

Question 13B. What is the evidence that physical activity in obese adults effects a change in weight?

Reference	Design/ Demographics	Group description	Length weeks	Activity with provider *group	Min./week	Max % HR	VO ₂ Max % change from baseline	Drop-out Total	Weight baseline (n) mean ()	Mean weight change (n) mean (95%CI)	Mean difference between intervention and control (95%CI)	Follow-up	Comments
Exercise supervised													
Anderssen 346	Randomized: unclear Self-selected: no Included: BMI >24 kg/m ² Mean age: 44.9 Mean weight: 28.8 kg/m ² Female/Total: 21/212	1. Control (no diet or exercise) 2. Diet alone 3. Exercise alone 4. Diet and exercise	52	1. n/a 2. n/a 3. 3x/week 4. 3x/week	1. n/a 2. n/a 3. 60/3 4. 60/3	1. n/a 2. n/a 3. 60-80 4. 60-80	unable to estimate	1. 0/43 2. 3/55 (5%) 3. 5/54 (9%) 4. 2/67 (3%)	<u>BMI</u> 1a. (12) 30 (27.14, 32.86) 2a. (16) 29.9 (28.41, 31.39) 3a. (20) 29.5 (27.83, 31.17) 4a. (24) 29.6 (27.74, 31.46) <u>BMI</u> 1b. (16) 27.9 (26.62, 29.18) 2b. (17) 30.9 (28.36, 33.44) 3b. (16) 28.4 (26.91, 29.89) 4b. (20) 27.9 (26.64, 29.16) <u>BMI</u> 1c. (15) 27.4 (26.33, 28.47) 2c. (19) 28 (26.53, 29.47) 3c. (13) 27.4 (25.87, 28.93) 4c. (21) 28 (26.75, 29.25) Groups were divided for results presentation into tertiles for blood pressure. Group a: with DBP >91 group b: with DBP 84-9 mmHg Group c: with DBP <84	<u>BMI</u> 1a. (12) 0.2 (-0.46, 0.86) 2a. (16) -1.7 (-2.55, -0.85) 3a. (20) -0.4 (-1.03, 0.23) 4a. (24) -2.2 (-2.61, -1.79) <u>BMI</u> 1b. (16) 0.4 (-0.03, 0.83) 2b. (17) -1.4 (-2.46, -0.34) 3b. (16) 0 (-0.64, 0.64) 4b. (20) -2 (-2.84, -1.16) <u>BMI</u> 1c. (15) 0.4 (0.19, 0.61) 2c. (19) -0.7 (-1.12, -0.28) 3c. (13) -0.5 (-1.37, 0.37) 4c. (21) -1.2 (-2.03, -0.37)			
Verity 446	Randomization: unclear Self-selected: unclear Included: >120% IBW postmenopausal women with NIDDM Mean age: 59.2 Mean weight: 79.2 Female/Total:	1. Control (diet) 2. Exercise	16	1. n/a 2. 3-5x/wk	1. n/s 2. 60-90/3	1. n/a 2. 65-80	1. -1.6% 2. 32%	Not reported	<u>Weight in kg</u> 1. (5) 83.8 (54.9,112.7) 2. (5) 74.7 (54.2,95.2)	Weight in kg 1. (5) -2.9 2. (5) -2.1	<u>2vs1</u> : 0.8 (-17,18.68)		

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	10/10												
Hellenius 365	Randomization: unclear Self-selected: no Included: non-overweight Mean age: 46.2 Mean weight: 25 mg/kg ² Female/Total 0/158	1. No intervention 2. Low fat diet (NCEP) 3. Exercise alone 4. Low fat diet + exercise	24	1. n/a 2. n/a 3. 2x/week 4. 2x/week	1. n/a 2. n/a 3. 30-45/3 4. 30-45/3	1. n/a 2 n/a 3. 60-80 4. 60-80	not given	1. 1/40 (2.5%) 2. 0/40 3. 0/39 4. 0/39	BMI 1. 24.5 mg/kg ² 2. 25.2 mg/kg ² 3. 25.3 mg/kg ² 4. 26.1 mg/kg ²	BMI 1. 0.3 mg/kg ² 2. -0.3 mg/kg ² 3. -0.3 mg/kg ² 4. -0.6 mg/kg ²	<u>3vs1</u> : -0.6 <u>3vs2</u> : 0 <u>4vs3</u> : -0.30 (-0.57,-0.03) <u>4vs2</u> : -0.30 (-0.60, 0.00) <u>4vs1</u> : -0.90 (-1.15, -0.65) <u>3vs1</u> : -0.60 (-0.82,-0.28) <u>2vs1</u> : -0.60 (0.86,-0.34)	none	*no data on height unable to convert into weight
Frey-Hewitt 432	Randomization: unclear Self-selected: unclear Included: 120-160% IBW Mean age: ng Mean weight: 94.2 Female/Total: 0/121	1. No intervention 2. Diet (300-500 kcal less) 3. Exercise (no diet)	52	1. n/a 2. n/a 3. 3-5x/w	1. n/a 2. n/a 3. 50/5	1. n/a 2. n/a 3. 65-85	1. -7% 2. -0.7% 3. 12%	overall 6/121 (5%)	1. (41) 94.99 (91.6,98.3) 2. (36) 93.6 (90.5,96.7) 3. (44) 94.14 (91.5,96.8)	1. (41) 0.38 (-0.8,1.5) 2. (36) -6.68 (-8,-5.3) 3. (44) -4.1 (-5.2, -3.0)	<u>3vs1</u> : -4.48 (-5.59, -3.37) <u>3vs2</u> : 2.58 (1.38,3.78) <u>2vs1</u> : -7.06 (-8.29,-5.83)		
Gillett 678	Randomization: yes Self-selected: unclear Included: not specified Mean age: 41.9 Mean weight: 165.8 lbs Female/Total 38/38	1. Aerobic dance not individualized 2. Intensity controlled individualized aerobic	16	1. 3-5x/wk 2. 3-5x/wk	1. 60/3 2. 60/3	1. 70-80 2. 70-80	1. 21.8% 2. 40%	1. 3/20 (15%) 2. 1/18 (6%)	1. 166.3 (157.2, 175.4) 2. 165.3 (156.6,174.0)	1. -5.9 lbs (-15.48, 3.68) 2. -5.5 lbs (-14.4, 3.40)	<u>2vs1</u> : -0.40 (-8.49, 9.29)	none	

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Coon 700	Randomization: unclear Self-selected: yes Included: not specified Mean age: 59 Mean weight: 94 Female/Total none/20	1. Diet (AHA step I) 2. Exercise	9-12 mo	1. n/a 2. 3-5x/wk	1. n/a 2. 40/3	1. n/a 2. 75-85	1. 6.7% 2. 32%	none	1. (10) 97.9 (91.9,103.9) 2. (10) 89.4 (82.8, 96.0)	1. -11.4 2. -0.3	<u>2vs 1:</u> -11.1 (5.31, 16.89)		
Williams 707 *Standford Exercise Training Study	Randomization: yes Self-selected: no Included: <140% IBW Mean age: not given Mean weight: not given Female/Total 0/81	1. Sedentary control (no intervention) 2. Supervised running	52 (24)	1. 0 2. 6-7x/wk	1. n/a 2. 40/5	1. n/a 2. 70-85	1. -1.43 2. 7.52 *mean Δ (ml/kg/min)	1. 1/33 (3%) 2. 2/48 (4%)	n/a	1. 1.1 (0,2.2) 2. -1.4 (-2.4,-0.4)	<u>2vs1:</u> -2.5 (-4.5,-0.5)	none on weight	
Fortmann 363	Randomization: unclear Self-selected: yes Included: >120- 150% IBW Mean age: 44.3 Mean weight: 93.6 Female/Total 0/115	1. No intervention 2. Low-calorie diet (ng) 3. Aerobic exercise	52	1. n/a 2. n/a 3. 3-5 x/wk	1. n/a 2. n/a 3. ng/3	1. n/a 2. n/a 3. 70-85	1. -7.3% 2. -0.5% 3. 12.5%	not given	1. 95 (91.2, 98.8) 2. 92 (89.4, 94.6) 3. 94 (91.5, 96.5)	1. 0.5 (-0.8, 1.8) 2. -6.9 (-8.3, -5.5) 3. -4.6 (-5.7, -3.5)	<u>3vs1:</u> -5.1 (-6.3,-3.9) <u>3vs2:</u> 2.3 (1.1,3.5) <u>2vs1:</u> -7.4 (-8.7,-6.1)	none	

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King 401	Randomization: yes Self-selected: no Included: non- overweight Mean age: not given Mean weight: 26.9 kg/m ² Female/Total 160/357	1. No intervention 2. Lower-intensity home-based exercise 3. Higher-intensity home-based exercise 4. Higher-intensity group-based exercise	52 (24)	1. 0 2. 0 3. 0 4. 3-5 x/wk	1. n/a 2. 30/5 3. 60/3 4. 60/3	1. n/a 2. 73-88 3. 73-88 4. 73-88	1. -3.8% 2. 3.9% 3. 6.0 4. 2.5% *women	not given	1. 27.0 mg/kg ² 2. 26.5 mg/kg ² 3. 27.6 mg/kg ² 4. 26.9 mg/kg ² *BMI	<u>Men</u> 1. 0.1 2. -0.9 3. -0.2 4. 0.4 <u>Women</u> 0 -0.6 0.1 0.4	<u>Men</u> 2vs1: -1.0 (-1.9, -0.01) 3vs2: 0.7 (-0.3, 1.7) 4vs3: 0.6 (-0.81, 2.0) <u>Women</u> 2vs1: -0.6 (-2.3, 1.2) 3vs2: 0.7 (-1.2, 2.6) 4vs3: 0.3 (-1.5, 2.1)	none	Subjects in the higher and lower intensity home-based exercise reported significantly greater adherence than those in group-based exercise training. *no data on height unable to convert into weight
King 447	Randomization: yes Self-selected: yes Included: not given Mean age: 56 Mean weight: 27.1 kg/m ² Female/Total 120/269	1. No intervention 2. Low-intensity home-based exercise training 3. High-intensity home-based exercise training 4. High-intensity group-based exercise training	2 years	1. n/a 2. 0 3. 0 4. 3-5 x/wk	1. n/a 2. 30/5 3. 60/3 4. 60/3	1. n/a 2. 60-73 3. 73-88 4. 73-88	1. not given 2. +8.1% 3. +9.3% 4. +0.8% *data for women	28/269 lost to follow-up	<u>BMI women</u> 2. 25.3 (23.8, 26.8) 3. 27 (25.1, 28.9) 4. 26.3 (24.9, 27.7) <u>BMI, men</u> 2. 26.6 (25.5, 27.7) 3. 27.9 (26.7, 29.1) 4. 27.4 (25.9, 28.9)	<u>BMI women</u> 104 weeks 2. (27) -0.4 (-1.9, 1.1) 3. (34) -0.1 (-2.1, 1.9) 4. (32) 0.2 (-1.4, 1.8) <u>BMI, men</u> 104 weeks 2. (37) -0.2 (-1.3, 0.9) 3. (40) -0.1 (-1.3, 1.1) 4. (37) 0.1 (-1.4, 1.6)	<u>BMI women</u> 3vs2: 0.3 (0.02, 0.58) 4vs3: 0.3 (-0.12, 0.72) <u>BMI men</u> 3vs2: 0.1 (- 0.05,0.25) 4vs3: 0.2 (0.1,0.3)	none	Group 1 was dropped from comparison because they started exercising during the study periods. *no data on height unable to convert into weight
Kaplan 474	Randomization: unclear Self-selected: yes Included: diabetes, non-overweight Mean age: ng Mean weight: ng Female/Total 44/76	1. No intervention 2. Diet alone (kcal: ng) 3. Exercise alone 4. Diet and exercise	10	1. n/a 2. n/a 3. 1/w 4. 1/w	1. n/a 2. n/a 3. 60/3 4. 60/3	1. n/a 2. n/a 3. 60-70 4. 60-70	not given	not given	not given	<u>Weight in kg</u> at 6 months 1. (ns) 1.0 2. (ns) -3.49 3. (ns) -1.42 4. (ns) -0.24 p=not given for exercise			By the 18 month follow-up, the diet group regained an average of 1.81 kg. There was very poor maintenance of weight loss in the exercise group and weight was essentially constant across the experiment for the diet plus exercise group.
Pan XR 80225	Randomized: unclear Self-selected: unclear Included: glucose intolerant, nonoverweight	1. Control 2. Diet 3. Exercise 4. Diet and exercise	6 years	1. n/a 2. n/a 3. ng 4. ng	1. n/a 2. n/a 3. 10-30/7 4. 10-30/7	1. n/a 2. n/a 3. ng 4. ng	not given		<u>BMI</u> 1. (83) 28.5 (27.9, 29.1) 2. (75) 28.3 (27.8, 28.8) 3. (84) 27.9 (27.4, 28.4) 4. (80) 28.6 (27.9, 29.2)	<u>BMI</u> (overweight subgroup) 1. -1 (-1.63, -0.37) 2. -1.2 (-1.8, -0.6) 3. -0.9 (-1.44, -0.36) 4. -1.60 (-2.28, -0.92)	3vs2 -0.3 (-0.86, 0.26) 3vs1 -0.1 (-0.68, 0.48)		Patient encouraged to increase amount of exercise by at least 30 min of mild exercise or 20 min moderate exercise or 10 min of strenuous exercise daily.

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	Mean age: 45 Mean weight: 25.8 kg/m ² Female/Total: 283/577												
King 727	Randomization: unclear Self-selected: yes Included: <125% IBW Mean age: 48 Mean weight: 71 Female/Total 60/120	1. No intervention 2. Aerobic exercise	24	none	1. n/a 2. 50/5	1. n/a 2. 65-77	1. -0% 2. 13.5%	unclear	for men 1. 80.7 9 (76.3, 85.1) 2. 79.5 (75.5, 83.5) for women 1. 60.7 (57.9, 63.5) 2. 64.8 (61.7, 67.9)	<u>Weight in kg for men</u> 1. -0.5 2. -1.8 <u>Weight in kg for women</u> 1. 0.3 2. -0.9	<u>2vs1:</u> for men -1.3 (-6.65, 2.05) <u>2vs1:</u> for women -1.2 (-4.3, 6.9)	none	*data for men and women given
Gordon 70030	Randomized: unclear Self-selected: yes Included: hypertensive and moderately obese Mean age: 48 Mean weight: 98 Female/Total: 28/55	1. Exercise training 2. Diet 3. Exercise and diet	12	None	1. n/a 2. 30-45/ 3-5 3. 30-45/ 3-5	1. n/a 2. 60- 85% 3. 60- 85%	Not given	1. 0/14 2. 2/17 3. 5/29	1. (14) 101.9 (88.6, 115.2) 2. (15) 100.5 (86.5, 114.5) 3. (19) 92.7 (85.9, 99.4)	1. (14) -1 (2.0,04) 2. (15) -5.8 (-7.9, -3.6) 3. (19) -7.1 (-8.5, -5.7)	<u>2vs1</u> -4.8 <u>3vs2</u> -6.1	none	
Suter 705	Randomization: unclear Self-selected: unclear Included: non- overweight Mean age: 41.2 Mean weight: 24.9 kg/m ² Female/Total 0/47	1. No intervention 2. Walking 3. Jogging	24	none	1. n/a 2. 30/6 3. 30/4	not given	1. -3.3 % 2. 7.1 3. 7.6	none	1. 24.9 (23.6, 26.2) 2. 24.9 (23.9, 25.9) 3. 24.9 (23.6, 26.2) *BMI	1. -0.09 (-0.5, 0.3) 2. -0.07 (-0.4, 0.3) 3. -0.28 (-0.6, 0.0) *mean difference in BMI	BMI <u>3vs1:</u> -0.19 (-0.52, 0.14) <u>3vs2:</u> -0.21 (-0.53, 0.11) <u>2vs1:</u> 0.02 (-0.34, 0.38)	none	

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Ronnemaa 404	Randomization: unclear Self-selected: unclear Included: non- overweight and diabetics Mean age: 52.5 Mean weight: 84 Female/Total 10/25	1. No intervention 2. Aerobic exercise	16	none	1. n/a 2. 45/5-7	not given	1. 0% 2. 9.7%	none	1. 82.8 (74.7, 90.9) 2. 85.2 (72.1, 98.3)	1. 0.5 2. -2.0	Weight kg -2.50 (-12.88, 7.88)	none	
Gwinup 725	Randomization: unclear Self-selected: yes Included: 30- 40% total body weight as fat Mean age: 30.3 Mean weight: 149.5lbs Female/Total 44/44	1. Walking 2. Cycling 3. Swimming	24	none	1. ng/7 2. ng/7 3. ng/7	not given	not reported	1. 4/15 (27%) 2. 5/15 (33%) 3. 7/15 (47%)	1. 152 2. 148 3. 148 *lb	1. -17 2. -19 3. 5 *lb	3vs1: 22 3vs2: 24 no p-value	none	
Wood 406	Randomization: yes Self-selected: yes Included: 120- 160% IBW Mean age: 44.5 Mean weight: 94.1 Female/Total 0/155	1. No intervention 2. Diet alone (kcal: ng) 3. Exercise alone	52 (28)	1. n/a 2. n/a 3. once	1. n/a 2. n/a 3. 40-50/5	1. n/a 2. n/a 3. 60-80	1. -7.1% 2. 0% 3. 11.6%	1. 3/52 (6%) 2. 2/51 (4%) 3. 1/52 (2%)	1. 95.4 (92.1, 98.7) 2. 93 (90.3, 95.7) 3. 94.1(91.6, 96.6)	1. +0.6 (-0.6, 1.8) 2. -7.2 (-8.4, -6.0) 3. -4.0 (-5.1, -2.9)	3vs1: -4.6 (-5.7,-3.5) 3vs2: 3.2(1.96, 4.44) 2vs1: -7.8(-8.9,-6.6)	data at 7 months	Among exercisers, the distance run correlated significantly with changes in weight (r ² =-0.48).
	Includes non-overweight/ No goal to lose weight												
Ready 685	Randomization: unclear Self-selected:	1. No intervention 2. Aerobic exercise	24	1. n/a 2. weekly	1. n/a 2. 60/5	1. n/a 2. 60	1. 2.7% 2. 7.9%	1. 6/16 (37%) 2. 9/24	1. 82.2 (73.8, 90.6) 2. 77.2 (68.1, 86.3)	1. 0.6 2. -1.9	2vs1: -2.50 (-11, 6)	none	Average intensity of exercise 54% max heart rate. Average days per week 4.9. Average time per session 54.3 min.

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	yes Included: postmenopausal women, included non-overweight Mean age: not given Mean weight: 79.7 Female/Total 40/40							(37%)					
Hespel 726	Randomization: unclear Self-selected: unclear Included: non- overweight Mean age: 38 Mean weight: 79 Female/Total 0/30	1. Training followed by no training 2. No training followed by training *Cross-over	16	1. 3-5 x/wk 2. 3-5 x/wk	1. 60/3 2. 60/3	1. 70 2. 70	1. 13.6% 2. 16%	overall 3/30 (10%)	1. 78.5 (69.4, 87.6) 2. 80.1 (74.8, 85.4)	1. -0.5 2. -2.4 *both after training	Weight kg 1.20 (-6.12, 8.52) Weight kg crossover -1.70 (-9.14, 5.74)	none	

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