

Supplementary Material

Appendix A:

Search strategies.

PubMed

#1 – "overweight"[MeSH Terms] OR "overweight"[all fields] OR "Obesity"[Mesh] OR Obes*[all fields]

#2 – "aerobic exercise"[All Fields] OR "aerobic training"[All Fields] OR "cardiovascular exercise"[All Fields] OR "endurance training"[All Fields] OR "Exercise"[MeSH Terms] OR training OR Exercise[All Fields] OR "physical activity"[All Fields] OR Training[All Fields] OR "resistance training"[All Fields] OR "resistance exercise"[All Fields]

#3 – "Inflammation"[MeSH] OR "Inflammation"[All Fields] OR "inflammatory marker"[all fields] OR "inflammatory markers"[all fields] OR "C-Reactive Protein"[MeSH] OR "CRP"[all fields] OR "Tumor Necrosis Factor-alpha"[MeSH] OR "TNF-alpha"[all fields] OR "Interleukin-6"[MeSH] OR "IL-6"[all fields] OR "TNF- α " OR "Tumor Necrosis Factor- α "

#4 – randomized controlled trial[pt] OR controlled clinical trial[pt] OR clinical trials as topic[mesh:noexp] OR trial[ti] OR random*[tiab] OR placebo*[tiab]

#5 – #1 AND #2 AND #3 AND #4

Web of Science

TS=(overweight OR obesity OR obes*) AND

TS=("aerobic exercise" OR "aerobic training" OR "cardiovascular exercise" OR "endurance training" OR exercise OR training OR "physical activity" OR "resistance training" OR "resistance exercise") AND

TS=(inflammation OR "inflammatory marker" OR "inflammatory markers" OR "C-Reactive Protein" OR CRP OR "Tumor Necrosis Factor-alpha" OR "TNF-alpha" OR "Interleukin-6" OR IL-6 OR "TNF- α " OR "Tumor Necrosis Factor- α ") AND

TS=(random* OR trial OR placebo*)

Cochrane

#1 Obesity explode all trees

#2 Overweight explode all trees

#3 overweight:ti,ab,kw OR obes*:ti,ab,kw

#4 #1 OR #2 OR #3

#5 Exercise explode all trees

#6 "aerobic exercise":ti,ab,kw OR "aerobic training":ti,ab,kw OR "cardiovascular exercise":ti,ab,kw OR "endurance training":ti,ab,kw OR exercise:ti,ab,kw OR training:ti,ab,kw OR "physical activity":ti,ab,kw OR "resistance training":ti,ab,kw OR "resistance exercise":ti,ab,kw

#7 #5 OR #6

#8 Inflammation explode all trees

#9 C-Reactive Protein explode all trees

#10 Tumor Necrosis Factor-alpha explode all trees

#11 Interleukin-6 explode all trees

#12 "inflammatory marker":ti,ab,kw OR "inflammatory markers":ti,ab,kw OR CRP:ti,ab,kw OR "C-Reactive Protein":ti,ab,kw OR "TNF-alpha":ti,ab,kw OR "TNF- α ":ti,ab,kw OR "Tumor Necrosis Factor-alpha":ti,ab,kw OR "Tumor Necrosis Factor- α ":ti,ab,kw OR IL-6:ti,ab,kw OR "Interleukin-6":ti,ab,kw

#13 #8 OR #9 OR #10 OR #11 OR #12

#14 Randomized Controlled Trial explode all trees

#15 trial:ti,ab,kw OR random*:ti,ab,kw OR placebo*:ti,ab,kw

#16 #14 OR #15

#17 #4 AND #7 AND #13 AND #16

Appendix B

Table S1: *Included and excluded types of interventions, with synonymous terms and examples.*

Included types	Synonymous terms and examples
Aerobic exercise	<p>Synonyms include cardiovascular exercises, endurance training with an aerobic component.</p> <p>Examples include treadmill, running, jogging, brisk walking, cycling, cardio classes, dancing, Zumba, rope jumping, hiking, and swimming.</p>
Resistance exercise	<p>Synonyms include strength training, circuit training with strength, and bodyweight exercises</p> <p>Examples include lifting weights, working with resistance bands, push-ups, squats, lunges, planks, pull-ups, jumping jacks, and burpees</p>
Excluded types	
	<p>flexibility exercise, e.g., stretching, yoga, pilates, tai chi AND/OR balance exercise AND/OR agility training, e.g., ladder drills, cone drills, jump training AND/OR anaerobic exercise, e.g., sprinting, High-intensity training (HIIT) AND/OR mixed modalities exercises/ training where aerobic and/or strength/resistance exercise is not analyzed separately</p>