure with preserved ejection fraction Cardiorespiratory fitness is a secondary outcome.	n=8 2010-2017	Older adults with heart failure with preserved ejection fraction. n=348 Mean age range 61.9 to 70.1	F: 2-3 sessions/week I: - T: 20-40 to 60 minutes T: Aerobic exercise training, walking, and treadmill and bicycle ergometer Total duration: 4 to 16 weeks Control conditions: No-Ex	9/9 Narrative analysis VO2peak, 6 MWD. Downs and Black Quality Index.
Li 2019	To explore the comprehensive effect of resistance training on the various types of exercise capacities of COPD patients. Cardiorespiratory fitness is a secondary outcome.	n=5 2004-2018	Older adults with moderate to severe COPD n=405 Mean age range 58.3 to 70.3	F: 3-5 sessions/week I: 40-80% of 1RM T: 40 minutes/session T: resistance training Total duration: 6-12 weeks Control conditions: No-Ex, Not-AT	11/11 Meta-analysis 6MWD, 6min-peg-and-ring test, constant work rate, UULEX, CPET. PEDro scale.

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Liao 2015	To investigate the effects of resistance training alone or combined with endurance training on clinically relevant rehabilitation outcomes in advanced COPD, Cardiorespiratory fitness is a primary outcome.	n=7 1992-2014	Older adults with moderate to severe COPD n=333 Mean age range 67,7	F: 2 to 3 sessions/week I: 60% work rate, 1 level below the maximum level achieved on the unsupported arm test, intensity increased according to breathlessness and perceived arm exertion, 50% maximum work capacity, 3 metabolic equivalents, 60% peak VO2 T: 20 to 60 minutes/session T: Treadmill walking, cycle ergometer, arm cranking Total duration: 8 to 12 weeks Control conditions: No-Ex, AT	10/18 Meta-analysis 6MWD, 6min peg-and-ring test, max workload, VO2max. Modified Jadad scale.
Paneroni 2017	To evaluate, in patients with very severe but stable COPD, the effectiveness of exercise training defined as a change in functional capacity and health related quality of life. Cardiorespiratory fitness is a primary outcome.	n=4 1999-2014	Older adults with severe COPD n=396 Mean age 65.6 for all 10 studies	F: 1 to 5 sessions/week I: high intensity ranging from 70% to 90% of the maximum load or velocity reached during incremental tests in three studies T: 15 to 30 minutes/session T: Cycling, (treadmill) walking or a combination Total duration: 4 to 52 weeks Control conditions: UC, No-Ex	8/10 Meta-analysis 6MWT Cochrane collaboration tool modified by the Jadad Scale score.

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Parmenter 2013	To identify whether any mode of structured exercise improves physical fitness, or performance-based tests of function, and to identify if improvements in physical fitness measures. Cardiorespiratory fitness is a primary outcome.	n=9 1974-2011	Older adults with intermittent claudication n=924 Mean age range 59 to 76	F: 2 to 5 sessions/week I: intensity focussed on moderate to maximum pain or 60 to 90% VO2peak T: 16 to 60 minutes/session T: (Treadmill) walking, lower limb aerobics, pole striding, arm cranking Total duration: 6 to 76 weeks Control conditions: UC, No-Ex, Ex-Adv	24/24 Narrative analysis 6MW-ICD, 6MW-TWD, SWT-ICD, SWT-TWD,VO2peak. Modified PEDro scale
Patel 2012	To review systematically the comparative effectiveness of yoga, compared with other exercise interventions, for older adults as shown on measures of health and physical functioning. Cardiorespiratory fitness is a primary outcome.	n=5 1989-2009	Healthy older adults in various settings n=265 Mean age range 67 to 72	F: 1 (+home exercise) to 2 sessions/week I: - T: 60 to 90 minutes/session T: (Supervised) aerobic exercise, resistance training Total duration: 16 to 26 weeks Control conditions: UC, AT	4/11 Meta-analysis VO2max 10-item quality checklist by Chalmers et al.
Pengelly 2019	To identify exercise parameters and outcome measures used in cardiac rehabilitation programs following median sternotomy, in the elderly cardiac population. Cardiorespiratory fitness is a secondary outcome.	n=5 1997-2015	Older patients after coronary artery bypass graft, valve surgery or both. n=246 Mean age range 73 to 87	F: 5 to 7 sessions/week I: 60% 1RM (1 set 8-12 repetitions) , RPE 13/20, starting at 50% max power output T: 60-90 minutes/session T: aerobic strength and balance exercises, calisthenics Total duration: 3 to 4 weeks Control conditions: UC	9/11 Meta-analysis 6MWT, max. power output, VO2peak. Downs & Black tool.

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Puhan 2016	To assess effects of pulmonary rehabilitation after COPD exacerbations on hospital admissions (primary outcome) and other patient-important outcomes (mortality, health related quality of life and exercise capacity). Cardiorespiratory fitness is a secondary outcome.	n=6 1998-2016	Older adults with COPD after acute exacerbation n=1368 Mean age range 58 to 78	F: 2 to 35 sessions/week I: - T: 10 to 120 minutes/session T: Supervised and unsupervised inpatient and/or outpatient pulmonary rehabilitation (treadmill walking, walking, cycling, stair climbing, aerobic activities, endurance training) Total duration: 4 days to 6 months Control conditions: UC, No-Ex	18/22 Meta-analysis 6MWT, SWT, 3MWT. Cochrane Risk of Bias.
Rezende Barbosa 2018	To gather information in the literature regarding the influence of functional training on cardiorespiratory parameters. Cardiorespiratory fitness is a primary outcome.	n=5 2002-2016	Community living older adults n=227 Mean age range 69 to 83	F: - I: 65-70%VO2peak (15 min) T: 10 to 60 minutes/session T: Multimodal exercise programmes Total duration: 12 weeks to 11 months Control conditions: UC, AT	3/5 Meta-analysis VO2peak PEDro scale and GRADE.
Ribeiro 2017	To summarise the evidence on the impact of a cardiac rehabilitation program on functional capacity, exercise tolerance and health-related quality of life in aortic stenonis patients after intervention either by sAVR or TAVI. Cardiorespiratory fitness is a primary outcome.	n=7 2014-2015	Older adults after heart surgery (sAVr or TAVI). n=1797 Mean age range 68 to 86	F: 1 to 18 sessions/week I: intensity low to medium, 70% of HRmax predict or 14 RPE on Borg- scale T: 30 minutes/session T: Aerobic exercise, cycling or cycle ergometer, treadmill or outdoor walking, (group) gymnastics Total duration: 2 to 3 weeks Control conditions: No controls	5/5 Meta-analysis 6MWD PEDro scale.

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SUPPLEMENTARY FILE C: CHARACTERISTICS OF ALL INCLUDED REVIEWS

Article author year	Objective	No. of databases/ sources searched Date range of included studies	Participants	Intervention of interest Control Conditions	No. of included studies/total no. of studies in the review Method of analysis Outcome measure(s) Appraisal instrument
Rodrigues-Krause 2016	To verify the level of evidence regarding the adaptations of dance interventions on cardiovascular risk factors in older adults. The primary outcome was cardiorespiratory fitness.. Cardiorespiratory fitness is a primary outcome.	n=4 1990-2015	Older adults with various health conditions n=237 Mean age range 59 to 70	F: 1 to 3 sessions/week I: 70% VO2peak, 100-120 bpm, 13-14RPE T: 40 to 60 minutes/session T: Dance, aerobic training (cycle ergometer, treadmill or both) Total duration: 8 to 24 weeks Control conditions: No-Ex, AT, combi AT Not-AT	4/7 Meta-analysis VO2peak Downs & Black criteria.
Rodrigues-Krause 2019	To review the literature on the use of dance as a form of intervention to promote functional and metabolic health in older adults. Cardiorespiratory fitness is a primary outcome.	n=4 1984-2016	Older adults with various health conditions n=893 Age range 59 to 94	F: 1 to 3 sessions/week I: 50 to 75% VO2peak, 11 to 14 Borg scale (specifications unclear), 50 to 70% HRmax, 50 to 120 bpm music (salsa goes up to 180 bpm), 50 to 70% HRR, 4.0 to 7.5 METs/hour or low to moderate intensity (unspecified) T: 30 to 90 minutes/session T: Dance (folk dance, aerobic dance, Argentine tango, waltz, foxtrot). Aerobic training (cycle ergometer, treadmill or both). Total duration: 6 to 104 weeks Control conditions: No-Ex, AT, combi AT Not-AT	12/49 Narrative analysis VO2max, 6MWT, half mile walking test, 2minST. Own criteria

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Article author year	Objective	No. of databases/ sources searched Date range of included studies	Participants	Intervention of interest Control Conditions	No. of included studies/total no. of studies in the review Method of analysis Outcome measure(s) Appraisal instrument
Rosero 2019	To assess the different modalities or combinations of preoperative physical exercise interventions on the outcomes of functional capacity, mental wellness, and medical care in patients with non-small-cell lung cancer after surgery. Cardiorespiratory fitness is a secondary outcome.	n=6 2011-2017	Hospital patients with non-small-cell lung cancer. n=648 Mean age 65	F: 3 to 14 sessions/week I: 60 to 80% peak work capacity T: 20 to 60 minutes/session T: Aerobic training, multicomponent training (aerobic exercise combined with IMT and/or strength training) Total duration: 1 to 4 weeks Control conditions: NOT REPORTED	9/10 Meta-analysis 6MWD, VO2peak PEDro scale.
Rydwik 2004	To describe the effect of physical training on physical performance in institutionalised multiple diagnoses older adults. Cardiorespiratory fitness is a primary outcome.	n=5 1989-2000	Institutionalised multiple diagnoses older adults n=554 Mean age range 84.6	F: 2 to 3 sessions/week I: 50 to 65% progressively, >70% or 80% (units of measurement unclear) T: 2 to 20 minutes/session T: Aerobic training Total duration: 9 to 52 weeks Control conditions: NOT REPORTED	4/16 Narrative analysis VO2max, heart rate, walking/wheelchair endurance (average speed). Modified SBU form.
Ryrso 2018	To investigate the effect of a supervised early pulmonary rehabilitation program, initiated during or within 4 weeks, in patients hospitalized with a COPD exacerbation compared with usual care. Cardiorespiratory fitness is a secondary outcome.	n=10 1998-2018	Older adults with COPD after acute exacerbation n=723 Mean age range 59 to 75	F: 2 to 7 sessions/week I: 60 to 80% of max work load , >75% of max walking distance, 60-70% VO2max or HRmax, Borg breathlessness score 3-4 T: 30 to 40 minutes/session T: (Treadmill) walking, cycling and/or tailored aerobic activities/exercise (supervised and unsupervised) Total duration: 10 days to 6 months Control conditions: UC, No-Ex	11/13 Meta-analysis 6MWT, SWT. Cochrane Risk of Bias and Grade criteria.

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Article author year	**Objective**	**No. of databases/ sources searched Date range of included studies**	**Participants**	**Intervention of interest Control Conditions**	**No. of included studies/total no. of studies in the review Method of analysis Outcome measure(s) Appraisal instrument**
Scheerman 2018	To identify the effect of physical interventions on physical performance and physical activity in older patients during hospitalization. Additionally, we aimed to compare the effect of patient tailored physical interventions e.g. continuously adapted to the capabilities of the patient to the effect of non-patient tailored interventions. Cardiorespiratory fitness is a primary outcome.	n=5 2006-2017	Older adults hospitalized with various diagnoses n=260 Mean age 79.2	F: 3 to 18 sessions/week I: - T: 1 to 45 minutes/session T: tai chi principles, muscle strengthening exercises, electrical stimulation, walking (backward and forward). Total duration: 1 to 6 weeks Control conditions: UC	3/15 Narrative analysis 6 MWT. PEDro scale.
Slimani 2018	To establish the effects of physical training on quality of life, aerobic capacity, and left ventricular ejection fraction in older heart failure patients, and to quantify dose-response relationships according to training modalities and program variables. Cardiorespiratory fitness is a primary outcome.	n=3 1999-2017	Older adults with heart failure n=2624 Age not reported (inclusion criteria 50+ for African population and 65+ for populations from developed countries)	F: 1 to 13 sessions/week I: - T: 25 to 60 minutes/session T: Aerobic training, resistance training or a combination of both Total duration: 6 to 54 weeks Control conditions:	11/25 Meta-analysis 6MWT Not reported

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Article author year	**Objective**	**No. of databases/ sources searched Date range of included studies**	**Participants**	**Intervention of interest Control Conditions**	**No. of included studies/total no. of studies in the review Method of analysis Outcome measure(s) Appraisal instrument**
Vieira 2010	To assess the benefits of home-based pulmonary rehabilitation in patients with COPD for exercise capacity, and to assess the risks of home-based pulmonary rehabilitation and whether findings are consistent across populations of COPD, supervision and exercise training program variation. Cardiorespiratory fitness is a primary outcome.	n=4 1977-2007	Older adults with severe COPD n=728 Mean age range 38 to 78 N 728 -% men	F: 4 to 14 sessions/week I: 70% max SWT T: 15 to 45 minutes/session T: Walking, stair climbing, cycling or a combination Total duration: 3 to 52 weeks Control conditions: UC	12/12 Narrative analysis 4-min, 6-min or 12-min walk test, the shuttle walk test, work rate, VO2max. The PEDro scale
Wee 2018	To assess the impact of preoperative exercise in abdominal aortic aneurysm patients, including those who are not indicated for surgery. Cardiorespiratory fitness is a primary outcome.	n=3 2008-2017	Patients with abdominal aortic aneurysm. n=227 Mean age range 69 to 73	F: 2 to 3 sessions/week I: moderate to high T: 22 to 45 minutes/session T: continuous exercise, high intensity training Total duration: 4 to 12 weeks Control conditions: UC, Ex-Adv	4/4 Narrative analysis VO2peak, aerobic threshold, ventilatory threshold PEDro scale.

Appendix 2: Characteristics of all included reviews

n=number; *sAVR*: surgical aortic valve replacement; *TAVI*: trans catheter aortic valve implantation; *COPD*: chronic obstructive pulmonary disease

Intervention of interest and control conditions:
FITT-characteristics: Frequency, Intensity, Time per session, Type of exercise
HR: heart rate; *HRmax*: maximum heart rate; *HRR*: heart rate reserve; *HRVT2*: heart rate at the second ventilatory threshold; *VT*: ventilatory threshold;; *VO2max* / *VO2peak*: maximum oxygen consumption; *VO2R*: maximum oxygen consumption reserve; *RPE*: rate of perceived exertion; *bpm*: beats per minute; *MET*: metabolic equivalent;

SUPPLEMENTARY FILE C: CHARACTERISTICS OF ALL INCLUDED REVIEWS

AT: aerobic fitness training; *No-Ex*: intervention other than exercise, e.g. wait list, social acitivity, education, stress management, mental training, nutritional advise, breathing exercise; *UC*: no intervention, e.g. usual care, usual daily activities, usual exercise program, waiting list; *Not-AT*: exercise intervention other than aerobic training, e.g. stretching and toning, yoga, balance training, resistance training; *Ex-Adv*: Exercise advise.

Outcome measures
2minST: 2 minute step test; *3MWT*: 3 minute walking test; *5mWT*: 5 meter walking test; *6MWT*: 6 minute walking test; *6MWD*: 6 minute walking distance; *12MWT*: 12 minute walking test; *CPET*: cardio pulmonary exercise test; *ICD*: initial claudication distance; *SWT*: shuttle walk test; *TWD*: total walking distance; *UULEX*: Unsupported Upper Limb Exercise.

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