

**SDC6-Table 4. Qualitative Comparison of the Power Calculations Using Paired Two-Sample *t*-Tests from Existing RCTs Examining the Cardiometabolic Disease Biomarker Response After versus Before Acute and Chronic Dynamic Resistance Exercise Compared to After versus Before Control to Detect a Significant Difference between Dynamic Resistance Exercise versus Control to the Actual RCT Sample Size (acute *k*=6; chronic *k*=9).**

Study Characteristics	Intervention Features: Frequency, Intensity, and Time	Sufficient Power (No=0/Yes=+) to Detect Significant Exercise-Induced Changes								
		SBP	DBP	TRIG	GLUCOSE	INSULIN	LDL-C	HDL-C		
<b>Acute – RCTs<sup>a, b</sup></b>										
<b>Bermudes, 2003 (6)</b> (24 hr post-RE vs. baseline)										
<i>N</i> = 25 M 44±5 yr 23.6±2.5 kg·m <sup>-2</sup>	Wake- fulness Night 24-hr	I: 40% 1-RM T: 3 sets × 20-25 reps, 2 min between sets T: 10 REs	–	0						
<b>Black, 2010 (7)</b> (24 hr post-RE vs. baseline)										
<i>N</i> = 17 (12M/5W) 29.9±9.6 yr 30.4±5.6 kg·m <sup>-2</sup>	Low  High	I: 65% 1-RM T: 2-4 sets × 12-15 reps (55 min) T: 4 UB/ 4 LB REs I: 85% 1-RM T: 2-4 sets × 6-8 reps (55 min) T: 4 UB/ 4 LB REs				+	+			
<b>Teixeira, 2011 (25)</b> (120 min post- vs. pre-RE)										
<i>N</i> = 20 (10M/10W) 26±4 yr 22.1±2 kg·m <sup>-2</sup>		I: 50% 1-RM T: 3 sets × 20 reps (30 min) T: 3 UB/ 3 LB REs	+	0						
<b>Tibana, 2014 (27)</b> (60 min post- vs. pre-RE)										
<i>N</i> = 13 W 35.7±7.4 yr 28.3±5.4 kg·m <sup>-2</sup>		I: 60% 1-RM T: 3 sets × 10 reps T: 3 UB/ 3 LB REs + sit-ups (15 reps)	0	0						
<b>Tsuchiya, 2015 (28)</b> (60 min post- vs. pre-RE)										
<i>N</i> = 10 M 23.0±3.2 yr 23.7±6.3 kg·m <sup>-2</sup>		I: 65% 1-RM T: 3-4 sets × 12 reps (60 min) T: 6 UB/ 2 LB REs			0	0	0			
<b>No. of Interventions (<i>k</i>) Sufficiently Powered for Each Cardiometabolic Biomarker ‡</b>			<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>			
<b>% of Interventions Sufficiently Powered for Each Cardiometabolic Biomarker ‡</b>			<b>20.0</b>	<b>0</b>	<b>0</b>	<b>66.7</b>	<b>33.3</b>			
<b>Chronic – RCTs</b>										
<b>AbouAssi, 2015 (1)</b>										
<i>N</i> = 38 (20M/18W) 90% WH, 8% AA, 2% other 51.1±11.0 yr 30.0±3.0 kg·m <sup>-2</sup>	~32 wk (supervised) F: 2.5 d/wk (60 min/d) I: 8-12RM (progressive) T: 3 sets × 8-12 reps T: 8 REs Adherence=83.2%					0	0			

Study Characteristics	Intervention Features: Frequency, Intensity, and Time	Sufficient Power (No=0/Yes=+) to Detect Significant Exercise-Induced Changes						
		SBP	DBP	TRIG	GLUCOSE	INSULIN	LDL-C	HDL-C
<b>Beck, 2014 (N=30) (4)</b>								
N = 15 (11M/4W) 21.1±2.3 yr 27.4±5.0 kg·m <sup>-2</sup>	8 wk ( <i>supervised</i> ) F: 3 d/wk I: 60% 1-RM T: 2 sets × 8-12 reps (60 min) T: 4 UB/ 3 LB REs	0	+					
<b>Boyden, 1993 (N=88) (9)</b>								
N = 46 W 31.4±2.9 yr 22.4±2.7 kg·m <sup>-2</sup>	20 wk ( <i>supervised</i> ) F: 3 d/wk I: 70% 1-RM T: 3 sets × 8 reps (60 min) T: 12 REs Adherence=85%						0	
<b>Croymans, 2014 (N=36) (12)</b>								
N = 28 M 21.5 (20.0-23.0) yr 30.9 (29.7-32.7) kg·m <sup>-2</sup>	12 wk ( <i>supervised</i> ) F: 3 d/wk I: 8-15RM ( <i>progressive</i> ) T: 3 sets × 8-12 reps (60 min) T: 7 LB or 8 UB REs Adherence=99.7%	0						
<b>Gelecek, 2012 (N=45) (17)</b>								
N = 24 W 54.3±5.3 yr 28.0±3.7 kg·m <sup>-2</sup>	12 wk ( <i>supervised</i> ) F: 3 d/wk I: 60% 1-RM T: 2 sets × 8-12 reps (50-60 min) T: 3 LB/3 UB REs	+	0					
<b>Prabhakaran, 1999 (N=24) (22)</b>								
N = 12 W 28.0±6.0 yr	14 wk ( <i>supervised</i> ) F: 3 d/wk I: 85% 1-RM T: 2 sets × 8 reps (45-50 min) T: 3 LB/ 5 UB REs Adherence=94%			0			0	0
<b>Sarsan, 2006 (N=46) (23)</b>								
N = 26 W 42.5±10.1 yr 33.7±2.9 kg·m <sup>-2</sup>	12 wk ( <i>supervised</i> ) F: 3 d/wk I: 40-80% 1-RM ( <i>progressive</i> ) T: 1-3 sets × 10 reps T: 3 LB/ 3 UB REs	+	+					
<b>Tibana, 2014 (26)</b>								

Study Characteristics	Intervention Features: Frequency, Intensity, and Time	Sufficient Power (No=0/Yes=+) to Detect Significant Exercise-Induced Changes						
		SBP	DBP	TRIG	GLUCOSE	INSULIN	LDL-C	HDL-C
<i>N</i> = 13 W 35.7±7.4 yr 28.3±5.4 kg·m <sup>-2</sup>	~8 wk ( <i>supervised</i> ) F: 3 d/wk I: 60% 1-RM T: 3 sets × 10 reps (~30 min) T: 7 REs <i>Adherence</i> =>85%	–	0					
<b>Zavanela, 2012 (N=96) (30)</b> <i>N</i> = 48 M 25.4±4.0 kg·m <sup>-2</sup>	24 wk ( <i>supervised</i> ) F: 3-4 d/wk I: 10-12RM ( <i>progressive</i> ) T: 3 sets ×8-12 reps T: 11-16 REs	+	+					
<b>No. of Interventions (<i>k</i>) Sufficiently Powered for Each Cardiometabolic Biomarker ‡</b>		3	3	0	0	0	0	0
<b>% of Interventions Sufficiently Powered for Each Cardiometabolic Biomarker ‡</b>		50.0	60.0	0	0	0	0	0
<b>Summary of No. of Acute and Chronic RE Interventions (<i>k</i>) Sufficiently Powered for Each Cardiometabolic Biomarker ‡</b>		4	3	0	2	1	0	0
<b>Summary of the % of Acute and Chronic RE Interventions Sufficiently Powered for Each Cardiometabolic Biomarker ‡</b>		36.6	30.0	0	50.0	33.3	0	0
<b>Summary of No. of Acute and Chronic AE and RE Interventions (<i>k</i>) Sufficiently Powered for Each Cardiometabolic Biomarker ‡</b>		7	4	3	3	7	0	4
<b>Summary of the % of Acute and Chronic AE and RE Interventions Sufficiently Powered for Each Cardiometabolic Biomarker ‡</b>		26.9	22.2	30.0	33.3	43.8	0	40.0

*Note.* Statistics are summarized as Trials are presented as being sufficient (+), not sufficiently (0) powered or (-) data not available for power calculations. Gray shading=Data not available for power calculations. † Blue shading=Cardiometabolic response was more favorable for Control vs. RE; *N* could not be calculated. ‡ Trials were considered to be sufficiently powered when the reported study *N* met or exceeded the estimated *N* to detect exercise induced changes in cardiometabolic disease biomarkers. *Abbr.* AE=aerobic exercise. AA=African American/Black. DBP=Diastolic blood pressure. HDL-C=High-density lipoprotein cholesterol. LB=Lower body. LDL-C=Low-density lipoprotein cholesterol. *k*=Number of study groups. M=Men. *N*=Sample size. RCT=Randomized controlled trial. RE=Resistance exercise. Reps=Repetitions. SBP=Systolic blood pressure. Trig=Triglycerides. UB=Upper body. W=Women. WH=White/Caucasian. <sup>a</sup> Acute studies were supervised; only Intensity and Time are quantified (i.e., Frequency=1 d/wk). <sup>b</sup> Details regarding the cardiometabolic biomarker response to AE are provided in parentheses (i.e., timing of post-assessment, min or hr; mean change calculation). Full references appear in SDC 7.