

Literature Citation	Subjects/Groups	Exercise training program			Results	
		Mode	Length	Intensity/Frequency/Duration/Volume	Δ BW (kg) \pm SD	Other
Baillet <i>et al.</i> , 2016 ⁶⁶	<i>n</i> = 15 (EX), <i>n</i> = 14 (CON)	Endurance and circuit style with 9stations	12 wk	3/wk, 80 mins - 10WU, 50-60MB (30mins endurance, including treadmill, elliptical, arm ergo cycle, 20-30mins strength), 10CD. Endurance at 55-85% HRR	EX -0.92 (3.55), CON -0.3 (4.72)	Pre-Surgical Exercise Training (PreSET) intervention also improved social interaction and PA barriers
Burtscher <i>et al.</i> , 2009 ⁶⁴	<i>n</i> = 18 (EX), <i>n</i> = 18 (CON)	Aerobic training, circuit training	12 months	2/wk, 60mins, aerobic exercise (dancing, walking, running, skating, swimming) eliciting lactate response of 2-3mmol/L, interspersed with higher intensity efforts. Circuits included 6-8 exercises, 8-12 reps. All participants also advised to exercise for 30mins/day	EX -2.58 (4.12), CON 0.79 (4.93)	Counselling & supervised exercise maintained exercise capacity vs counselling alone. In EX, dietary goals (<BW by 5%) not achieved
Church <i>et al.</i> , 2009 ⁵⁶	<i>n</i> = 317 (EX), <i>n</i> = 94 (CON)	Aerobic training alternating treadmill and cycle ergometer	26 wk	3-4/wk, CON + 3 EX groups – 4, 8, 12 Kcal/kg BW, 50% VO ₂ alternating between semi-recumbent cycling and treadmills.	EX - 4 Kcal -1.4 (3.6), 8Kcal -2.1 (3.5), 12 Kcal -1.5 (3.4) Combined intervention -1.62 (3.5), CON -0.9 (3.37)	No difference between predicted and actual weight loss at 4 & 8 Kcal/kg, 12 Kcal/kg lost only half predicted amount
Dalager <i>et al.</i> , 2016 ⁶⁷	<i>n</i> = 89 (EX), <i>n</i> = 195 (CON)	Aerobic and resistance training	1 yr	1/wk, 20 mins aerobic exercise (running, rowing, ball games) 77-95% HR _{max} , 30 mins resistance training 60-80% 1RM for three sets of 8 reps, recommendations to undertake 30mins exercise/day at 64-76% HR _{max}	EX -0.49 (3.32), CON 0.08 (2.97)	5% (ITT) and 10% (PPA) > Δ VO ₂ max in EX than INT, 2.8% ∇ in SBP
Donges <i>et al.</i> , 2010 ⁶²	<i>n</i> = 76 (EX), <i>n</i> = 26 (CON)	Aerobic and resistance training	10 wk	RT 30-50 mins, 2-4 sets of 8-10 reps @ 70-75% of 10RM, AT 30-50 mins cycle ergometer 70-75% MHR	RT 0.8 (1.5), AT - 0.8 (1.9), Combined – -0.06 (1.89) CON 0.6 (1.3)	AT > Δ in body composition than RT & CON. CRP reduced in RT, IL6 unchanged in all groups
Donnelly <i>et al.</i> , 2013 ⁵⁸	<i>n</i> = 74 (EX), <i>n</i> = 18 (CON)	Aerobic training	10 months	5/wk, aerobic exercise – walking/jogging on treadmill (20% of sessions were undertaken on alternative activities such as stationary cycling, elliptical or walking/jogging	400 Kcal -3.9 (4.9), 600 Kcal - 5.2 (5.6), Combined EX -	No significant difference between exercise intervention, suggested some compensatory mechanisms, or when stratified by gender

				outside), expending 400 & 600 Kcal/session	4.55 (5.27), CON 0.5 (3.5)	
Lockwood <i>et al.</i> , 2008 ⁶³	<i>n</i> = 14 (EX), <i>n</i> = 10 (CON)	Aerobic and resistance training	10 weeks	AT 3/wk, self-selected exercise 15-35 mins @ 40-70% HRR, RT 2/wk, 1 set of 8-12 reps (or to failure)	EX -0.3 (1.87), CON -0.3 (1.58)	Individual variation in <i>ad libitum</i> EI reported to be linked with compensatory EI in EX
Prabhakaran <i>et al.</i> , 1999 ⁵⁹	<i>n</i> = 12 (EX), <i>n</i> = 12 (CON)	Resistance Training	14 wk	3/wk, 45-50 mins/session, 85% 1RM, loading major muscle groups, 2 sets of 8 reps plus 1 set to failure, 30-60 seconds rest	EX -0.7 (1.35), CON 0.49 (2.01)	Reduction in lipids and body fat % in EX
Schmitz <i>et al.</i> , 2002 ⁶⁰	<i>n</i> = 27 (EX), <i>n</i> = 27 (CON)	Resistance training	15 wk	2/wk, 50 mins, 3 sets of 8-10 reps, 9 exercises	EX 0.54 (1.87), CON 0.49 (1.82)	Strength training produced favourable Δ in fasting glucose, insulin and cancer risk factors
Tan <i>et al.</i> , 2012 ⁵⁷	<i>n</i> = 29 (EX), <i>n</i> = 19 (CON)	Track running	8 wk	5/wk, 40 mins of running at individualized Fat _{max} HR on outdoor track	EX -4.1 (1.6), CON 0.3 (1.2)	Fat _{max} also decreased fat mass, waist-hip ratio (both possibly related to change in fat oxidation rates), fasting plasma concentration (increased use of fat as fuel) and increased VO _{2max}
Teixeira <i>et al.</i> , 2003 ⁶¹	<i>n</i> = 117 (EX), <i>n</i> = 116 (CON)	RT, circuit and weight bearing aerobic exercise	12 months	3/wk, RT 6-70 mins, 2 sets of 6-8 reps at 70-80% 1RM, AT included walking, jogging, skipping, hopping, 10 mins as WU, then 20-25 mins @ 60% HR _{max}	EX (with HRT/without HRT) -0.2 (2.6)/0.34 (2.5) combined SD 2.55, CON (with HRT/without HRT) 0.8 (2.7)/-0.4 (3.3), combined SD 3.05. Total EX 0.07 (2.55), CON 0.23 (3.05)	Δ LST in all who exercised and non-exercisers not taking HRT, decreased FT on women on HRT. HRT appeared to protect against loss of LST
Vilela <i>et al.</i> , 2015 ⁶⁵	<i>n</i> = 30 (EX), <i>n</i> = 30 (CON)	RT, sporting activity	4 months	5/wk, RT including 2 days upper body exercises and 2 days lower body exercises. 4 x 10mins 3 sets of 30secs work, 30secs recovery, 5 mins flexibility, 1 x 15 mins sporting activity (soccer, volleyball, basketball)	EX 0.0 (2.6), CON 0.4 (2.6)	EX reduced body fat by 4.8 (1.8) %, in the absence of weight loss, suggesting increased lean tissue

Table 1. Studies presenting weight loss response to supervised exercise interventions.

BW body weight, kg kilograms, SD standard deviation, EX exercise condition, CON control condition, wk weeks, mins minutes, WU warm-up, MB main body of exercise session, CD cool-down, HRR heart rate reserve, PA physical activity, Reps repetitions, mmol/L millimole per litre, Kcal Kilocalorie, VO_2 oxygen uptake, Yr year, HR_{max} maximal heart rate, ITT intention to treat, PPA per protocol analysis, VO_{2max} maximal oxygen uptake, SBP systolic blood pressure, RT resistance training, RM repetition maximum, AT aerobic training, CRP C-reactive protein, IL6 – interleukin 6, EI energy intake, Fat_{max} intensity of maximal fat oxidation, VO_{2max} maximal oxygen uptake, HRT hormone replacement therapy, LST lean soft tissue, FT fat tissue, secs seconds.

Literature Citation	Random Sequence Generation		Allocation Concealment		Blinding of Participants		Blinding of Outcome Assessment		Incomplete Outcome Data Addressed		Selective Reporting		Other	
	Risk		Risk		Risk		Risk		Risk		Risk		Risk	Comment
Baillot <i>et al.</i> , 2016 ⁶⁶	Low	Quote "Patients were randomly allocated" Comment: Likely done	Unclear	Quote "Allocation was generated by a computer random sequence and kept in sealed envelopes" Comment: Likely done	Low	Comment: Exercise interventions preclude the blinding of participants to allocated group during the study. It is judged that this would not influence outcomes	Low	Comment: No mention of blinding of outcome assessment. It is judged that this would not influence outcomes	Low	Quote: "the only subject who abandoned the research project was in the usual care group and excluded from analyses". Comment: Likely done	High	Six domains for WRQL in methods, only one reported in written format; others presented in table format.	Low	The study appears free from other sources of bias.
Burtscher <i>et al.</i> , 2009 ⁶⁴	Low	Quote "Patients were randomly assigned" Comment: Likely done	High	Comment: No information provided on method of randomization. Comment: Possibly not done	Low	Comment: Exercise interventions preclude the blinding of participants to allocated group during the study. It is judged that this would not influence outcomes	Low	Comment: No mention of blinding of outcome assessment. It is judged that this would not influence outcomes	Low	Quote: "Due to financial problems, we had to terminate the exercise program at Month 12. To minimize possible bias, 18 patients were then compared to age- and gender-matched patients in a nested cohort approach".	Low	Comment: Study protocol available and all pre-specified outcomes reported in pre-specified way.	Low	The study appears free from other sources of bias.

										Comment: Likely done				
Church <i>et al.</i> , 2009 ⁵⁶	Low	Quote "Patients were randomized to 1 of 3 exercise groups or a non-exercise control" Comment: Likely done	Unclear	Quote "The randomization sequence is computer generated by the study statistician" Comment: Statement found in published rationale paper. Possibly done	Low	Comment: Exercise interventions preclude the blinding of participants to allocated group during the study. It is judged that this would not influence outcomes	Low	Comment: No mention of blinding of outcome assessment. It is judged that this would not influence outcomes	Low	Comment: Missing data relatively balanced across intervention groups. Additionally, missing data were imputed by carrying forward from previous observation (1 week)	Low	Comment: Study protocol available and all pre-specified outcomes reported in pre-specified way.	Low	The study appears free from other sources of bias.
Dalager <i>et al.</i> , 2016 ⁶⁷	Low	Quote "Office workers were randomized 1:1 to a training group or a control group" Comment: Likely done	Unclear	Quote: "The participants were assigned with an arbitrary ID number and randomized individually, using a random number computer algorithm". Comment: Possibly done	Low	Comment: Exercise interventions preclude the blinding of participants to allocated group during the study. It is judged that this would not influence outcomes	Low	Quote: "The study was a 2-year, parallel group, examiner blinded RCT". Comment: Likely done	High	Quote: "Missing values in either baseline or follow-up measurement were substituted with data carried forwards or backwards". Comment: Missing data unbalanced across intervention groups. It is unknown as to what	Low	Comment: Study protocol available and all pre-specified outcomes reported in pre-specified way.	Low	The study appears free from other sources of bias.

										impact this might have on effect sizes.				
Donges <i>et al.</i> , 2010 ⁶²	High	Quote “Participants were semi randomly assigned....80% were randomly assigned, however 20% were allocated according to matching or preference”.	High	Comment: No information provided on method of randomization, other describing it as ‘semi-random’	Low	Comment: Exercise interventions preclude the blinding of participants to allocated group during the study. It is judged that this would not influence outcomes	Low	Comment: No mention of blinding of outcome assessment. It is judged that this would not influence outcomes	Low	Comment: No missing data apparent.	Low	Comment: Study protocol available and all pre-specified outcomes reported in pre-specified way.	Low	The study appears free from other sources of bias.
Donnelly <i>et al.</i> , 2013 ⁵⁸	Low	Quote: “Participants were randomized (2:2:1) to exercise or non-exercise”. Comment: Likely done.	Low	Quote: “Participants were stratified by gender and randomized by an independent statistician”. Comment: Possibly done.	Low	Comment: Exercise interventions preclude the blinding of participants to allocated group during the study. It is judged that this would not influence outcomes	Low	Quote: “Investigators and research assistants were blinded at the level of outcome assessments”. Comment: Likely done.	Unclear	Comment: No methodology for approaching missing data. Missing data relatively balanced across intervention groups.	Low	Comment: Study protocol available and all pre-specified outcomes reported in pre-specified way.	Low	The study appears free from other sources of bias.
Lockwood <i>et al.</i> , 2008 ⁶³	Low	Quote: “Subjects were randomly assigned” Comment: Likely done.	High	Comment: No information provided on method of concealment.	Low	Comment: Exercise interventions preclude the blinding of participants to allocated	Low	Comment: No mention of blinding of outcome assessment. It is judged that this would not	Unclear	Comment: No methodology for approaching missing data. Missing data	Low	Comment: Study protocol available and all pre-specified	Low	The study appears free from other sources of bias.

						group during the study. It is judged that this would not influence outcomes		influence outcomes		relatively balanced across intervention groups.		outcomes reported in pre-specified way.		
Prabhakaran <i>et al.</i> , 1999 ⁵⁹	Low	Quote: "Subjects were randomly assigned to either a non-exercising control group or a resistance exercise training group". Comment: Likely done.	High	Comment: No information provided on method of concealment.	Low	Comment: Exercise interventions preclude the blinding of participants to allocated group during the study. It is judged that this would not influence outcomes	Low	Comment: No mention of blinding of outcome assessment. It is judged that this would not influence outcomes	Low	Comment: Missing data relatively balanced across intervention groups.	Low	Comment: Study protocol available and all pre-specified outcomes reported in pre-specified way.	Low	The study appears free from other sources of bias.
Schmitz <i>et al.</i> , 2002 ⁶⁰	Low	Quote: "Randomized to no-contact control or treatment". Comment: Likely done.	Unclear	Comment: Randomization stratified by decade (30-39, 40-50) due to concerns regarding effects of hormonal changes.	Low	Comment: Exercise interventions preclude the blinding of participants to allocated group during the study. It is judged that this would not influence outcomes	Low	Quote: "Body weight and height measurements, blood draws and DEXA (body composition) were performed by clinical research nurses, blinded to treatment groups". Comment: Likely done.	Low	Comment: Missing data relatively balanced across intervention groups.	Low	Comment: Study protocol available and all pre-specified outcomes reported in pre-specified way.	Low	The study appears free from other sources of bias.

Tan <i>et al.</i> , 2012 ⁵⁷	Low	Quote: "Participants were randomly allocated into two groups". Comment: Likely done.	High	Comment: No information provided on method of randomization.	Low	Comment: Exercise interventions preclude the blinding of participants to allocated group during the study. It is judged that this would not influence outcomes	Low	Comment: No mention of blinding of outcome assessment. It is judged that this would not influence outcomes	Low	Comment: Missing data relatively balanced across intervention groups. Additionally, reasons unlikely to affect outcome measures.	Low	Comment: Study protocol available and all pre-specified outcomes reported in pre-specified way.	Low	The study appears free from other sources of bias.
Teixeira <i>et al.</i> , 2003 ⁶¹	Low	Quote: "Subjects were randomly allocated to assigned to one year of weight-lifting and weight-bearing exercise or to a group with no exercise." Comment: Likely done.	High	Comment: Subjects stratified by HRT status.	Low	Comment: Exercise interventions preclude the blinding of participants to allocated group during the study. It is judged that this would not influence outcomes	Low	Quote: "DEXA technicians were blind to participants group assignments". Comment: Likely done.	Low	Comment: No missing data apparent.	Low	Comment: Study protocol available and all pre-specified outcomes reported in pre-specified way.	Low	The study appears free from other sources of bias.
Vilela <i>et al.</i> , 2015 ⁶⁵	Low	Quote: "Randomly distributed in control and experimental groups". Comment: Likely done.	Unclear	Quote: "Randomly assigned drawing an opaque envelope", with "names written on them".	Low	Comment: Exercise interventions preclude the blinding of participants to allocated group during the study. It is judged that this	Low	Comment: No mention of blinding of outcome assessment. It is judged that this would not influence outcomes	Low	Comment: No missing data apparent.	Low	Comment: Study protocol available and all pre-specified outcomes reported in pre-	Low	The study appears free from other sources of bias.

				Comment: Likely done.		would not influence outcomes						specified way.		
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Table 2. Summary descriptives of risk of bias for each of the included studies, in accordance with Cochrane guidelines²⁹. If study methodology did not explicitly state allocation was randomized, then it was deemed 'high risk' of bias for allocation concealment. Only those studies using central randomization, sequentially numbered drug containers or sequentially numbered, opaque, sealed envelopes were deemed 'low risk'.