

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
Mathus-Vliegen 390	Randomized: unclear Blinded Patients: yes Providers: yes Outcome: yes Subgroup of INDEX trial Mean age: 35.9 Mean weight: 110.7 Female/Total: 64/75	>135% IBW	Diet: low-calorie (1000 kcal less) Exercise: none Behavioral: none	1. Placebo 2. Dexfenfluramine 15 mg BID	3 (8%) 7 (19%)	(36) -8 (36) -10.7 p=ns	<u>TG</u> 1. (39) 1.51 (1.2, 1.8) 2. (36) 2.07 (1.6, 2.6) <u>Cholesterol</u> 1. (39) 5.48 (5.1, 5.8) 2. (36) 5.63 (5.3, 6.0)	<u>TG</u> 1. (36) 1.29 (1.0, 1.6) 2. (29) 1.58 (1.2, 2.0) <u>TG change</u> -0.27 (-0.90, 0.36) <u>Cholesterol</u> 1. (36) 5.29 (4.9, 5.7) 2. (29) 5.64 (5.3, 6.0) <u>Cholesterol change</u> 0.20 (-0.19, 0.59) Follow-up: 6 months <u>TG</u> 1. (36) 1.14 (0.9, 1.4) 2. (29) 1.53 (1.1, 1.9) <u>TG 6 mos change</u> -0.17(-0.80, 0.46) <u>Cholesterol</u> 1. (36) 5.29 (5.0, 5.6) 2. (29) 5.33 (5.0, 5.7) <u>Cholesterol 6 mos change</u> -0.11 (-0.47, 0.25)	Dutch eating behavior increased in placebo (need to restrain their eating more in order to achieve same weight loss).
Herwig 70037	Randomized: Yes Blinded Patients: Yes Providers: Yes Outcome: Yes Mean age: 42 Mean weight: Female/Total: 52/60	>120% IBW	Diet: LCD 1500 Exercise: No Behavioral: No	1. Placebo 2. Dexfenfluramine 15 mg BID	18/60	<u>Weight loss</u> (upper body obesity) 1. (8) -4.7 (-7.1, -2.3) 2. (12) -14.2 (-15.6, 12.8) <u>2vs1</u> -9.5 (-11.19, -7.81) <u>Weight loss</u> (lower body obesity) 1. (6) -2.6 (-5, -0.16) 2. (16) -11.1 (-12.7, -9.6) <u>2vs1</u> -8.5 (-10.14, -6.86)	<u>Triglycerides mmol/l</u> (UBO) 1. (8) 1.95 (1.67, 2.22) 2. (12) 1.96 (1.67, 2.24) <u>Triglycerides mmol/l</u> (LBO) 1. (6) 1.48 (0.88, 2.07) 2. (16) 1.47 (1.23, 1.71) <u>Cholesterol mmol/l</u> (UBO) 1. (8) 5.87 (5.41, 6.33) 2. (12) 5.93 (5.66, 6.19) <u>Cholesterol mmol/l</u> (LBO) 1. (6) 5.45 (4.93, 5.96) 2. (16) 5.6 (5.31, 5.89) <u>HDL mmol/l</u> (UBO) 1. (8) 0.99 (0.86, 1.12) 2. (12) 1.01 (0.92, 1.09) <u>HDL mmol/l</u> (LBO) 1. (6) 1.31 (0.77, 1.84) 2. (16) 1.21 (1.09, 1.32)	<u>Triglycerides mmol/l</u> (UBO) 1. (8) 1.57 (1.27, 1.87) 2. (12) 1.23 (0.89, 1.57) <u>2vs1</u> -0.35 (-0.64, -0.06) <u>Triglycerides mmol/l</u> (LBO) 1. (6) 1.4 (0.87, 1.92) 2. (16) 1.17 (0.93, 1.41) <u>2vs1</u> -0.22 (-0.52, 0.08) <u>Cholesterol mmol/l</u> (UBO) 1. (8) 5.66 (5.20, 6.12) 2. (12) 5.67 (5.44, 5.89) <u>2vs1</u> -0.05 (-0.37, 0.27) <u>Cholesterol mmol/l</u> (LBO) 1. (6) 5.53 (5.01, 6.04) 2. (16) 5.51 (5.27, 5.74) <u>2vs1</u> -0.17 (-0.48, 0.14) <u>HDL mmol/l</u> (UBO) 1. (8) 1.04 (0.94, 1.14) 2. (12) 1.21 (1.12, 1.29) <u>2vs1</u> 0.15 (0.06, 0.24)	

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								<u>HDL mmol/l (LBO)</u> 1. (6) 1.24 (1.04, 1.44) 2. (16) 1.23 (1.02, 1.44) <u>2vs1</u> 0.09 (-0.14, 0.32)	
Connacher 696	Randomized: unclear Blinded Patients: yes Providers: yes Outcome: yes Mean age: 42.8 Mean weight: 100.5 Female/Total: 32/40	>120% IBW	Diet: 3.35 MJ/d Exercise: No Behavioral: No	1. Placebo 2. BRL 26830A (beta adrenoreceptor agonist) start at 200 then 400 mg	none	<u>Weight in kg</u> 1. (16) -10 (95%CI -13.1, -6.9) 2. (16) -15.4 (95%CI -18.9, -11.9)	<u>HDL (%)</u> 1. (20) 21.9 (95%CI 19.0, 24.8) 2. (20) 23.3 (95%CI 20.2, 26.4)	<u>HDL (%)</u> 1. (16) 21.5 (95%CI 18.5, 24.5) 2. (16) 24.7 (95%CI 21.5, 27.9)	
Bremer 386	Randomized: unclear Blinded Patients: yes Providers: yes Outcome: yes Mean age: 49.4 Mean weight: 83.3 Female/Total: 15/26 *dyslipidemic patients	poor outcome to wgt loss programs	Diet: low-fat diet Exercise: none Behavioral: none	1. Placebo 2. Dexfenfluramine 15 mg BID	0 3 (25%)	(14) -2.5 (12) -4.2 <u>2vs1</u> -1.70 (-8.65, 5.25)	<u>Cholesterol</u> 1. (14) 6.9 (6.5, 7.3) 2. (12) 7.5 (6.6, 8.4) <u>TG</u> 1. (14) 2.6 (1.7, 3.5) 2. (12) 2.2 (1.5, 2.9) <u>LDL</u> 1. (14) 4.5 (4.1, 4.9) 2. (12) 4.9 (4.0, 5.8) <u>HDL</u> 1. (14) 1.0 (0.8, 1.2) 2. (12) 1.1 (0.9, 1.3)	<u>Cholesterol</u> 1. (14) 7.1 (6.5, 7.7) 2. (12) 6.7 (5.8, 7.6) <u>2vs1</u> -1.00 (-1.70, -0.30) <u>TG</u> 1. (14) 2.7 (1.6, 3.8) 2. (12) 1.4 (1.0, 1.8) <u>2vs1</u> -0.90 (-1.74, -0.06) <u>LDL</u> 1. (14) 4.5 (3.9, 5.1) 2. (12) 4.6 (3.9, 5.3) <u>2vs1</u> -0.30 (-0.96, 0.36) <u>HDL</u> 1. (14) 1.1 (0.9, 1.3) 2. (12) 1.2 (1.0, 1.4) <u>2vs1</u> 0.00(-0.20,0.20)	40% in dF compared to 0% in placebo. Drowsiness, fatigue, sleepiness, memory loss, faintness, loss of sensation in arm and legs were reasons for withdrawal.
Mathus-Vliegen 391	Randomized: unclear Blinded Patients: yes Providers: yes Outcome: yes Mean age: 36.5 Mean weight: 109 Female/Total: 35/42	>120% IBW	Diet: 1000 kcal less Exercise: none Behavioral: none	1. Placebo 2. Dexfenfluramine 15 mg BID	3 (17%) 4 (24%)	(18) -8.63 (17) -12.84 <u>2vs1</u> -4.21 (-13, 4.8)	<u>Cholesterol</u> 1. (18) 5.5 (5.0, 6.0) 2. (17) 5.6 (5.1, 6.1) <u>TG</u> 1. (18) 1.42 (1.0, 1.8) 2. (17) 2.4 (1.5, 3.3)	<u>Cholesterol</u> 1. (18) 5.3 (4.7, 5.9) 2. (17) 5.8 (5.3, 6.3) <u>2vs1</u> 0.4 (-0.14, 0.94) <u>TG</u> 1. (18) 1.25 (0.8, 1.7) 2. (17) 1.77 (1.1, 2.4) <u>2vs1</u> -0.46 (-1.1, 0.18) Follow-up: 24 weeks <u>Cholesterol</u>	

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								1. (18) 5.4 (4.9, 5.9) 2. (17) 5.6 (5.1, 6.1) <u>2vs1</u> -0.10 (-0.63, 0.43) <u>TG</u> 1. (18) 1.16 (0.8, 1.5) 2. (17) 1.67 (1.0, 2.3) <u>2vs1</u> -0.47 (-1.10, 0.16)	
O'Connor 392	Randomized: unclear Blinded Patients: yes Providers: yes Outcome: yes Mean age: 40.2 Mean weight: 96.4 Female/Total: 31/51	BMI: 30-40 (kg/m ²)	Diet: 1200 to 1500 Exercise: none Behavioral: none kcal/d	1. Placebo 2. Dexfenfluramine 15 mg BID	4 (14%) 3 (10%)	(24) - 4.9 (27) - 9.7 <u>2vs1</u> -4.80 (-6.87, -2.73)	<u>Cholesterol</u> 1. (24) 5.41 (5.0, 5.8) 2. (27) 5.10 (4.6, 5.6) <u>HDL, men</u> 1. (14) 0.89 (0.7, 1.1) 2. (6) 1 (0.7, 1.3) <u>HDL, women</u> 1. (10) 1.10 (0.9, 1.3) 2. (21) 1.18 (1.1, 1.3) <u>TG</u> 1. (24) 1.64 (1.2, 2.0) 2. (27) 1.33 (1.1, 1.6)	<u>Cholesterol</u> 1. (24) 5.41 (5.1, 5.7) 2. (27) 5.34 (4.9, 5.8) <u>2vs1</u> 0.24 (-0.20, 0.68) <u>HDL, men</u> 1. (14) 0.87 (0.7, 1.0) 2. (6) 1.25 (0.7, 1.8) <u>2vs1</u> 0.27 (0.02,0.52) <u>HDL, women</u> 1. (10) 1.06 (0.9, 1.2) 2. (21) 1.23 (1.1, 1.3) <u>2vs1</u> 0.09 (-0.04, 0.22) <u>TG</u> 1. (24) 1.9 (1.4, 2.4) 2. (27) 1.2 (0.9, 1.5) <u>2vs1</u> -0.39 (-0.78, 0.00)	Diarrhea, ↓appetite, fatigue, headache more common in dF (NS); significantly more nausea, dry mouth, dizziness with dF.
Pfohl 393	Randomized: unclear Blinded Patients: yes Providers: yes Outcome: yes Mean age: 38.5 Mean weight: 96.5 Female/Total: 38/48	>120% IBW	Diet: yes 1200-1500 kcal Exercise: no Behavioral: no	1. Placebo 2. Dexfenfluramine 15 mg BID	not given	<u>Weight in kg</u> 1. (15) -9.6 (95%CI -13.2, -6.0) 2. (19) -10.9 (95%CI -14.7, -7.1) <u>2vs1</u> -1.3 (-5.2, 2.6) <u>Weight in kg 48 months</u> 1. (11) -2.1 (95%CI -4.8, 0.6) 2. (11) 1.5 (95%CI -1.4, 4.4) <u>2vs1</u> 3.6 (0.72, 6.48)	<u>Cholesterol</u> 1. (11) 6.14 (95%CI 5.4, 6.9) 2. (11) 5.55 (95%CI 3.4, 7.7) <u>TG</u> 1. (11) 1.61 (95%CI 0.4, 2.9) 2. (11) 1.17 (95%CI 0.1, 2.2)	<u>Cholesterol 11 months</u> 1. (11) 6.11 (95%CI 5.4, 6.8) 2. (11) 5.34 (95%CI 4.3, 6.4) <u>2vs1</u> 0.18 (-1.5, 1.14) <u>TG 11 months</u> 1. (11) 1.33 (95%CI -0.1, 2.7) 2. (11) 1.27 (95%CI -0.4, 3.0) <u>2vs1</u> 0.38 (-0.96, 1.72) <u>Cholesterol 48 months</u> 1. (11) 6.79 (95%CI 6.1, 7.5) 2. (11) 6.19 (95%CI 4.2,	

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								8.2) <u>2vs1</u> -0.60(-2.3, 1.12) <u>TG</u> 48 months 1. (11) 2.2 (95%CI 0.0, 4.4) 2. (11) 1.91 (95%CI -1.2, 5.0) <u>2vs1</u> 0.74 (-1.9, 3.4)	
Swinburn 70050	Randomized: Unclear Blinded Patient: Yes Providers: Yes Outcome: Yes Mean age: 45.7 Mean weight: 97 Female/Total: 57/84	BMI 30-40	Diet: Low fat Exercise: none Behavioral: none	1. Placebo 2. Dexfenfluramine 15 mg BID	ng	<u>Weight (kg)</u> 1. (42) -0.3 (-0.4, -0.2) 2. (42) -42.2 (-4.3, 4.0) <u>2vs1</u> -3.9 (-6.79, -1.01)	<u>Cholesterol</u> (mmol/l) 1. (42) 5.86 (5.6, 6.1) 2. (42) 5.97(5.6, 6.3) <u>LDL</u> 1. (42) 3.73 (3.5, 3.9) 2. (42) 3.82 (3.5, 4.2) <u>HDL</u> 1. (42) 1.32 (1.2, 1.4) 2. (42) 1.36 (1.3, 1.5) <u>TG</u> 1. (42) 1.8 (1.4, 2.2) 2. (42) 1.77 (1.5, 2.0)	<u>Cholesterol</u> 1. (42) 0.03 (0.01, 0.05) 2. (42) -0.26 (-0.28, -0.23) <u>2vs1</u> -0.29 (-0.31, -0.27) <u>LDL</u> 1. (42) 0.06 (0.03, 0.08) 2. (42) -0.02 (-0.05, 0.01) <u>2vs1</u> -0.08 (-0.11, -0.05) <u>HDL</u> 1. (42) 0.02 (-0.03, -0.01) 2. (42) -0.04 (-0.05, -0.03) <u>2vs1</u> -0.06 (-0.07, -0.05) <u>TG</u> 1. (42) -0.06 (-0.08, -0.03) 2. (42) -0.35 (-0.37, -0.32) <u>2vs1</u> -0.29 (-0.31, -0.27)	
Pedrinola 711	Randomized: unclear Blinded Patients: yes Providers: yes Outcome: yes Mean age: ng Mean weight: 87.1 Female/Total: 24/33	not specified	Diet: 1000 kcal/d Exercise: encouraged Behavioral: none	1. Fluoxetine 20 mg at breakfast and lunch and placebo at night 2. Fluoxetine 20 mg at breakfast and lunch and dexfenfluramine 15 mg at night	1. 7 (35%) 2. 0 (0%)	<u>Weight (kg)</u> 1. (13) 81.4 2. (20) 73 <u>2vs1</u> -7.30 (-13.53, -1.07)	<u>HDL at end of run-in phase</u> 1. (13) 27.2 (18.92, 35.48) 2. (20) 29.3 (25.11, 33.49) <u>Cholesterol at end of run-in phase</u> 1. (13) 278 (249.24, 306.76) 2. (20) 253 (223.28, 282.72) <u>Triglycerides at end of run-in phase</u> 1. (13) 214 (188.51, 239.49) 2. (20) 197 (175.65, 218.35)	<u>HDL</u> 1. (13) 32.1 (27.52, 36.68) 2. (20) 38.1 (34.33, 41.87) <u>2vs1</u> 3.90 (-1.43, 9.23) <u>Cholesterol</u> 1. (13) 204 (181.78, 226.22) 2. (20) 193 (176.05, 209.95) <u>2vs1</u> 14 (-11.77, 39.77) <u>Triglycerides</u> 1. (13) 154 (131.56, 176.44) 2. (20) 138 (117.49,	

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								158.51) <u>2vs1</u> 1 (-21.32,23.32)	
O'Kane 408	Randomized: unclear Blinded Patients: yes Providers: yes Outcome: yes Mean age: 57.1 Mean weight: 98.7 Female/Total: 13/19 * Type II diabetes	BMI:>30	Diet: ns Exercise: none Behavioral: none	1. Placebo 2. Fluoxetine 60 mg qd	1. (11%) 2. (29%)	(9) 1.5 (0.2, 2.8) (7) -4.3 (-6.0, -2.6) <u>2vs1</u> -5.8 (-7.4, -4.2) at 24 weeks <u>Weight in Kg</u> 1. (9) 0.2 (95%CI -1.0, 1.4) 2. (7) -6.3 (95%CI -7.0, -5.6)	<u>TG</u> 1. (9) 1.9 (95%CI 1.7, 2.1) 2. (7) 2.15 (95%CI 1.7, 2.6) <u>Cholesterol</u> 1. (9) 5.4 (95%CI 5.1, 5.7) 2. (7) 6.1 (95%CI 5.9, 6.3)	<u>TG</u> 1. (9) 0.23 (95%CI 0.0, 0.5) 2. (7) -0.27 (95%CI -0.4, -0.2) <u>Cholesterol</u> 1. (9) -0.1 (95%CI -0.3, 0.1) 2. (7) 0.4 (95%CI 0.1, 0.7) <u>at 24 weeks</u> <u>TG</u> 1. (9) 0.37 (95%CI 0.2, 0.5) 2. (7) 0.12 (95%CI -0.2, 0.5) <u>Cholesterol</u> 1. (9) 0.4 (95%CI 0.1, 0.7) 2. (7) 0.5 (95%CI 0.3, 0.7)	
Weintraub 395	Randomized: yes Blinded Patients: yes Providers: yes Outcome: yes Mean age: 40 Mean weight: 33.4mg/kg ² Female/Total: 90/121	130-180% IBW	Diet: yes 1000-1800 kcal/d Exercise: yes >900 cal/week Behavioral: yes group, 8 sessions	1. Placebo 2. Fenfluramine extended release 60 mg + phentermine 15 mg	1. 8% 2. 6%	<u>Weight in kg</u> 1. (54) -4.6 (95%CI -6.2, -3.0) 2. (58) -14.3 (95%CI -16.1, -12.5) <u>2vs1</u> p<0.01 -9.7 (-11.39, -8)	<u>Cholesterol</u> 1. (59) 196.7 (95%CI) 2. (62) 200.4 (95%CI) <u>HDL</u> 1. (59) 45.8 (95%CI) 2. (62) 45.1 (95%CI) <u>LDL</u> 1. (59) 125.7 (95%CI) 2. (62) 126.2 (95%CI) <u>TG</u> 1. (59) 121.5 (95%CI) 2. (62) 127.5 (95%CI)	<u>Cholesterol</u> 1. (51) 196.7 (95%CI n/a, n/a) 2. (53) 200.4 (95%CI n/a, n/a) <u>HDL</u> 1. (51) 45.8 (95%CI n/a, n/a) 2. (53) 45.1 (95%CI n/a, n/a) <u>LDL</u> 1. (51) 125.7 (95%CI n/a, n/a) 2. (53) 126.2 (95%CI n/a, n/a) <u>TG</u> 1. (51) 121.5 (95%CI n/a, n/a) 2. (53) 127.5 (95%CI n/a, n/a)	Correlation coefficients (r) for BMI analyte concentration for each assessment (see detailed table in report).

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Drent 407	Randomized: unclear Blinded Patients: yes Providers: yes Outcome: yes Mean age: 41.8 Mean weight: 83.7 Female/Total: 33/39	>120-150% IBW	Diet: Low fat, 500 kcal reduced Exercise: none Behavioral: none	1. Placebo 2. Orlistat 50 mg TID	1. (11%) 2. (15%)	(19) -2.1 (20) -4.3 <u>2vs1</u> -2.20 (-3.61, -0.79)	<u>Cholesterol</u> 1. (1) 5.5 (n/a, n/a) 2. (20) 5.4 (5.0, 5.8) <u>TG</u> 1. (19) 1.3 (0.9, 1.7) 2. (20) 1.3 (1.0, 1.6)	<u>Cholesterol</u> 1. (19) -0.2 (-0.4, 0.0) 2. (20) -0.3 (-0.6, 0.0) <u>2vs1</u> -0.10 (-0.35, 0.15) <u>TG</u> 1. (19) -0.2 (-0.6, 0.2) 2. (20) -0.1 (-0.3, 0.1) <u>2vs1</u> 0.10 (-0.20, 0.40)	More GI adverse events (abdominal pain to fecal incontinence) in patients with orlistat.
Drent 710	Randomized: unclear Blinded Patients: yes Providers: yes Outcome: yes Mean age: 44 Mean weight: 92 Female/Total: 107/186	BMI: 27.8-35 for men 27.3-35 for women WHR>=0.9 or 0.8	Diet: yes 500 kcal less Exercise: no Behavioral: no	1. Placebo 2. Orlistat 30 mg qd 3. Orlistat 60 mg BID 4. Orlistat 90 mg qid	1. 13% 2. 10% 3. 7% 4. 11%	(46) -2.98 (48) -3.61 (45) -3.69 (47) -4.74 <u>4vs1</u> -1.76 (-2.30, -1.22) <u>3vs1</u> -0.71 (-1.48, 0)	<u>Cholesterol</u> 1. (46) 0.22 (0.06, 0.38) 2. (48) 0.10 (-0.11, 0.31) 3. (45) -0.10 (-0.30, 0.10) 4. (47) -0.22 (-0.38, -0.06) <u>4vs1</u> 0 (-1.84, 1.84) <u>3vs1</u> -0.12 (-1.97, 1.73) <u>LDL</u> 1. (46) 0.13(0.01, 0.25) 2. (48) 0.14 (-0.06, 0.34) 3. (45) -0.14 (-0.27, -0.01) 4. (47) -0.19 (-0.34, -0.04) <u>4vs1</u> -0.32 (-2.16, 1.52) <u>3vs1</u> -0.27 (-2.09, 1.55) <u>TG</u> 1. (46) 0.05 (-0.23, 0.33) 2. (48) -0.36 (-0.78, 0.06) 3. (45) 0.03 (-0.17, 0.23) 4. (47) -0.20 (-0.38, -0.02) <u>4vs1</u> -0.25 (-0.48, -0.02) <u>3vs1</u> 0.02 (-0.22, 0.26)		
Marin 698	Randomized: unclear Blinded Patients: no Providers: no Outcome: no Mean age: 50.8 Mean weight: 95.6 Female/Total: 0/23	BMI >25	Diet: ns Exercise: none Behavioral: none	1. Placebo 2. Testosterone decanoate 80 mg BID	1. (8%) 2. (9%)	(12) -0.2 (11) -1.4 <u>2vs1</u> 0.70 (-1.6, 1.7)	<u>Cholesterol</u> 1. (12) 6.2 (5.5, 6.9) 2. (11) 6.3 (5.6, 7.0) <u>HDL</u> 1. (12) 1.2 (1.0, 1.4) 2. (11) 1.1 (0.9, 1.3)	<u>Cholesterol</u> 1. (12) 5.8 (5.4, 6.2) 2. (11) 5.7 (5.0, 6.4) <u>2vs1</u> -0.20 (-0.83, 0.43) <u>HDL</u> 1. (12) 1.1 (0.9, 1.3) 2. (11) 1 (0.8, 1.2)	Side effects: a statistically significant enlargement of the prostate was found in the testosterone group; PSA unchanged.

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							<u>TG</u> 1. (12) 1.5 (1.3,1.7) 2. (11) 1.9 (1.0,2.8)	<u>2vs1</u> 0.00 (-0.19, 0.19) <u>TG</u> 1. (12) 1.4 (1.2, 1.6) 2. (11) 1.8 (0.7, 2.9) <u>2vs1</u> 0.00 (-0.68, 0.68)	
	Exercise								
Ready 685	Randomized: unclear Self-selected: yes Included: postmenopausal women, included non-overweight Mean age: not given Mean weight: 79.7 Female/Total 40/40	postmenopausal women	Diet: no Exercise: yes 60 min 5x/wk Max HR: 60% Behavioral: no	1. Control (no exercise) 2. Exercise	1. 6/16 (37%) 2. 9/24 (37%)	Weight in kg 1. 0.6 (-7.9, 9.10) 2. -1.9 (-11.2, 7.42) <u>2vs1</u> -2.5 (-11.0, 6.0)	<u>HDL</u> 1. (10) 1.22 (95%CI 1.1, 1.3) 2. (15) 1.35 (95%CI 1.2, 1.5) <u>LDL</u> 1. (10) 4.85 (95%CI 4.4, 5.3) 2. (15) 4.53 (95%CI 4.1, 4.9) <u>TG</u> 1. (10) 1.74 (95%CI 1.3,2.1) 2. (15) 1.8 (95%CI 1.3, 2.3) <u>Cholesterol</u> 1. (10) 6.74 (6.32, 7.16) 2. (15) 6.64 (6.37, 6.91)	<u>HDL</u> 1. -0.07 (-0.2, 0.06) 2. 0 (-0.22, 0.22) <u>2vs1</u> 0.07 (-0.11, 0.25) <u>LDL</u> 1. 0.08 (-0.35, 0.51) 2. -0.19 (-0.58, 0.20) <u>2vs1</u> -0.27 (-0.66, 0.12) <u>TG</u> 1. 0.17 (-0.24, 0.58) 2. -0.12 (-0.64, 0.40) <u>2vs1</u> -0.29 (-0.75, 0.17) <u>Cholesterol</u> 1. 0.01 (-0.39, 0.41) 2. -0.3 (-0.64, 0.04) <u>2vs1</u> -0.31 (-0.65, 0.03)	
Hellenius 365	Randomized: unclear Self-selected: not Included: non-overweight Mean age: 46.2 Mean weight: 25kg/m ² Female/Total: 0/158	not given	Diet: none for group 3 Exercise: yes 30-45 min 3x/wk Max HR: 60-80% Behavioral: no	1. No intervention 2. Low-fat diet 3. Exercise alone 4. Low-fat diet + exercise	1. 1/40 (2.5%) 2. 0/40 3. 0/39 4. 0/39	Change in BMI 1. 0.3 2. -0.3 3. -0.3 4. -0.6 BMI <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, -0.38) <u>3vs2</u> 0.00 (-0.28, 0.28) <u>2vs1</u> -0.60 (-0.86, -0.34)	<u>Cholesterol</u> 1. (39) 5.97 (5.7, 6.3) 2. (40) 6.08 (6.1, 6.1) 3. (39) 5.98 (6.0, 6.0) 4. (39) 6.53 (6.2, 6.8) <u>TG</u> 1. (39) 1.33 (1.2, 1.5) 2. (40) 1.27 (1.1, 1.4) 3. (39) 1.48 (1.1, 1.8) 4. (39) 1.51 (1.3, 1.7) <u>LDL</u> 1. (39) 4.14 (3.89, 4.38) 2. (40) 4.29 (4.07, 4.51) 3. (39) 4.05 (3.84, 4.26) 4. (39) 4.66 (4.38, 4.94) <u>HDL</u> 1. (39) 1.36 (1.27, 1.45) 2. (40) 1.41 (1.29, 1.53)	<u>LDL</u> 1. (39) -0.15 (-0.33, 0.02) 2. (40) -0.3 (-0.54, -0.06) 3. (39) -0.09 (-0.24, 0.07) 4. (39) -0.35 (-0.64, -0.05) <u>EOT LDL</u> <u>3vs1</u> 0.06 (-0.10, 0.22) <u>3vs2</u> 0.21 (0.01, 0.41) <u>2vs1</u> -0.15 (-0.36, 0.06) <u>4vs3</u> -0.26 (-0.49, -0.03) <u>4vs2</u> -0.05 (-0.31, 0.21) <u>4vs1</u> -0.20 (-0.44, 0.04) <u>HDL</u> 1. (39) -0.02 (-0.08, 0.05) 2. (40) 0.01 (-0.05, 0.07) 3. (39) 0.01 (-0.04, 0.07) 4. (39) -0.03 (-0.09, 0.04) <u>EOT HDL</u> <u>3vs1</u> 0.03 (-0.03, 0.09) <u>3vs2</u> 0.00 (-0.06, 0.06)	

Reference numbers refer to the Reference List in the Clinical Guidelines Report.

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
							3. (39) 1.34 (1.27, 1.41) 4. (39) 1.33 (1.22, 1.44)	<u>2vs1</u> 0.03 (-0.03, 0.09) <u>4vs3</u> -0.04 (-0.10, 0.02) <u>4vs2</u> -0.04 (-0.10, 0.02) <u>4vs1</u> -0.01 (-0.07, 0.05) <u>TG</u> 1. (39) 0.06 (-0.08, 0.20) 2. (40) 0.03 (-0.09, 0.15) 3. (39) -0.1 (-0.34, 0.13) 4. (39) -0.12 (-0.31, 0.08) <u>EOT TG</u> <u>3vs1</u> -0.16 (-0.35, 0.03) <u>3vs2</u> -0.13 (-0.31, 0.05) <u>2vs1</u> -0.03 (-0.16, 0.10) <u>4vs3</u> -0.02 (-0.23, 0.19) <u>4vs2</u> -0.15 (-0.31, 0.01) <u>4vs1</u> -0.18 (-0.35, -0.01)	
Gillett 678	Randomized: yes Self-selected: unclear Included: not specified Mean age: 41.9 Mean weight: 165.8lbs Female/Total: 38/38	not given	Diet: no Exercise: yes 60 min 3-5x/wk Max HR: 70-80% Behavioral: no	1. Aerobic dance not individualized 2. Intensity controlled individualized aerobic	1. 3/20 (15%) 2. 1/18 (6%)	1. -5.9 (-15.48, 3.68) 2. -5.5 (-14.40, 3.40) <u>2vs1</u> 0.4 (-8.5, 9.3)	<u>HDL</u> 1. (17) 45.4 (95%CI 40.8, 50.0) 2. (17) 43.3 (95%CI 37.6, 49.0) <u>Cholesterol</u> 1. (17) 4.4 (95%CI 3.8, 5.0) 2. (17) 4.9 (95%CI 4.2, 5.6)	<u>HDL</u> 1. (17) 46.1 (95%CI 42.1, 50.1) 2. (17) 47.8 (95%CI 43.2, 52.4) <u>Cholesterol</u> 1. (17) 4.1 (95%CI 3.4, 4.8) 2. (17) 4.7 (95%CI 4.0, 5.4)	
Coon 700	Randomized: unclear Self-selected: yes Included: not specified Mean age: 59 Mean weight: 94 Female/Total none/20	not given	Diet: group 1 only AHA Step I Exercise: Yes 40 min 3-5x/wk Max HR: 75-85 Behavioral: yes group, weekly	1. Weight loss diet 2. Exercise training	none	1. -11.4 2. -0.3 <u>2vs1</u> 11.1 (5.31, 16.8)	<u>TG</u> 1. (10) 130 (95%CI 104.2, 155.8) 2. (10) 133 (95%CI 110.8, 155.2) <u>Cholesterol</u> 1. (10) 169 (95%CI 147.5, 190.5) 2. (10) 185 (95%CI 166.4, 203.6) <u>LDL</u> 1. (10) 113 (95%CI 93.7, 132.3) 2. (10) 127 (95%CI 107.7, 146.3) <u>HDL</u> 1. (10) 30 (95%CI 25.7, 34.3) 2. (10) 31 (95%CI 26.7,	<u>TG</u> 1. (10) 104 (95%CI 81.1, 126.9) 2. (10) 122 (95%CI 92.7, 151.3) <u>TG</u> 5.00 (-9.00, 39.00) <u>Cholesterol</u> 1. (10) 161 (95%CI 141.0, 181.0) 2. (10) 174 (95%CI 158.3, 189.7) <u>Cholesterol</u> -3.0 (-21.06, 15.06) <u>LDL</u> 1. (10) 106 (95%CI 88.8, 123.2) 2. (10) 118 (95%CI 100.1, 135.9) <u>LDL</u> -2.00 (-19.48, 15.46) <u>HDL</u>	

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23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
							35.3)	1. (10) 34 (95%CI 29.0, 39.0) 2. (10) 32 (95%CI 27.7, 36.3) <u>HDL</u> -3.00 (-7.25, 1.25)	
Williams 707 *Stanford Exercise Training Study	Randomized: yes Self-selected: no Included: <140% IBW Mean age: not given Mean weight: not given Female/Total: 0/81	<140% IBW	Diet: no Behavioral: no	1. Sedentary control (no intervention) 2. Supervised running	1. 1/33 (3%) 2. 2/48 (4.2%)	1. 1.1 (0.1, 2.2) 2. -1.4 (-2.4, -0.4) <u>2vs1</u> -2.5(-4.5, 0.5)			Correlation coefficient for exercise group: Change % body fat/miles run per wk: 3 mo r=-0.31, 6 mo r=-0.45, 12 mo r=-0.44 Change in HDL/miles run per wk 9 mo r=0.12 12 mo r=0.48 Change in LDL/miles run per wk 9 mo r= -0.36 12 mo r=-0.31
King 401	Randomized: yes Self-selected: no Included: non-overweight Mean age: not given Mean weight: 26.9 kg/m ² Female/Total 160/357	not given	Diet: no Exercise: yes 30-60 min 3-5x/wk Max HR: 70-80% Behavioral: no	1. No intervention 2. Lower-intensity home-based exercise 3. Higher-intensity home-based exercise 4. Higher-intensity group-based exercise	not given	Men Women 1. 0.1 0 2. -0.9 -0.6 3. -0.2 0.1 4. 0.4 0.4 men <u>2vs1</u> -1.0 (-1.9, -0.01) <u>3vs2</u> 0.7 (-0.3, 1.7) <u>4vs3</u> 0.6 (-0.81, 2.01) women <u>2vs1</u> -0.6 (-2.3, 1.2) <u>3vs2</u> 0.7 (-1.2, 2.6) <u>4vs3</u> 0.3 (-1.5, 2.1)	<u>LDL, men</u> 1. (41) 3.84 (95%CI 3.6, 4.1) 2. (45) 3.72 (95%CI 3.5, 4.0) 3. (42) 3.86 (95%CI 3.6, 4.1) 4. (40) 4.04 (95%CI 3.7, 4.3) <u>LDL, women</u> 1. (34) 4.29 (95%CI 3.9, 4.7) 2. (29) 4.26 (95%CI 3.9, 4.6) 3. (35) 4.16 (95%CI 3.8, 4.5) 4. (34) 4.18 (95%CI 3.8, 4.5) <u>HDL, men</u> 1. (41) 1.22 (95%CI 1.1, 1.3) 2. (45) 1.15 (95%CI 1.1, 1.2) 3. (42) 1./17 (95%CI n/a, n/a)	<u>LDL, men</u> 12 months 1. (41) -0.15 (95%CI -0.3, 0.0) 2. (45) -0.16 (95%CI -0.3, 0.0) 3. (42) -0.19 (95%CI -0.4, 0.0) 4. (40) -0.06 (95%CI -0.3, 0.1) <u>LDL, women</u> 12 months 1. (34) -0.26 (95%CI -0.5, -0.1) 2. (29) -0.15 (95%CI -0.4, 0.1) 3. (35) -0.13 (95%CI -0.4, 0.1) 4. (34) -0.41 (95%CI -0.6, -0.2) <u>LDL, women</u> 12 months <u>4vs1</u> -0.15 (-0.35, 0.05) <u>4vs2</u> -0.26 (-0.48, -0.04) <u>4vs3</u> -0.38 (-0.50, -0.06) <u>3vs1</u> 0.13 (-0.09, 0.35) <u>3vs2</u> 0.02 (-0.23, 0.27) <u>2vs1</u> 0.11 (-0.22, 0.33) <u>HDL, men</u> 12 months	

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23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
							4. (40) 1.29 (95%CI 1.2, 1.4) <u>HDL, women</u> 1. (34) 1.63 (95%CI 1.5, 1.8) 2. (29) 1.38 (95%CI 1.2, 1.5) 3. (35) 1.54 (95%CI 1.4, 1.7) 4. (34) 1.55 (95%CI 1.4, 1.7) <u>TG, men</u> 1. (41) 1.44 (95%CI 1.2, 1.6) 2. (45) 1.57 (95%CI 1.3, 1.9) 3. (42) 1.41 (95%CI 1.2, 1.7) 4. (40) 1.39 (95%CI 1.2, 1.6) <u>TG, women</u> 1. (34) 1 (95%CI 0.9, 1.1) 2. (29) 1.18 (95%CI 1.0, 1.4) 3. (35) 1.26 (95%CI 0.9, 1.6) 4. (34) 1.14 (95%CI 0.9, 1.3)	1. (41) 0.02 (95%CI 0.0, 0.1) 2. (45) 0.05 (95%CI 0.0, 0.1) 3. (42) 0.03 (95%CI 0.0, 0.1) 4. (40) 0.01 (95%CI 0.0, 0.1) <u>LDL, men 12 months</u> 4vs1 0.09 (-0.08, 0.26) 4vs2 0.10 (-0.07, 0.27) 4vs3 0.13 (-0.04, 0.30) 3vs1 -0.04 (-0.19, 0.11) 3vs2 -0.03 (-0.18, 0.12) 2vs1 -0.01 (-0.16, 0.14) <u>HDL, men 12 months</u> 4vs1 -0.01 (-0.06, 0.04) 4vs2 -0.04 (-0.09, 0.01) 4vs3 -0.02 (-0.07, 0.03) 3vs1 -0.01 (-0.06, 0.04) 3vs2 -0.02 (-0.07, 0.03) 2vs1 0.03 (0.02, 0.08) <u>HDL, women 12 months</u> 1. (34) 0.01 (95%CI-0.1, 0.1) 2. (29) 0.01 (95%CI-0.1, 0.1) 3. (35) 0.01 (95%CI-0.1, 0.1) 4. (34) 0.02 (95%CI-0.1, 0.1) <u>HDL, women 12 months</u> 4vs1 0.01 (-0.09, 0.11) 4vs2 0.01 (-0.09, 0.11) 4vs3 0.01 (-0.09, 0.11) 3vs1 0.00 (-0.10, 0.10) 3vs2 0.00 (-0.10, 0.10) 2vs1 0.00 (-0.10, 0.10) <u>TG, men 12 months</u> 1. (41) 0.07 (95%CI -0.1, 0.2) 2. (45) -0.14 (95%CI -0.4, 0.1) 51264 3. (42) 0.07 (95%CI -0.1, 0.3) 4. (40) -0.01 (95%CI -0.1, 0.1) <u>TG, men 12 months</u> 4vs1 -0.08 (-0.21, 0.05) 4vs2 0.13 (-0.06, 0.32)	

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23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
								<u>4vs3</u> -0.08 (-0.24, 0.08) <u>3vs1</u> 0.00 (-0.17, 0.17) <u>3vs2</u> 0.21 (-0.01, 0.43) <u>2vs1</u> -0.21 (-0.42, 0.00) <u>TG, women</u> 12 months 1. (34) 0.06 (95%CI -0.1, 0.2) 2. (29) 0.12 (95%CI 0.0, 0.2) 3. (35) 0.05 (95%CI -0.2, 0.3) 4. (34) 0.08 (95%CI 0.0, 0.2) <u>TG, women</u> 12 months <u>4vs1</u> 0.02 (-0.11, 0.15) <u>4vs2</u> -0.04 (-0.14, 0.06) <u>4vs3</u> 0.03 (-0.16, 0.22) <u>3vs1</u> -0.01 (-0.21, 0.19) <u>3vs2</u> -0.07 (-0.26, 0.12) <u>2vs1</u> 0.06 (-0.07, 0.19)	
King 447	Randomized: yes Self-selected: yes Included: not given Mean age: 56 Mean weight: 27.1 kg/m ² Female/Total: 120/269	not given	Diet: no Exercise: yes 30-60min 3-5x/wk Max HR: 60-80% Behavioral: no	1. No intervention 2. Low-intensity home based-exercise training 3. High-intensity home-based exercise training 4. High-intensity group-based exercise training	overall 28/269 (11%)	<u>BMI, women</u> 104 weeks 2. (27) -0.4 (95%CI -1.9, 1.1) 3. (34) -0.1 (95%CI -2.1, 1.9) 4. (32) 0.2 (95%CI -1.4, 1.8) <u>3vs2</u> 0.3 (0.02, 0.58) <u>4vs3</u> 0.3 (-0.12, 0.72) <u>BMI, men</u> 104 weeks 2. (37) -0.2 (95%CI -1.3, 0.9) 3. (40) -0.1 (95%CI -1.3, 1.1) 4. (37) 0.1 (95%CI -1.4, 1.6) <u>3vs2</u> 0.1 (-0.05, 0.25) <u>4vs3</u> 0.2 (0.1, 0.3)	<u>LDL, women</u> 2. 4.17 (95%CI 3.8, 4.5) 3. 4.05 (95%CI 3.7, 4.4) 4. 4.13 (95%CI 3.8, 4.5) <u>LDL, men</u> 2. 3.72 (95%CI 3.4, 4.0) 3. 3.89 (95%CI 3.6, 4.2) 4. 4.08 (95%CI 3.7, 4.4) <u>HDL, women</u> 2. 1.43 (95%CI 1.3, 1.6) 51228 3. 1.55 (95%CI 1.4, 1.7) 4. 1.55 (95%CI 1.4, 1.7) <u>HDL, men</u> 2. 1.18 (95%CI 1.1, 1.3) 3. 1.13 (95%CI 1.0, 1.2) 4. 1.3 (95%CI 1.2, 1.4) <u>TG, women</u> 2. 1.04 (95%CI 0.9, 1.2) 3. 1.23 (95%CI 0.9, 1.5) 51228 4. 1.13 (95%CI 0.9, 1.3) <u>TG, men</u>	<u>LDL, women</u> 104 weeks 2. (27) -0.34 (95%CI -0.7, 0.0) 3. (34) -0.34 (95%CI -0.7, 0.0) 4. (32) -0.62 (95%CI -1.0, -0.3) <u>LDL, men</u> 104 weeks 2. (37) -0.4 (95%CI -0.7, -0.1) 3. (40) -0.28 (95%CI -0.6, 0.0) 4. (37) -0.35 (95%CI -0.7, 0.0) <u>LDL, men</u> 104 weeks <u>3vs2</u> 0.12 (-0.18, 0.42) <u>HDL, women</u> 104 weeks 2. (27) 0.1 (95%CI 0.0, 0.2) 3. (34) 0.07 (95%CI -0.1, 0.2) 4. (32) 0.06 (95%CI -0.1, 0.2) <u>LDL, women</u> 104 weeks- <u>4vs2</u> -0.28 (-0.62, 0.06) <u>4vs3</u> -0.28 (-0.62, 0.06)	In men, reductions in BMI (standardized coefficient, -.30, p<0.002) was independently associated with increases in HDL during 2 yr. Reduction in waist to hip ratio (standardized coefficient, -0.2, p<0.04) was independently associated with increase in HDL for men and women.

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23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
							2. 1.44 (95%CI 1.2, 1.7) 3. 1.39 (95%CI 1.2, 1.6) 4. 1.41 (95%CI 1.2, 1.6)	3vs2 0.00 (-0.34,0.34) <u>HDL_women</u> 104 weeks- 4vs2 -0.04 (-0.17, 0.09) 4vs3 -0.01 (-0.16, 0.14) 3vs2 -0.03 (-0.15, 0.09) <u>HDL_men</u> 104 weeks 2. (37) 0.11 (95%CI 0.0, 0.2) 3. (40) 0.05 (95%CI -0.1, 0.2) 4. (37) 0.01 (95%CI -0.1, 0.1) <u>HDL_men</u> 104 weeks 4vs2 -0.10, (-0.20, 0.00) 4vs3 -0.04 (-0.17, 0.09) 3vs2 -0.06 (-0.19, 0.07) <u>TG_women</u> 104 weeks 2. (27) 0.32 (95%CI 0.1, 0.5) 3. (34) 0.01 (95%CI -0.3, 0.3) 4. (32) 0.1 (95%CI -0.1, 0.3) <u>TG_women</u> 104 weeks 4vs2 -0.33 (-0.42, -0.02) 4vs3 0.09 (-0.16, 0.34) 3vs2 -0.31 (-0.56, -0.06) <u>TG_men</u> 104 weeks 2. (37) 0.12 (95%CI -0.2, 0.4) 3. (40) 0.18 (95%CI -0.1, 0.4) 4. (37) -0.09 (95%CI -0.3, 0.1) <u>TG_men</u> 104 weeks 4vs2 -0.21 (-0.46, 0.04) 4vs3 -0.27 (-0.49, -0.05) 3vs2 0.06 (-0.21, 0.33)	
Suter 705	Randomized: unclear Self-selected: unclear Included: non-overweight	not given	Diet: no Exercise: yes 30 min 4-6x/wk	1. No intervention 2. Walking 3. Jogging	none	1. -0.09 (-0.5, 0.3) 2. -0.07 (-0.4, 0.3) 3. -0.28 (-0.6, 0.0)	<u>Cholesterol</u> 1. (19) 5.55 (95%CI 5.0, 6.1)	<u>Cholesterol</u> 1. (19) 0.15 (95%CI -0.2, 0.5)	Pearson correlation coefficient between amount of training and

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23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
	Mean age: 41.2 Mean weight: 24.9 kg/m ² Female/Total: 0/47		Max HR: 50-75%			*mean diff. in BMI <u>3vs1</u> -0.19 (-0.5, 0.1) <u>3vs2</u> -0.2 (-0.5, 0.1) <u>2vs1</u> 0.2 (-0.38, 0.42)	2. (28) 5.78 (95%CI 5.4, 6.1) 3. (28) 5.56 (95%CI 5.2, 5.9) <u>HDL</u> 1. (19) 1.21 (95%CI 1.1, 1.4) 2. (28) 1.29 (95%CI 1.2, 1.4) 3. (28) 1.26 (95%CI 1.1, 1.4) <u>TG</u> 1. (19) 1.38 (95%CI 1.0, 1.8) 2. (28) 1.43 (95%CI 1.2, 1.7) 3. (28) 1.54 (95%CI 1.0, 2.0)	2. (28) 0.16 (95%CI -0.1, 0.4) 3. (28) 0.44 (95%CI 0.2, 0.7) <u>Cholesterol</u> <u>3vs1</u> 0.29 (-0.04, 0.62) <u>3vs2</u> 0.28 (0.04, 0.523) <u>2vs1</u> 0.01 (-0.32, 0.34) <u>HDL</u> 1. (19) -0.04 (95%CI -0.1, 0.0) 2. (28) 0.01 (95%CI 0.0, 0.1) 3. (28) 0 (95%CI -0.1, 0.1) <u>HDL</u> <u>3vs2</u> 0.04 (-0.04, 0.12) <u>3vs1</u> -0.01 (-0.09, 0.07) <u>2vs1</u> 0.05 (0.00, 0.10) <u>TG</u> 1. (19) 0.06 (95%CI -0.3, 0.4) 2. (28) 0.32 (95%CI -0.1, 0.7) 3. (28) 0.24 (95%CI -0.1, 0.6) <u>TG</u> <u>3vs1</u> 0.18 (-0.16, 0.52) <u>3vs2</u> -0.08 (-0.45, 0.29) <u>2vs1</u> 0.26 (-0.11, 0.63)	changes in: Joggers Walkers Change in BMI 0.07 -0.26 Change in HDL 0.42 0.16 Change in TG 0.09 -0.20
Ronnemaa 404	Randomized: unclear Self-selected: unclear Included: non-overweight and diabetics Mean age: 52.5 Mean weight: 84 Female/Total: 10/25	not given	Diet: no Exercise: yes 45 min 5-7x/wk Behavioral: no	1. No intervention 2. Aerobic exercise	none	1. 0.5 2. -2.0 <u>2vs1</u> -2.5 (-12.8, 7.8)	<u>Cholesterol</u> 1. (12) 6.2 (95%CI 5.4, 7.0) 2. (13) 6.74 (95%CI 6.2, 7.3) <u>HDL</u> 1. (12) 1.22 (95%CI 1.0, 1.4) 2. (13) 1.22 (95%CI 1.0, 1.4) <u>TG</u> 1. (12) 1.91 (95%CI 1.4, 2.4) 2. (13) 2.16 (95%CI 1.4, 2.9) <u>LDL</u> 1. (12) 4.19 (95%CI 3.5,	<u>Cholesterol</u> 1. (12) 6.1 (95%CI 5.5, 6.7) 2. (13) 6.37 (95%CI 5.8, 6.9) <u>Cholesterol</u> -0.27 (-0.89, 0.35) <u>HDL</u> 1. (12) 1.26 (95%CI 1.1, 1.5) 2. (13) 1.29 (95%CI 1.1, 1.5) <u>HDL</u> 0.03 (-0.17, 0.23) <u>TG</u> 1. (12) 1.75 (95%CI 1.4, 2.1) 2. (13) 1.91 (95%CI 1.3, 2.5)	TC showed a decreasing trend in exercise group but no change in control group. HDL increased slightly as a result of exercise mostly secondary to increase in HDL2. There was no significant correlation between changes in the lipid and lipoprotein concentrations and the changes in body weight, VO ₂ Max or activities of the lipid-metabolizing enzymes.

Reference numbers refer to the Reference List in the Clinical Guidelines Report.

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
							4.9) 2. (13) 4.62 (95%CI 4.1, 5.1)	<u>TG</u> -0.09 (-0.66, 0.48) <u>LDL</u> 1. (12) 4.11 (95%CI 3.5, 4.7) 2. (13) 4.29 (95%CI 3.8, 4.8) <u>LDL</u> -0.25 (-0.82, 0.32)	
Wood 406	Randomized: yes Self-selected: yes Included: 120-160% IBW Mean age: 44.5 Mean weight: 94.1 Female/Total: 0/155	120-160% IBW	Diet: for group 2 Exercise: yes 40-50 min 5x/wk Max HR: 60-80% Behavioral: no	1. No intervention 2. Diet alone 3. Exercise alone	1. 3/52 (6%) 2. 2/51 (4%) 3. 1/52 (2%)	1. 0.6 (-0.6, 1.8) 2. -7.2 (-8.4, -6.0) 3. -4.0 (-5.1, -2.9) <u>2vs1</u> -7.8 (-8.9, -6.6) <u>3vs2</u> 4.6 (3.6, 5.59) <u>3vs1</u> -4.6 (-5.7, -3.5)	<u>Cholesterol</u> 1. (42) 5.7 (95%CI 5.4, 6.0) 2. (42) 5.71 (95%CI 5.4, 6.0) 3. (47) 5.64 (95%CI 5.3, 6.0) <u>LDL</u> 1. (42) 3.93 (95%CI 3.7, 4.2) 2. (42) 3.84 (95%CI 3.6, 4.1) 3. (47) 3.83 (95%CI 3.6, 4.1) <u>HDL</u> 1. (41) 1.05 (95%CI 1.0, 1.1) 2. (41) 1.1 (95%CI 1.0, 1.2) 3. (47) 1.06 (95%CI 1.0, 1.1)	<u>Cholesterol</u> 12 months 1. (42) -0.23 (95%CI -0.4, 0.0) 2. (42) -0.36 (95%CI -0.5, -0.2) 3. (47) -0.25 (95%CI -0.4, -0.1) <u>LDL</u> 12 months 1. (42) -0.21 (95%CI -0.4, 0.0) 2. (42) -0.31 (95%CI -0.5, -0.1) 3. (47) -0.25 (95%CI -0.4, -0.1) <u>HDL</u> 12 months 1. (41) -0.02 (95%CI -0.1, 0.0) 2. (41) 0.12 (95%CI 0.1, 0.2) 3. (47) 0.11 (95%CI 0.1, 0.2) measured at 12 months to reflect where wgt was static	Correlations: Among exercisers, the distance run correlated significantly with changes in weight (rs=-0.48), fat body mass (rs=-0.41) and the % of body fat (rs=-0.41), HDL (rs=0.45) and HDL2 (rs=0.34). One year change in VO ₂ Max correlated significantly with total weight loss in the exercisers (rs=-0.68 and -0.41, respectively) and HDL (rs=0.43) and HDL2 (rs=0.46) but not in dieters (rs=-0.23,-0.05 for weight loss). As compared with mean changes in controls the exercisers and dieters significantly increased HDL2 mass (48.6% and 47.1%, respectively), decreased VLDL mass (-23.9% and -25.5%), and increased LDL peak particle diameter (2.4 and 3.2 A). When adjusted to an equivalent change in BMI by ANOVA, 1) exercise-induced and diet-induced weight loss produced comparable mean changes in the mass of small LDL and VLDL, and LDL particle diameter, 2) the exercisers versus control group difference in

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23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
									<p>HDL2 was attributed to the exercisers' reduced BMI and 3) HDL2 increased significantly less in dieters than in exercisers.</p> <p>Exercisers significantly increased plasma apo-AI concentrations. ANCOVA was used to statistically adjust the mean lipoprotein changes for the effects of weight loss. The adjustment eliminated the significant reductions in HDL3b and the significant increases in HDL2b in exercisers and dieters and it eliminated the significant increase in apo-AI in exercisers. When adjusted, the dieters' mean changes in HDL2b had significantly decreased relative to those of both exercisers and controls.</p>
	Diet and exercise								
Schuler 405	Randomized: Yes Self-selected: not Included: non-overweight Mean age: 53.5 Mean weight: 26.5 Female/Total: 0/113	includes non-overweight	Diet: yes <20% fat Exercise: yes Max HR: 70% Behavioral: no	1. No intervention 2. Low fat diet and exercise	1. 4/57 (7%) 2. 5/56 (9%)	1. (52) -0.2 mg/kg ² 2. (40) -1.6 mg/kg ² 2vs1 -1.4 (-2.2, -0.6)	<p><u>Cholesterol</u></p> <p>1. (52) 6.09 (95%CI 5.8, 6.4) 2. (40) 6.05 (95%CI 5.7, 6.4)</p> <p><u>HDL</u></p> <p>1. (52) 0.91 (95%CI 0.9, 1.0) 1. (40) 0.92 (95%CI 0.8, 1.0)</p> <p><u>LDL</u></p> <p>1. (52) 4.25 (95%CI 4.0, 4.5) 2. (40) 4.24 (95%CI 4.0, 4.5)</p> <p><u>TG</u></p> <p>1. (52) 2.16 (95%CI 1.8, 2.5) 2. (40) 1.97 (95%CI 1.7, 2.2)</p>	<p><u>Cholesterol</u></p> <p>1. (52) 6.08 (95%CI 5.8, 6.4) 2. (40) 5.74 (95%CI 5.4, 6.1)</p> <p><u>HDL</u></p> <p>1. (52) 0.94 (95%CI 0.9, 1.0) 1. (40) 1.01 (95%CI 0.9, 1.1)</p> <p><u>LDL</u></p> <p>1. (52) 4.37 (95%CI 4.1, 4.6) 2. (40) 4.07 (95%CI 3.8, 4.3)</p> <p><u>TG</u></p> <p>1. (52) 1.79 (95%CI 1.6, 2.0) 2. (40) 1.64 (95%CI 1.4, 1.9)</p>	Compliance for attending group exercise sessions was significantly correlated with average total cholesterol (r=-0.51, p<0.001), average LDL (r=-0.49, p<0.05) and average TG (r=-0.51, p<0.001). No significant correlation was detected between physical fitness variables and lipoprotein levels.

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23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
Page 684	Randomized: unclear Self-selected: unclear Included: non-overweight, subjects with impaired glucose tolerance Mean age: 39 Mean weight: not given Female/Total: ng/31	includes non-overweight	Diet: yes Diet AHA with increased fiber kcal to lose 0.5-1.0k g/w Behavioral: no	1. No intervention 2. Low fat diet and exercise	1. 1/8 (12%) 2. 5/23 (22%)	1. (7) -1.0 mg/kg ² 2. (18) -1.0 mg/kg ² <u>2vs1</u> BMI 104 weeks 0.00 (-2.38, 2.38)	<u>Cholesterol</u> 1. (7) 5.3 (95%CI 4.4, 6.2) 2. (18) 5.2 (95%CI 4.7, 5.7) <u>HDL</u> 1. (7) 1.1 (95%CI 0.9, 1.3) 2. (18) 1.2 (95%CI 1.1, .3) <u>LDL</u> 1. (7) 3.1 (95%CI 2.5, 3.7) 2. (18) 3.2 (95%CI 2.8, 3.6)	<u>Cholesterol</u> 1. (7) 5.2 (95%CI 4.3, 6.1) 2. (18) 4.5 (95%CI 4.0, 5.0) <u>2vs1</u> -0.60 (-1.18, -0.02) <u>HDL</u> 1. (7) 1 (95%CI 0.9, 1.1) 2. (18) 1.2 (95%CI 1.2, 1.2) <u>2vs1</u> 0.01(-0.01, 0.21) <u>LDL</u> 1. (7) 2.9 (95%CI 2.3, 3.5) 2. (18) 2.8 (95%CI 2.4, 3.2) <u>2vs1</u> -0.40 (-0.82, -0.02) <u>BMI 104 weeks change</u> 0.00 (-2.38, 2.38) <u>Cholesterol 104 weeks</u> 1. (6) 5 (95%CI 4.0, 6.0) 2. (17) 4.5 (95%CI 4.0, 5.0) <u>HDL 104 weeks</u> 1. (6) 0.94 (95%CI 0.7, 1.1) 2. (17) 1.1 (95%CI 0.9, 1.3) <u>LDL 104 weeks</u> 1. (6) 3.2. (95%CI 2.3, 4.1) 2. (17) 2.8 (95%CI 2.4, 3.2)	
Hammer 434	Randomized: unclear Self-selected: yes Included: >130% IBW premenopausal women Mean age: not given Mean weight: 88.7 Female/Total: 36/36	>130% IBW	Diet: 1,2. Low-fat ad libitum CHO 3,4. 800 kcal Exercise: yes 1,3. None 2,4. 3-5x/w at 70-85% Max HR Behavioral: yes format: group frequency: qw	1. Low-fat, ad libitum carbohydrate diet with no exercise 2. Low-fat, ad libitum carbohydrate diet with exercise 3. Calorie restricted, low-fat, high CHO diet with no exercise 4. Calorie restricted, low-fat, high CHO diet with exercise	overall 10/36 (28%)	1. (4) -5.8 2. (8) -6.7 3. (8) -9.5 4. (6) -12.9 1,2 (12) -6.4 3,4 (14) -11.0 1,3 (12) -8.2 2,4 (14) -19.3 <u>2vs1</u> : -0.9 (-14, 12) <u>3vs1</u> : -3.7 (-14, 7.4) <u>4vs3</u> : -3.4 (-16, 10) <u>4vs2</u> : -6.2 (-21, 8.7) Low fat vs ↓ calorie	<u>Cholesterol</u> 1,2. (12) 5.1 (4.7, 5.5) 3,4. (14) 4.6 (4.3, 4.9) <u>TG</u> 1,2. (12) 1.4 (1.1, 1.7) 3,4. (14) 1.3 (1.0, 1.6)	<u>Cholesterol</u> 1,2. (12) 4.8 (4.4, 5.2) 3,4. (14) 4.1 (3.8, 4.4) <u>TG</u> 1,2. (12) 1.6 (1.1, 2.1) 3,4. (14) 1 (0.6, 1.4)	

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23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
						<u>1,2 vs 3,4</u> -4.6 (-17.3, 8.9) Exercise vs no exercise <u>2,4 vs 1,3</u> -11.1 (-21.5, -0.7)			
Andersen 469	Randomized: unclear Self-selected: yes Included: not specified Mean age: 44 Mean weight: 95kg Female/Total: 66/66	not given	Diet: yes 925-1200 kcal/d Exercise: yes 2. aerobic 3. resistance 4. combined Behavioral: yes group, qwx26	1. Diet alone 2. Diet and aerobic training 3. Diet and resistance training 4. Diet and combined training	not given	1. (16) -12.9 2. (16) -13.4 3. (18) -17.9 4. (16) -15.3 kg	<u>Cholesterol</u> 1. (16) 5.95 (95%CI 5.5, 6.4) 2. (16) 5.63 (95%CI 5.2, 6.1) 3. (18) 5.5 (95%CI 4.8, 6.2) 4. (16) 5.74 (95%CI 5.2, 6.3) <u>TG</u> 1. (10) 1.73 (95%CI 1.2, 2.3) 2. (16) 1.43 (95%CI 1.1, 1.7) 3. (18) 1.55 (95%CI 1.2, 1.9) 4. (16) 1.75 (95%CI 1.1, 2.4)	<u>Cholesterol</u> 1. (16) 4.88 (95%CI 4.1, 5.7) 2. (16) 5.2 (95%CI 4.8, 5.6) 3. (18) 4.57 (95%CI 4.3, 4.8) 4. (16) 5.28 (95%CI 4.8, 5.8) <u>TG</u> 1. (10) 1.27 (95%CI 0.9, 1.7) 2. (16) 1.2 (95%CI 0.9, 1.5) 3. (18) 0.97 (95%CI 0.7, 1.2) 4. (16) 1.03 (95%CI 0.8, 1.3) <u>Cholesterol 104 weeks</u> 1. (16) 5.44 (95%CI 4.9, 6.0) 2. (16) 4.88 (95%CI 4.6, 5.2) 3. (18) 4.67 (95%CI 4.2, 5.1) 4. (16) 5.12 (95%CI 4.6, 5.6) <u>TG 104 weeks</u> 1. (10) 1.32 (95%CI 0.9, 1.8) 2. (16) 1 (95%CI 0.8, 1.2) 3. (18) 0.98 (95%CI 0.8, 1.2) 4. (16) 1.12 (95%CI 0.8, 1.4)	
Leighton 475	Randomized: yes Self-selected: unclear Included: not specified Mean age: 42.5 Mean weight: 72.5 Female/Total: 49/66	Not given	Diet: yes NCEP I Exercise: yes 45min x3-5/wk Behavioral: no	1. Diet alone 2. Diet and exercise	1. 18% 2. 27%	1. 0 2. -2 kg <u>2vs1</u> -2.0 (-8.1, 4.1)	<u>Cholesterol</u> 1. (27) 7.01 (95%CI 6.7, 7.3) 2. (24) 7.06 (95%CI 6.6, 7.5) <u>HDL</u>	<u>Cholesterol</u> 1. (27) 6.52 (6.1, 6.9) 2. (24) 6.28 (5.9, 6.7) <u>2vs1</u> -0.29 (-0.7, 0.10) <u>HDL</u> 1. (27) 1.55 (1.4, 1.7)	

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23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
							<p>1. (27) 1.76 (95%CI 1.6, 1.9) 2. (24) 1.78 (95%CI 1.6, 2.0)</p> <p><u>TG</u> 1. (27) 1.68 (95%CI 1.5, 1.9) 2. (24) 1.57 (95%CI 1.3, 1.9)</p> <p><u>LDL</u> 1. (27) 4.63 (95%CI 4.2, 5.0) 2. (24) 4.71 (95%CI 4.3, 5.1)</p>	<p>2. (24) 1.55 (1.4, 1.7) <u>2vs1</u> -0.02 (-0.35, 0.31)</p> <p><u>TG</u> 1. (27) 1.49 (1.3, 1.7) 2. (24) 1.47 (1.1, 1.8) <u>2vs1</u> 0.09 (-0.19, 0.37)</p> <p><u>LDL</u> 1. (27) 4.42 (4.1, 4.8) 2. (24) 4.19 (3.8, 4.6) <u>2vs1</u> -0.31 (-0.71, 0.09)</p>	
Kanaley 681	Randomized: unclear Self-selected: unclear Included: BMI>29 Mean age: 36 Mean weight: 88.3 Female/Total: 24/24	BMI >29	Diet: 2.1MJ less than BMR Exercise: 1. encouraged 2. 30 min x3/wk at Max HR 60-80% Behavioral: no	1. Diet with informal exercise 2. Diet with formal exercise	overall 5/24 (21%)	<p><u>Weight in kg, lower obesity</u> 1,2 (9) -7.7 (-13.4, -2.01)</p> <p><u>Weight in kg, upper obesity</u> 1,2 (10) -9.2 (-15.3, -3.1)</p>	<p><u>HDL, upper body obesity</u> 1. (4) 1.1 (95%CI 0.7, 1.5) 2. (6) 0.85 (95%CI 0.5, 1.2)</p> <p><u>HDL, lower body obesity</u> 1. (4) 1.11 (95%CI 0.8, 1.5) 2. (5) 1.04 (95%CI 0.9, 1.2)</p> <p><u>Cholesterol, upper body obesity</u> 1,2. (10) 5.59 (95%CI 4.9, 6.2)</p> <p><u>Cholesterol, lower body obesity</u> 1,2. (9) 4.37 (95%CI 3.8, 4.9)</p>	<p><u>HDL, upper body obesity</u> 1. (4) 1.04 (95%CI -2.1, 4.2) 2. (6) 1.02 (95%CI 0.7, 1.4)</p> <p><u>HDL, lower body obesity</u> 1. (4) 1.05 (95%CI 0.7, 1.4) 2. (5) 1.1 (95%CI 1.0, 1.2)</p> <p><u>Cholesterol, upper body obesity</u> 1,2. (10) 4.63 (95%CI 4.2, 5.0)</p> <p><u>Cholesterol, lower body obesity</u> 1,2. (9) 4.03 (95%CI 3.6, 4.4)</p>	Formal vs informal exercise did not influence the changes in BP in either group. A significant test-by-group interaction (p<0.05) confirmed that the upper body obese women had greater decreases in TG (data not given) and cholesterol.
Blonk 470	Randomized: unclear Self-selected: no Included: BMI>27 Diabetes Mean age: ng Mean weight: ng Female/Total: ng/53	BMI >27	Diet: yes 500 kcal less than usual intake Exercise: yes 60 min daily Max HR 60-80% Behavioral: yes q4mo	1. Conventional diet program (diet counseling alone) 2. Comprehensive diet, behavioral and exercise program	1. 4/26 (15%) 2. 3/27 (11%)	<p>*Median difference between groups (comprehensive vs conventional)</p> <p><u>Weight in kg</u> <u>2vs1</u> -1.3 (95%CI -3.3, 0.7)</p>	<p><u>Cholesterol</u> 1. (27) 6.2 (95%CI 3.5, 7.9) 2. (26) 6.6 (95%CI 4.6, 8.7)</p>	<p><u>TG, mmol/l</u> <u>2vs1</u> -0.1 (95%CI -0.4, 0.4)</p> <p><u>Cholesterol</u> <u>2vs1</u> -0.2 (95%CI -0.7, 0.2)</p>	
Wood 380	Randomized: unclear Self-selected: yes	BMI >24	Diet: NCEP I	1. No intervention 2. Diet alone	overall 27/264 (10%)	<u>Weight in kg, men</u> 1. (40) 1.7 (95%CI 0.2, 3.2)		<u>TG, men</u> 1. (40) 0.18 (0.0, 0.4)	DiETING with exercise significantly decreased

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23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
	Included: BMI 28-34 for premenopausal women and 24-30 for men Mean age: 39.7 Mean weight: 86.7 Female/Total: 132/264		Exercise: yes 45min x3 Max HR: 60-80% Behavioral: no	3. Diet and exercise		2. (40) -5.1 (95%CI -7.0, -3.2) 3. (39) -8.7 (95%CI -10.5, -6.9) <u>Weight in kg, women</u> 1. (39) 1.3 (95%CI -0.4, 3.0) 2. (31) -4.1 (95%CI -6.1, -2.1) 3. (42) -5.1 (95%CI -6.8b, -3.4) <u>EOT Weight kg men</u> <u>2vs1</u> -6.80 (-8.48, -5.12) <u>3vs1</u> -10.40 (-12.03, -8.77) <u>3vs2</u> -3.6 (-5.4, -1.8) <u>EOT Weight kg women</u> <u>2vs1</u> -5.40 (-7.20, -3.60) <u>3vs1</u> -6.80 (-29.61, 16.01) <u>3vs2</u> -1.00 (-25.27, 23.27)		2. (40) -0.12 (-0.3, 0.1) 3. (39) -0.48 (-0.7, -0.2) <u>EOT TG, men</u> <u>2vs1</u> -0.30 (-0.50, -0.10) <u>3vs1</u> -0.66 (-0.88, -0.44) <u>3vs2</u> -0.36 (-0.58, -0.14) <u>Cholesterol, men</u> 1. (40) -0.14 (-0.3, 0.1) 2. (40) -0.42 (-0.6, -0.3) 3. (39) -0.38 (-0.7, -0.1) <u>LDL, men</u> 1. (40) -0.2 (-0.4, 0.0) 2. (40) -0.39 (-0.5, -0.2) 3. (39) -0.27 (-0.5, 0.0) <u>HDL, men</u> 1. (40) -0.05 (-0.1, 0.0) 2. (40) 0.02 (0.0, 0.1) 3. (39) 0.14 (0.1, 0.2)	VLDL mass concentrations and significantly increased HDL2, HDL3a, HDL2a and HDL2b relative to both controls and dieting without exercise. There were no significant changes in lipoprotein mass and HDL protein for dieters who did not run.
Svendsen 384	Randomized: unclear Self-selected: unclear Included: BMI >25 Mean age: ng Mean weight: 77.8 Female/Total: 121/121	BMI >25	Diet: 4.2 MJ/d Exercise: Yes 90 min x3 Max HR: ng Behavioral: No	1. Control (no diet, exercise) 2. Diet alone 3. Diet and exercise	none	<u>Weight in kg</u> 1. (20) 0.5 (95%CI -0.3, 1.3) 2. (50) -9.5 (95%CI -10.3, -8.7) 3. (48) -10.3 (95%CI -11.2, -9.4) <u>EOT change scores</u> <u>3vs2</u> -0.80 (-1.64, 0.04) <u>2vs1</u> -10.00 (-10.79, -9.21) <u>3vs1</u> -10.80 (-11.68, -9.94)	<u>Cholesterol</u> 1. (21) 7.01 (95%CI 6.5, 7.5) 2. (51) 6.98 (95%CI 6.7, 7.3) 3. (49) 6.63 (95%CI 6.3, 7.0) <u>HDL</u> 1. (21) 1.68 (95%CI 1.5, 1.8) 2. (51) 1.58 (95%CI 1.5, 1.7) 3. (49) 1.65 (95%CI 1.5, 1.8) <u>LDL</u> 1. (21) 4.76 (95%CI 4.3, 5.3) 2. (51) 4.7 (95%CI 4.4, 5.0) 3. (49) 4.41 (95%CI 4.1, 4.7) <u>TG</u> 1. (21) 1.21 (95%CI 1.0, 1.5) 2. (51) 1.48 (95%CI 1.2,	<u>Cholesterol</u> 1. (20) -0.11 (95%CI -0.3, 0.1) 2. (50) -1.36 (95%CI -1.6, -1.1) 3. (48) -1.23 (95%CI -1.4, -1.0) <u>3vs2</u> 0.13 (-0.09, 0.35) <u>2vs1</u> -1.25 (-1.48, -1.02) <u>3vs1</u> -1.12 (-1.32, -0.92) <u>HDL</u> 1. (20) -0.09 (95%CI -0.2, 0.0) 2. (50) -0.05 (95%CI -0.1, 0.0) 3. (48) -0.1 (95%CI -0.2, 0.0) <u>3vs2</u> -0.05 (-0.13, 0.03) <u>2vs1</u> 0.04 (-0.03, 0.11) <u>3vs1</u> -0.01 (-0.11, 0.09) <u>LDL</u> 1. (20) -0.07 (95%CI -0.3, 0.2) 2. (50) -1.08 (95%CI -1.3, -0.9)	There was no statistically significant difference in changes in total cholesterol, LDL from baseline to follow-up between the groups. On the other hand, HDL was increased significantly in both former intervention groups as compared with the control group. There was no significant difference between groups in blood pressure at the follow-up (not shown). There was no significant difference in changes in parameters between the two intervention groups at follow-up. However, 47% of the women in the diet plus exercise group had stopped exercising at the follow-up.

Reference numbers refer to the Reference List in the Clinical Guidelines Report.

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
							1.7) 3. (49) 1.2 (95%CI 1.1, 1.3)	3. (48) -0.99 (95%CI -1.2, -0.8) <u>3vs2</u> 0.09 (-0.11, 0.29) <u>2vs1</u> -1.01 (-1.22, -0.80) <u>3vs1</u> -0.92 (-1.13, -0.71) <u>TG</u> 1. (20) 0.12 (95%CI 0.0, 0.3) 2. (50) -0.5 (95%CI -0.7, -0.3) 3. (48) -0.3 (95%CI -0.4, -0.2) <u>3vs2</u> 0.20 (0.04, 0.36) <u>2vs1</u> -0.62 (-0.80, -0.44) <u>3vs1</u> -0.42 (-0.53, -0.31)	
Wing 473	Randomized: unclear Self-selected: unclear Included: >120% IBW Diabetes Mean age: 55 Mean weight: 103 Female/Total: 42/55	>120% IBW	Diet: ADA to lose 1 kg/wk Exercise: yes group 2: 2x/wk group 4: 3-5x/wk 60 min/3 x10 w then monthly Max HR: ng Behavioral: yes q2wx10, qmo	1. Diet plus placebo exercise 2. Diet plus moderate exercise Duration: 10 week intensive then up to 24 weeks of maintenance <u>Study 2</u> 3. Diet alone (study 2) 4. Diet and more intensive exercise (study 2)	1. 1/13 (7%) 2. 2/12 (17%) 3. 0/15 (0%) 4. 2/15 (13%)	Weight in kg (week 10) 1. (12) -7.3 2. (10) -8.5 3. (15) -5.6 4. (13) -9.3 <u>Weight in Kg 12 months</u> 1. (11) -4 (95%CI -8.2, 0.2) 2. (8) -7.8 (95%CI -16.5, 0.9) 3. (15) -3.8 (-14.9, 7.3) 4. (13) -7.9 (-22, 6.3)	<u>Cholesterol</u> 1. (12) 5.8 (95%CI 5.3, 6.3) 2. (10) 5.51 (95%CI 4.6, 6.5) <u>HDL</u> 1. (12) 0.99 (95%CI 0.9, 1.1) 2. (10) 0.95 (95%CI 0.8, 1.1) <u>TG</u> 1. (12) 2.93 (95%CI 1.4, 4.4) 2. (10) 2.1 (95%CI 1.7, 2.5) <u>Cholesterol</u> 3. (15) 4.78 (95%CI 4.3, 5.2) 4. (13) 4.86 (95%CI 4.2, 5.5) <u>HDL</u> 3. (15) 0.99 (95%CI 0.9, 1.1) 4. (13) 1.01 (95%CI 0.9, 1.2) <u>TG</u> 3. (15) 1.82 (95%CI 1.3, 2.4) 4. (13) 2.51 (95%CI 1.2, 3.8)	<u>Cholesterol</u> 1. (12) 5.12 (95%CI 4.7, 5.5) 2. (10) 5.33 (95%CI 4.6, 6.0) <u>HDL</u> 1. (12) 0.98 (95%CI 0.8, 1.1) 2. (10) 0.9 (95%CI 0.7, 1.1) <u>TG</u> 1. (12) 1.94 (95%CI 1.2, 2.6) 2. (10) 1.9 (95%CI 1.5, 2.3) <u>Cholesterol</u> 3. (15) 4.44 (95%CI 4.1, 4.8) 4. (13) 4.21 (95%CI 3.7, 4.7) <u>HDL</u> 3. (15) 0.96 (95%CI 0.9, 1.1) 4. (13) 0.94 (95%CI 0.8, 1.0) 3. (15) 1.64 (95%CI 1.2, 2.0) 4. (13) 1.42 (95%CI 1.0, 1.8) <u>Cholesterol 12 months</u> 3. (15) 5.2 (95%CI 4.7, 5.7)	

Reference numbers refer to the Reference List in the Clinical Guidelines Report.

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
								4. (13) 5.17 (95%CI 4.6, 5.7) <u>HDL</u> 12 months 3. (15) 1.09 (95%CI 0.9, 1.2) 4. (13) 1.07 (95%CI 0.9, 1.2) <u>TG</u> 12 months 3. (15) 1.85 (95%CI 1.5, 2.2) 4. (13) 1.87 (95%CI 1.2, 2.5)	
Verity 446	Randomized: unclear Self-selected: unclear Included: >120% IBW postmenopausal women with NIDDM Mean age: 59.2 Mean weight: 79.2 Female/Total :10/10	>120% IBW	Diet: yes Encouraged Exercise: yes group 2: 60-90/3 Max HR: 65-80% Behavioral: no	1. Control (diet) 2. Exercise	not reported	Weight in kg 1. (5) -2.9 2. (5) -2.1 <u>2vs1</u> <u>Weight in kg change</u> .80 (-17.08, 18.68)	Cholesterol 1. (5) 264 (95%CI 216.0, 312.0) 2. (5) 241 (95%CI 158.8, 323.2) <u>HDL</u> 1. (5) 50.8 (95%CI 43.0, 58.6) 2. (5) 56.4 (95%CI 52.0, 60.8)	Cholesterol 1. (5) 236.2 (95%CI 182.6, 289.8) 2. (5) 209.8 (95%CI 161.2, 258.4) <u>HDL</u> 1. (5) 42 (95%CI 37.3, 46.7) 2. (5) 55.4 (95%CI 42.4, 68.4) <u>HDL change</u> 7.80 (0.97, 14.63) <u>2vs1</u> -3.40 (-49.78, 42.98)	
	Diet: Low fat diet								
Mellies 683	Randomized: unclear Self-selected: unclear Included: >115% IBW Dyslipidemic subjects Mean age: 52.9 Mean weight: ng Female/Total: ng/45	>115% IBW	Diet: yes group 2: 17g fiber Exercise: no Behavioral: no	1. Control (no diet) 2. Low-fat diet plus placebo 3. Low-fat diet plus sucrose polyester (17g)	1. 4/15 (27%) 2. 0/12 3. 5/18 (28%)	Weight in kg 1. (11) -2.6 (95%CI -4.2, -1.0) 2. (12) -3.9 (95%CI -5.4, -2.4) 3. (13) -3.4 (95%CI -4.9, -1.9) <u>2vs1</u> -1.30 (-2.75, 0.15) <u>3vs2</u> 0.5 (-0.9, 1.9) <u>3vs1</u> -0.8 (-2.26, 0.66)	not given	Cholesterol 1. (11) -7 (95%CI -13.7, -0.3) 2. (12) -7 (95%CI -13.6, -0.4) 3. (13) -15 (95%CI -21.5, -8.5) <u>2vs1</u> 0.00 (-6.24, 6.24) <u>LDL</u> 1. (11) -5 (95%CI -9.5, -0.5) 2. (12) -6 (95%CI -12.6, 0.6) 3. (13) -16 (95%CI -24.7, -7.3) <u>2vs1</u>	

Reference numbers refer to the Reference List in the Clinical Guidelines Report.

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
								-1.00 (-6.36, 4.36) <u>HDL</u> 1. (11) -1 (95%CI -9.9, 7.9) 2. (12) -6 (95%CI -12.6, 0.6) 3. (13) -4 (95%CI -10.5, 2.5) <u>2vs1</u> -5.00 (-12.30, 2.30) <u>TG</u> 1. (11) -7 (95%CI -20.4, 6.4) 2. (12) -10 (95%CI -23.2, 3.2) 3. (13) -20 (95%CI -26.5, -13.5) <u>2vs1</u> -3.00 (-15.49, 9.49)	
Simkin-Silverman 373 *Women's Health Lifestyle Project	Randomized: unclear Self-selected: not Included: BMI 20-34 includes non-overweight Mean age: 47 Mean weight: ng Female/Total: 535/535	BMI 20-34	Diet: yes 1300-1500 kcal/d Exercise: yes 1500 cal/week Behavioral: yes group, qwx10, q2w	1. Control (no intervention) 2. Intervention group (low fat, exercise and behavioral therapy)	3%	<u>Weight in kg</u> 6 months 1. (267) -0.22 (95%CI -0.59, -.15) 2. (253) -4.8 (95%CI -5.4, -4.3) <u>2vs1</u> -4.58 (-4.99, -4.17)	<u>Cholesterol</u> 1. (267) 4.91 (95%CI 4.84, 4.99) 2. (253) 4.89 (95%CI 4.82, 4.98) <u>LDL</u> 1. (267) 3.01 (95%CI 2.94, 3.07) 2. (253) 2.96 (95%CI 2.89, 3.03) <u>HDL</u> 1. (267) 1.52 (95%CI 1.48, 1.56) 2. (253) 1.54 (95%CI 1.50, 1.59) <u>TG</u> 1. (267) 0.89 (0.83, 0.95) 2. (253) 0.92 (0.87, 0.98)	<u>Cholesterol</u> 6 months 1. (267) 0.03 (95%CI -0.04, 0.01) 2. (253) -0.34 (95%CI -0.41, -0.26) <u>2vs1</u> -0.37 (-0.43, -0.31) <u>LDL</u> 6 months 1. (267) -.002 (95%CI -0.062, 0.059) 2. (253) -0.28 (95%CI -0.34, -0.21) <u>HDL</u> 6 months 1. (267) -.003 (95%CI -0.028, 0.023) 2. (253) -0.06 (95%CI -0.09, -0.03) <u>TG</u> 6 months 1. (267) 0.06 (95%CI 0.01, 0.11) 2. (253) -0.04 (95%CI -0.10, 0.01)	Compliance: The number of treatment sessions attended was significantly correlated with change in risk factors such as weight (r=-0.48, p<0.001), WHR (r=-0.13, p<0.001), LDL (r=-0.19, p<0.001), TG (r=-0.1, p<0.05) and glucose (r=-0.18, p<0.005).
Wing 709	Randomized: unclear Self-selected: yes Included: >130% or more than 18 kg >IBW Diabetes Mean age: 52	>130% IBW or >18 kg >IBW	Diet: yes 1. LCD 2. Intermittent VLCD Exercise: no	1. LCD 2. Intermittent VLCD for 12 weeks x 2	1. 7/48 (15%) 2. 7/38 (18%)	<u>Weight in kg</u> 1. (41) -10.5 (95%CI -14.2, -6.8) 2. (38) -14.2 (95%CI -17.6, -10.8)	<u>Cholesterol</u> 1. (41) 5.3 (95%CI 5.0, 5.6) 2. (38) 5.41 (95%CI 5.1, 5.7) <u>LDL</u>	<u>Cholesterol</u> 1. (41) 4.99 (95%CI 4.7, 5.3) 2. (38) 5.43 (95%CI 5.1, 5.8) <u>2vs1</u>	

Reference numbers refer to the Reference List in the Clinical Guidelines Report.

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
	Mean weight: 107 Female/Total: 60/93		Behavioral: yes group, weekly			<u>2vs1</u> -3.70 (-7.28, -0.12)	<u>Lipid baseline</u> 1. (41) 3.22 (95%CI 3.0, 3.5) 2. (38) 3.3 (95%CI 3.1, 3.5) <u>HDL</u> 1. (41) 1.09 (95%CI 1.0, 1.2) 2. (38) 1.12 (95%CI 1.1, 1.2) <u>TG</u> 1. (41) 2.54 (95%CI 1.9, 3.2) 2. (38) 2.2 (95%CI 1.8, 2.6)	<u>Lipid change</u> 0.33 (0.00, 0.66) <u>LDL</u> 1. (41) 3.09 (95%CI 2.8, 3.3) 2. (38) 3.43 (95%CI 3.1, 3.7) <u>2vs1</u> -0.07 (-0.76, 0.62) <u>HDL</u> 1. (41) 1.17 (95%CI 1.1, 1.2) 2. (38) 1.25 (95%CI 1.2, 1.3) <u>2vs1</u> 0.05 (-0.02, 0.12) <u>TG</u> 1. (41) 1.66 (95%CI 1.4, 2.0) 2. (38) 1.5 (95%CI 1.2, 1.8) <u>2vs1</u> 0.18 (-0.31, 0.67)	
Ryttig 688	Randomized: unclear Self-selected: yes Included: BMI>30 Mean age: 41.5 Mean weight: 112.4 Female/Total: 49/60	BMI >30	Diet: yes 1. VLCD x12w, LCD 2. VLCDx12, + supplemented with VLCD sachets Exercise: no Behavioral: yes group, 17 sessions	1. VLCD x12 weeks followed by LCD maintenance 2. VLCD x12 weeks followed by LCD supplemented with VLCD sachets	1. 7/29 (24%) 2. 8/31 (26%)	<u>Weight in kg 52 weeks</u> 1. (22) 12.3 (95%CI 8.0, 16.6) 2. (23) 8 (95%CI 4.5, 11.5) <u>2vs1</u> -4.30 (-8.10, -0.50)	<u>Cholesterol</u> 1. (29) 4.8 (95%CI 4.5, 5.1) 2. (31) 4.4 (95%CI 4.0, 4.8) <u>HDL</u> 1. (29) 1 (95%CI 0.9, 1.1) 2. (31) 1 (95%CI 0.9, 1.1) <u>TG</u> 1. (29) 1.4 (95%CI 1.2, 1.6) 2. (31) 1.2 (95%CI 1.1, 1.3)	<u>Cholesterol</u> 1. (22) 5.6 (95%CI 5.2, 6.0) 2. (23) 5.3 (95%CI 4.8, 5.8) <u>2vs1</u> -0.30 (-0.74, 0.14) <u>HDL</u> 1. (22) 1.2 (95%CI 1.1, 1.3) 2. (23) 1.1 (95%CI 1.0, 1.2) <u>TG</u> 1. (22) 1.6 (95%CI 1.3, 1.9) 2. (23) 1.5 (95%CI 1.1, 1.9)	
Wing 708	Randomized: unclear Self-selected: unclear Included: diabetes, >130% IBW Mean age: 51 Mean weight: 103.3 Female/Total: 26/36	>130% IBW	Diet: yes 1. LCD: 4200 J/d 2. Optifast-70 Exercise: yes 4200J/wk Behavioral: yes group, 4 times	1. Behavioral therapy 2. Behavioral therapy + VLCD	1. 3/19 (16%) 2. 0/17	<u>Weight in kg</u> 1. (16) -10.1 2. (17) -18.6 <u>2vs1</u> -8.5 (-17.21, 0.21) <u>Weight in kg 12 months</u> 1. (16) -6.8 2. (17) -8.6 <u>2vs1</u> -1.8 (-10.24, 6.64)	<u>Cholesterol</u> 1. (16) 5.02 (4.6, 5.4) 2. (17) 4.94 (4.4, 5.5) <u>HDL</u> 1. (16) 1.03 (0.9, 1.2) 2. (17) 1.11 (1.0, 1.2) <u>TG</u> 1. (16) 2.5 (1.8, 3.2) 2. (17) 1.78 (1.4, 2.1)	<u>Cholesterol</u> 1. (16) 4.63 (95% CI 4.2, 5.1) 2. (17) 4.5 (95% CI 3.9, 5.1) <u>HDL</u> 1. (16) 1.07 (95% CI 0.9, 1.2) 2. (17) 1.26 (95% CI 1.1, 1.4)	Lipids: There was a trend towards greater increases in HDL in the VLCD group than in the BT over long term (p<0.09).

Reference numbers refer to the Reference List in the Clinical Guidelines Report.

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
								<p><u>TG</u></p> <p>1. (16) 1.61 (95% CI 1.3, 2.0)</p> <p>2. (17) 1.02 (95% CI 0.9, 1.2)</p> <p><u>Cholesterol 12 months</u></p> <p>1. (16) 5.33 (95% CI 4.7, 6.0)</p> <p>2. (17) 5.23 (95% CI 4.6, 5.8)</p> <p><u>HDL 12 months</u></p> <p>1. (16) 1.16 (95% CI 1.0, 1.3)</p> <p>2. (17) 1.33 (95% CI 1.2, 1.5)</p> <p><u>TG 12 months</u></p> <p>1. (16) 2.21 (95% CI 1.6, 2.8)</p> <p>2. (17) 1.65 (95% CI 1.2, 2.1)</p>	
Marniemi 402	Randomized: unclear Self-selected: yes Included: 30-50% overweight Mean age: 38 Mean weight: 96.3 Female/Total: 82/110	30-50% overweight	Diet: yes 2. moderate meat, fish and eggs 3. no meat, fish or eggs Exercise: no Behavioral: no	1. Control (no diet) 2. Mixed diet 3. Lactovegetarian diet	Not given	<p><u>Weight in kg</u></p> <p>2. (37) -10.2</p> <p>3. (31) -10.1</p> <p><u>2vs1 0.1 (-4.72, 4.92)</u></p> <p><u>Weight in kg 6 months</u></p> <p>1. (42) 1.5 (-3.3, 6.3)</p> <p>2. (37) -12.3 (-16.7, -7.87)</p> <p>3. (31) -11.8 (-17.1, -6.5))</p> <p><u>Weight in kg 12 months</u></p> <p>1.(42) 1.6 (-3.09, 6.29)</p> <p>2.(37) -10.4 (-14.8, -6.02)</p> <p>3.(31) -9.2 (-14.5, -3.94)</p>		<p><u>*TG</u></p> <p>2. (37) 1.2 (95%CI n/a, n/a)</p> <p><u>*Cholesterol</u></p> <p>2. (37) 5.1 (95%CI n/a, n/a)</p> <p>3. (31) 4.9 (95%CI n/a, n/a)</p> <p><u>*HDL</u></p> <p>2. (37) 1.3 (95%CI n/a, n/a)</p> <p>3. (31) 1.19 (95%CI n/a, n/a)</p> <p>* estimated from graph</p> <p><u>*TG 6 months</u></p> <p>1. (42) 1.4 (95%CI n/a, n/a)</p> <p>2. (37) 1.17 (95%CI n/a, n/a)</p> <p><u>*Cholesterol 6 months</u></p> <p>1. (42) 5.8 (95%CI n/a, n/a)</p> <p>2. (37) 5.45 (95%CI n/a, n/a)</p> <p>3. (31) 5.25 (95%CI n/a, n/a)</p>	<p>Lipids:</p> <p>TC decreased rapidly at the beginning of the weight reduction program. This change reached nadir already after 2 weeks of the low calorie period (data shown graphically).</p> <p>No significant correlation was found between the rise of the HDL and weight reduction.</p> <p>The reduction of TG as well as other metabolic responses to weight reduction were observed only or were more pronounced in the mixed diet group.</p> <p>In moderately overweight subjects, weight reduction with the aid of a low calorie mixed diet without increasing the exercise level causes favorable</p>

Reference numbers refer to the Reference List in the Clinical Guidelines Report.

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
								<p><u>*HDL 6 months</u> 1. (42) 1.28 (95%CI n/a, n/a) 2. (37) 1.4 (95%CI n/a, n/a) 3. (31) 1.28 (95%CI n/a, n/a)</p> <p><u>*TG 12 months</u> 1.(42) 1.45 (95%CI n/a, n/a)</p> <p><u>*Cholesterol 12 months</u> 1. (42) 5.75 (95%CI n/a, n/a) 2. (37) 5.6 (95%CI n/a, n/a) 3. (31) 5.25 (95%CI n/a, n/a)</p> <p><u>*HDL 12 months</u> 1. (42) 1.2 (95%CI n/a, n/a) 2. (37) 1.42 (95%CI n/a, n/a) 3. (31) 1.31 (95%CI n/a, n/a)</p>	responses in lipid.
Lean 70219	Randomized: unclear Self-selected: unclear Included: BMI >25 kg/m ² Mean age: 50.6 Mean weight: 84.4 Female/Total: 110/110	Not given	Exercise: no Behavioral: no	1. Low carbohydrate diet 2. High carbohydrate diet	not given	<p><u>Weight (kg)</u> 1. (40) -6.8 (-8.4, -5.2) 2. (42) -5.6 (-7.1, -4.1) 2vs1 1.2 (-0.33, 2.73)</p> <p><u>LDL</u> 1. (49) 4.46 (4.1, 4.8) 2. (51) 4.47 (4.2, 4.7)</p> <p><u>HDL</u> 1. (49) 1.48 (1.4, 1.6) 2. (51) 1.43 (1.3, 1.5)</p> <p><u>TG</u> 1. (49) 1.47 (1.2, 1.7) 2. (52) 1.49 (1.2, 1.7)</p>	<p><u>Cholesterol (mmol/L)</u> 1. (51) 6.65 (6.3, 7.0) 2. (53) 6.63 (6.2, 7.0)</p> <p><u>LDL</u> 1. (49) 4.46 (4.1, 4.8) 2. (51) 4.47 (4.2, 4.7)</p> <p><u>HDL</u> 1. (49) 1.48 (1.4, 1.6) 2. (51) 1.43 (1.3, 1.5)</p> <p><u>TG</u> 1. (49) 1.47 (1.2, 1.7) 2. (52) 1.49 (1.2, 1.7)</p>	<p><u>Cholesterol (mmol/L)</u> 1. (37) -0.12 (-0.42, 0.17) 2. (40) -0.34 (-0.56, -0.13) 2vs1 -0.22 (-0.47, 0.03)</p> <p><u>LDL</u> 1. (34) -0.03 (-0.29, 0.24) 2. (37) -0.17 (-0.36, 0.02) 2vs1 -0.14 (0.36, 0.08)</p> <p><u>HDL</u> 1. (34) 0.05 (-0.03, 0.14) 2. (37) -0.02 (-0.08, 0.05) 2vs1 -0.07 (-0.14, 0)</p> <p><u>TG</u> 1. (34) -0.25 (-0.44, -0.06) 2. (39) -0.27 (-0.45, -0.10) 2vs1 -0.02 (-0.2, -0.16)</p>	
Karvetti 368	Randomized: unclear Self-selected: unclear Included: BMI >27 kg/m ² Mean age: 48.1	BMI >27 kg/m ²	Diet: 1200 kcal/d Exercise: no Behavioral: no	1. Control (no diet) 2. Weight reduction program Duration: 52 weeks	1. 21/117 (18%) 2. 33/126 (26%)	<p><u>Weight in kg. men</u> 2. (17) -10.9</p> <p><u>Weight in kg. women</u></p>	<p><u>Cholesterol. men</u> 1. (20) 5.5 (4.89, 6.11) 2. (22) 5.2 (4.62, 5.78)</p>	<p><u>Cholesterol. men</u> 1. (ns) 5.7 2. (17) 5.4 (4.94, 5.86)</p>	

Reference numbers refer to the Reference List in the Clinical Guidelines Report.

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
	Mean Weight: 33.9 kg/m ² Female/Total: 147/189					2. (62) -5.4 <u>2vs1</u> p<0.05 per author	<u>Cholesterol, women</u> 1. (76) 5.6 (5.28, 5.92) 2. (71) 5.7 (5.42, 5.98) <u>HDL, women</u> 1. (76) 1.2 (1.11, 1.29) 2. (71) 1.15 (1.08, 1.22) <u>HDL, men</u> 1. (20) 1.01 (0.92, 1.10) 2. (22) 0.87 (0.77, 0.97)	<u>Cholesterol, women</u> 1. (ns) 5.9 2. (ns) 5.9 <u>HDL, women</u> 1. (ns) 1.24 2. (ns) 1.33 <u>HDL, men</u> 1. (ns) 1.03 2. (17) 1.12 (95%CI 0.95, 1.29)	
Golay 70167	Randomized: unclear Self-selected: no Included: BMI >30 kg/m ² Mean age: 43 Mean weight: 104.5 Female/Total: 34/43	BMI >30	Exercise: yes aerobic 120 min daily Behavioral: yes behavioral modification weekly meeting	1. Low calorie diet with low CHO 2. Low calorie diet with high CHO Duration: 6 weeks	none	1. (22) -8 (-18.05, 2.05) 2. (21) -7 (-14.93, 0.93) <u>2vs1</u> 1.0 (-7.8, 9.8)	<u>Cholesterol</u> (mmol/L) 1. (22) 5.7 (5.1, 6.3) 2. (21) 6.1 (5.3, 6.9) <u>HDL</u> (mmol/L) 1. (22) 1.1 (0.89, 1.3) 2. (21) 1.1 (0.89, 1.3) <u>TG</u> (mmol/L) 1. (22) 1.7 (1.5, 1.9) 2. (21) 2.2 (1.78, 2.6)	<u>Cholesterol</u> 1. (22) 4.5 (4.1, 4.9) 2. (21) 5.3 (4.7, 5.9) <u>HDL</u> 1. (22) 0.9 (-0.7, 1.1) 2. (21) 1.0 (0.8, 1.2) <u>TG</u> 1. (22) 1.4 (1.2, 1.6) 2. (21) 1.8 (1.4, 2.2)	
Jalkanen 400	Randomized: unclear Self-selected: no Included: BMI 27-34 Hypertension Mean age: 49 Mean weight: 83 Female/Total: ng/50	BMI 27-34	Diet: yes 1. n/a 2. 1000-1500 kcal Exercise: yes lectures Behavioral: yes group, qwx24, q3w	1. Control (no diet or advice) 2. Intervention program Duration: 52 weeks	overall 1/50 (2%)	<u>Weight in kg</u> 1. (25) 0 2. (24) -4 <u>2vs1</u> -4 (-9.32, 1.32)	<u>Cholesterol</u> 1. (22) 6.1 (95%CI 5.7, 6.5) 2. (22) 6 (95%CI 5.6, 6.4) <u>HDL</u> 1. (22) 1.4 (95%CI 1.2, 1.6) 2. (22) 1.3 (95%CI 1.1, 1.5) <u>TG</u> 1. (22) 1.9 (95%CI 1.5, 2.3) 2. (22) 1.9 (95%CI 1.6, 2.2)	<u>Cholesterol</u> 1. (22) 6.3 (5.9, 6.7) 2. (22) 5.8 (5.4, 6.2) <u>2vs1</u> -0.4 (-0.81, 0.01) <u>HDL</u> 1. (22) 1.4 (1.2, 1.6) 2. (22) 1.4 (1.3, 1.5) <u>2vs1</u> 0.10 (-0.11, 0.31) <u>TG</u> 1. (22) 1.8 (1.4, 2.2) 2. (22) 1.3 (1.0, 1.6) <u>2vs1</u> -0.5 (-0.86, -0.14)	
Puddey 370	Randomized: unclear Self-selected: yes Included: BMI >120% IBW	>120% IBW	Diet: yes 1000-1500± ETOH Exercise: no	1. Normal diet and normal alcohol intake 2. Hypocaloric diet and normal alcohol intake	20%	<u>Weight in kg</u> 2. (ns) -7 (95%CI -5.4,-8.5) 3. (ns) -1.7 (95%CI -0.4, -3.0)	<u>Cholesterol</u> 1. (20) 5.8 (95%CI 5.4, 6.3) 2. (22) 5.7 (95%CI 5.2, 6.2) 3. (21) 6.1 (95%CI 5.5, 6.7)	<u>Cholesterol</u> 2.(17) -0.4 (95%CI -0.76, -0.03) 3.(18) -.49 (95%CI -0.85,	In group 4 there was no change in HDL

Reference numbers refer to the Reference List in the Clinical Guidelines Report.

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
	Mean age: 44.3 Mean weight: 92.5 Female/Total: 0/86		Behavioral: no	3. Normal diet and reduced alcohol intake 4. Hypocaloric diet and reduced alcohol intake		4. (ns) -9.6 (95%CI -7.9, -11.3)	4. (23) 5.9 (95%CI 5.4, 6.4) <u>TG</u> 1. (20) 1.9 (95%CI 1.3, 2.5) 2. (22) 1.7 (95%CI 1.2 2.1) 3. (21) 2 (95%CI 1.3, 2.8) 4. (23) 2.5 (95%CI 1.9, 3.2) <u>HDL</u> 1. (20) 1.22 (95%CI 1.09, 1.35) 2. (22) 1.18 (95%CI 1.06, 1.29) 3. (21) 1.21 (95%CI 1.08, 1.34) 4. (23) 1.06 (95%CI 0.95, 1.18)	-0.12 <u>2vs3</u> -0.09 (-0.46, 0.28) <u>TG</u> 2. (17) -.78 (95%CI -1.17, -0.39) 3. (18) -.66 (95%CI -1.05, -0.27) <u>HDL</u> 2. (17) 0.11 (95%CI 0.04, 0.18) 3. (18) -.15 (95%CI -0.22, -0.08)	
Franz 701	Randomized: unclear Self-selected: yes Female/Total: ng/247 Mean age: 55.9 Mean weight: 93.7 Included: diabetes non-overweight	not given	Diet: yes to control glycemia Exercise: no Behavioral: no	1. Basic nutrition care to control glycemia 2. Practice guidelines nutrition care	68/247 (28%)	<u>Weight in kg at 6 months</u> 1. (85) -1.70 (-6.81, 3.41) 2. (94) -1.40 (-5.81, 3.01)	<u>Cholesterol</u> 1. (85) 5.7 (5.4, 6.0) 2. (94) 5.6 (5.4, 5.8) <u>LDL</u> 1. (79) 3.5 (3.3, 3.7) 2. (85) 3.34 (3.1, 3.6) <u>HDL</u> 1. (85) 1.14 (1.1, 1.2) 2. (94) 1.09 (1.0, 1.2) <u>TG</u> 1. (85) 2.54 (2.1, 3.0) 2. (94) 2.57 (2.3, 2.9)	<u>Cholesterol 6 months</u> 1. (85) 5.5 (5.3, 5.7) 2. (94) 5.4 (5.2, 5.6) <u>LDL 6 months</u> 1. (75) 3.51 (3.2, 3.8) 2. (89) 3.25 (3.1, 3.4) <u>HDL 6 months</u> 1. (85) 1.07 (1.0, 1.1) 2. (94) 1.07 (1.0, 1.1) <u>TG 6 months</u> 1. (85) 2.62 (2.2, 3.1) 2. (94) 2.4 (2.1, 2.7)	
Walker 693	Randomized: unclear Self-selected: unclear Included: diabetes, includes non-overweight Mean age: 58.3 Mean weight: 79.8 Female/Total: 15/48	not given	Diet: yes 1. HCLF 2. Modified fat Exercise: no Behavioral: no	1. High CHO low fat diet 2. Modified fat diet *Cross-over 1 month wash-out period Duration: 12 weeks	none	<u>Weight in kg</u> 1. (24) -0.7 2. (24) -1.3 <u>2vs1</u> -0.6 (-0.77, -1.43)	<u>TG</u> 1. (24) 2.24 (95%CI 1.6, 2.8) 2. (24) 2.36 (95%CI 1.4, 3.3) <u>Cholesterol</u> 1. (24) 5.75 (95%CI 5.4, 6.1) 2. (24) 5.98 (95%CI 5.5, 6.5) <u>HDL</u> 1. (24) 1.02 (95%CI 0.9, 1.1) 2. (24) 0.99 (95%CI 0.9,	<u>TG</u> 1. (24) 2.41 (95%CI 1.5, 3.3) 2. (24) 2.25 (95%CI 1.7, 2.8) <u>Cholesterol</u> 1. (24) 5.86 (95%CI 5.4, 6.4) 2. (24) 5.93 (95%CI 5.5, 6.3) <u>HDL</u> 1. (24) 1.02 (95%CI 0.9, 1.1) 2. (24) 1.04 (95%CI 0.9,	

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23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
							1.1) <u>LDL</u> 1. (24) 3.62 (95%CI 3.2, 4.0) 2. (24) 3.81 (95%CI 3.5, 4.2)	1.1) <u>LDL</u> 1. (24) 3.64 (95%CI 3.3, 4.0) 2. (24) 3.82 (95%CI 3.5, 4.1)	
Milne 702	Randomized: unclear Self-selected: not Included: diabetes, includes non-overweight Mean age: 59 Mean weight: 80.7 Female/Total: 35/70	not given	Diet: yes 1. 500 kcal below EER 2. Modified fat 3. High CHO, high fiber Exercise: no Behavioral: no	1. Weight-management diet 2. Modified lipid diet 3. High carbohydrate/high fiber diet Duration: 18 months	over all 6/70 (8.6%)	<u>Weight in kg</u> 1. (21) 1.5 2. (22) -1.0 3. (21) -0.1 <u>2vs1</u> -2.5 (-9, 4.08) <u>3vs1</u> -1.6 (-7.18, 3.98)	<u>Cholesterol</u> 1. (21) 6.4 (95%CI 5.8, 7.0) 2. (22) 6 (95%CI 5.6, 6.4) 3. (21) 6.6 (95%CI 5.9, 7.3) <u>LDL</u> 1. (21) 4.5 (95%CI 3.9, 5.1) 2. (22) 4.2 (95%CI 3.8, 4.6) 3. (21) 4.2 (95%CI 3.6, 4.8) <u>HDL</u> 1. (21) 1.24 (95%CI 1.1, 1.3) 2. (22) 1.15 (95%CI 0.9, 1.4) 3. (21) 1.21 (95%CI 1.1, 1.3) <u>TG</u> 1. (21) 1.7 (95%CI 1.2, 2.2) 2. (22) 1.8 (95%CI 1.2, 2.4) 3. (21) 2.5 (95%CI 1.8, 3.2)	<u>Cholesterol</u> 1. (21) 6.1 (95%CI 5.7, 6.5) 2. (22) 5.7 (95%CI 5.4, 6.0) 3. (21) 6.2 (95%CI 5.8, 6.6) <u>2vs1</u> 0.00 (-0.46, 0.46) <u>3vs1</u> -0.10 (-0.68, 0.48) <u>LDL</u> 1. (21) 4.2 (95%CI 3.9, 4.5) 2. (22) 3.6 (95%CI 3.3, 3.9) 3. (21) 4 (95%CI 3.6, 4.4) <u>LDL</u> <u>3vs1</u> 0.10 (-0.43, 0.63) <u>3vs2</u> 0.40 (-0.06, 0.66) <u>2vs1</u> -0.30 (-0.75, 0.15) <u>HDL</u> 1. (21) 1.18 (95%CI 1.1, 1.3) 2. (22) 1.22 (95%CI 1.1, 1.3) 3. (21) 1.19 (95%CI 1.1, 1.3) <u>3vs1</u> 0.04 (-0.06, 0.14) <u>3vs2</u> -0.09 (-0.26, 0.08) <u>2vs1</u> 0.13 (-0.04, 0.30) <u>TG</u> 1. (21) 1.6 (95%CI 1.3, 1.9) 2. (22) 2 (95%CI 1.6, 2.4) 3. (21) 2.4 (95%CI 2.0, 2.8) <u>TG</u> <u>3vs1</u> 0.00 (-0.53, 0.53) <u>3vs2</u> -0.30 (-0.88, 0.28)	

Reference numbers refer to the Reference List in the Clinical Guidelines Report.

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
								2vs1 0.30 (-0.19, 0.79)	
de Bont 440	Randomized: unclear Self-selected: not Included: diabetes, includes non-overweight Mean age: 55 Mean weight: 72.5 Female/Total: 148/148	includes non-overweight	Diet: yes 1. 40% CHO 2. 30% fat Exercise: no Behavioral: no	1. Low-CHO diet 2. Low-fat diet Duration: 24 weeks	overall 12/148 (8%)	<u>Weight in kg, obese</u> 1. (35) -0.9 (-2.1, 0.3) 2. (34) -2.7 (-4.0, -1.4) <u>Weight in kg, obese</u> -1.80 (-3.03, -0.67) <u>Weight in kg, nonobese</u> 1. (29) 0.1 (95%CI -0.7, 0.9) 2. (36) -0.4 (95%CI -1.3, 0.5) <u>Weight in kg, nonobese</u> 0.50 (-1.34, 0.34)	<u>Cholesterol</u> 1. (65) 7.32 (n/a, n/a) 2. (70) 7.57 (n/a, n/a) <u>HDL</u> 1. (65) 1.99 (95%CI n/a, n/a) 2. (70) 1.96 (95%CI n/a, n/a) <u>TG</u> 1. (65) 1.75 (95%CI n/a, n/a) 2. (70) 1.87 (95%CI n/a, n/a)	<u>Cholesterol</u> 1. (65) -0.28 (-0.5, 0.0) 2. (70) -0.9 (-1.2, -0.6) <u>2vs1</u> -0.62 (-0.92, -0.32) <u>HDL</u> 1. (65) -0.19 (95%CI -0.3, -0.1) 2. (70) -0.09 (95%CI -0.2, 0.0) <u>HDL</u> <u>2vs1</u> 0.10 (0.00, 0.20) <u>TG</u> 1. (65) -0.11 (95%CI -0.3, 0.0) 2. (70) -0.03 (95%CI -0.23, 0.16)	
Dengel 399	Randomized: unclear Self-selected: unclear Included: BMI >25 Mean age: 61 Mean weight: 90.5 Female/Total: 0/77	BMI >25	Diet: yes AHA step I Exercise: no Behavioral: yes Format: unclear Frequency: qw	1. AHA diet followed by weight maintenance 2. AHA diet followed by weight loss	1. 10/24 2. 25/53	<u>Weight in kg</u> 1. (14) 0 2. (28) -11 <u>2vs1</u> -11 (-14, -7.7)	<u>TG</u> 1. (14) 1.68 (95%CI 1.1, 2.2) 2. (28) 1.91 (95%CI 1.6, 2.3) <u>Cholesterol</u> 1. (14) 5.39 (95%CI 4.7, 6.1) 2. (28) 5.41 (95%CI 5.1, 5.7) <u>HDL</u> 1. (14) 1.04 (95%CI 0.9, 1.2) 2. (28) 1.11 (95%CI 1.0, 1.2) <u>LDL</u> 1. (14) 3.57 (95%CI 3.0, 4.1) 2. (28) 3.42 (95%CI 3.1, 3.7) After run-in <u>TG</u> 1. (14) 1.53 (1.2, 1.9) 2. (28) 1.45 (1.3, 1.3)	<u>TG</u> 1. (14) 1.64 (95%CI 1.3, 1.9) 2. (28) 1.18 (95%CI 1.0, 1.3) <u>2vs1</u> -0.38 (-0.6, -0.16) <u>Cholesterol</u> 1. (14) 4.82 (95% CI 4.3, 5.4) 2. (28) 4.33 (95% CI 4.0, 4.6) <u>2vs1</u> -0.49 (-0.91, -0.07) <u>HDL</u> 1. (14) 0.88 (95%CI 0.8, 1.0) 2. (28) 1.06 (95%CI 1.0, 1.2) <u>2vs1</u> 0.08 (-0.05, 0.21) <u>LDL</u> 1. (14) 3.19 (95%CI 2.7, 3.7) 2. (28) 2.72 (95%CI 2.5, 3.0) <u>2vs1</u> -0.42 (-0.77, -0.07)	There was a strong negative correlation between HDL and WHR (r=-0.37, p<0.05) and a positive correlation between TG and WHR (r=0.48, p<0.01) and waist circumference (r=0.38, p<0.05).

Reference numbers refer to the Reference List in the Clinical Guidelines Report.

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
							<u>Cholesterol</u> 1. (14) 4.56 (4.0, 5.4) 2. (28) 4.56 (4.2, 4.6) <u>HDL</u> 1. (14) 0.83 (0.7, 1.0) 2. (28) 0.93 (0.9, 1.2) <u>LDL</u> 1. (14) 3.03 (2.6, 3.7) 2. (28) 2.98 (2.7, 3.0)		
Katzel 369	Randomized: yes Self-selected: yes Included: 120-160% IBW, nonsmokers Mean age: 61 Mean weight: 91.07 Female/Total: 0/170	120-160% IBW	Diet: yes 1260-2100 kcal Exercise: yes 45 min x3 Behavioral: no	<u>Group description</u> 1. Control 2. Weight loss 3. Aerobic exercise Duration: 9 months	1.8/26 (31%) 2.25/73 (34%) 3.19/71 (27%)	<u>Weight in kg</u> 2. (44) -9.5 (95%CI -8.1, -10.9)	<u>TG</u> 1. (26) 1.57 (95%CI 1.3, 1.8) 2. (73) 1.49 (95%CI 1.3, 1.6) 3. (71) 1.5 (95%CI 1.4, 1.6) <u>LDL</u> 1. (26) 3.15 (95%CI 2.9, 3.4) 2. (73) 3.1 (95%CI 2.9, 3.3) 3. (71) 3.12 (95%CI 2.9, 3.3) <u>HDL</u> 1. (26) 0.88 (95%CI 0.8, 0.9) 2. (73) 0.9 (95%CI 0.9, 0.9) 3. (71) 0.87 (95%CI 0.8, 0.9)	<u>TG</u> 1. (18) -8%, estimate (95%CI n/a) 2. (44) -18%, p<0.01 (95%CI n/a) 3. (49) 9%, p<0.01 (95%CI n/a) <u>LDL</u> 1. (18) 5%, estimate (95%CI n/a) 2. (44) -7%, p<0.05 (95%CI n/a) 3. (49) -5%, estimate (95%CI n/a) <u>HDL</u> 1. (18) 5%, estimate (95%CI n/a) 2. (44) 13%, p<0.01 3. (49) 5% (95%CI n/a)	Pearson product-moment correlation coefficients: Change in weight and TG: 0.36 Cholesterol: 0.38 LCL: 0.43 HDL: -0.46
Darne 677	Randomized: unclear Self-selected: unclear Included: >110% IBW Hypertension Mean age: 48 Mean weight: 86 Female/Total: 22/54	>110% IBW	Diet: yes Low calorie Exercise: no Behavioral: no	1. Hypocaloric diet with or without antihypertensive drug therapy 2. No diet, antihypertensive therapy	1. 5/26 (19%) 2. 1/28 (3%)	<u>Weight in kg</u> 1. (27) -2.4 (78.8, 90.2) 2. (21) -5.1 (75.0, 84.8) <u>1vs2</u> p<0.01	<u>Cholesterol</u> 1. (28) 5.55 (95%CI 5.1, 6.0) 2. (26) 5.89 (95%CI 5.5, 6.3) <u>HDL</u> 1. (28) 1.1 (95%CI 1.0, 1.2) 2. (26) 1.21 (95%CI 1.1, 1.4) <u>TG</u> 1. (28) 1.71 (95%CI 1.5, 1.9)	<u>Cholesterol</u> 1. (27) 5.64 (95%CI 5.2, 6.1) 2. (21) 5.73 (95%CI 5.2, 6.3) <u>2vs1</u> -0.25 (-0.73, 0.23) <u>HDL</u> 1. (27) 1.3 (95%CI 1.2, 1.4) 2. (21) 1.31 (95%CI 1.2, 1.5) <u>TG</u> 1. (27) 1.45 (95%CI 1.0, 1.9)	

Reference numbers refer to the Reference List in the Clinical Guidelines Report.

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
							2. (26) 1.57 (95%CI 1.2, 1.9)	2. (21) 1.32 (95%CI 0.9, 1.7)	
MacMahon 356	Randomized: unclear Self-selected: no Included: BMI: >26 Hypertension Mean age: 42 Mean Weight: ng Female/Total: 14/56	BMI >26	Diet: yes Group 2 low calorie Exercise: no Behavioral: no	1. Placebo (no diet) 2. Low calorie diet 3. Metoprolol 100 mg BID (no diet)	1. 2/18 (11%) 2. 1/20 (5%) 3. 1/18 (5%)	<u>Weight in kg</u> 1. (18) .5 (n/a, n/a) 2. (20) -7.4 (n/a, n/a) 3. (18) 2.0 (n/a, n/a) <u>2vs1</u> p<0.05 <u>3vs1</u> p=ns	<u>Cholesterol</u> 1. (18) 5.69 (95%CI 5.0, 6.4) 2. (20) 5.69 (95%CI 5.0, 6.3) 3. (18) 5.47 (95%CI 5.0, 5.9) <u>LDL</u> 1. (18) 3.42 (95%CI 3.1, 3.8) 2. (20) 3.48 (95%CI 3.0, 4.0) 3. (18) 3.42 (95%CI 3.1, 3.8) <u>HDL</u> 1. (18) 1.18 (95%CI 1.0, 1.3) 2. (20) 1.14 (95%CI 1.0, 1.3) 3. (18) 1.06 (95%CI 0.9, 1.2) <u>TG</u> 1. (18) 1.53 (95%CI 1.1, 1.9) 2. (20) 1.55 (95%CI 1.2, 1.9) 3. (18) 1.72 (95%CI 1.3, 2.2)	<u>Cholesterol</u> 1. (18) 0.14 (95%CI n/a, n/a) 2. (20) -0.32 (95%CI n/a, n/a) 3. (18) 0.22 (95%CI n/a, n/a) <u>LDL</u> 1. (18) 0.18 (95%CI n/a, n/a) 2. (20) 0 (95%CI n/a, n/a) 3. (18) 0.17 (95%CI n/a, n/a) <u>HDL</u> 1. (18) 0.02 (95%CI 0, 0) 2. (20) 0.07 (95%CI 0, 0.1) 3. (18) -0.11 (95%CI -0.2, -0.1) <u>TG</u> 1. (18) 0.12 (95%CI n/a, n/a) 2. (20) -0.12 (95%CI n/a, n/a) 3. (18) +0.97 (95%CI 0.7, 1.2) <u>2vs1</u> 0.09 (-0.04, 0.22)	
Berglund 431	Randomized: no Self-selected: unclear Included: BMI≥26 Hypertension Mean age: 54 Mean weight: 99 Female/Total: 0/64	BMI ≥26	Diet: yes Low fat Exercise: no Behavioral: no	1. Low salt, weight loss diet 2. Atenolol	overall 3/64 (5%)	<u>Weight in kg</u> 12 months 2 (30) 1.0 (95% CI) 1. (31) -7.9 (95% CI) <u>2vs1</u> 8.80 (4.36, 13.24)	Not given	<u>Cholesterol</u> 12 months 1. (28) -0.33 (-0.7, 0.0) 2 (29) 0.04 (-0.2, 0.2) <u>2vs1</u> 0.37 (0.65, 0.09) <u>HDL</u> 12 months 1. (28) 0.09 (0.0, 0.2) 2 (29) -0.13 (-0.3, 0.0) <u>2vs1</u> -0.22 (-0.09, -0.35) <u>LDL</u> 12 months 1. (28) -0.32 (-0.6, -0.1)	

Reference numbers refer to the Reference List in the Clinical Guidelines Report.

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
								<p>2 (29) -0.02 (-0.3, 0.2) <u>2vs1</u> 0.30 (0.54 ,0.06)</p> <p>TG 12 months 1. (28) -0.23 (-0.6, 0.1) 2 (29) 0.42 (0.1, 0.7) <u>2vs1</u> 0.65 (0.97, -0.33)</p>	
Grimm 679	Randomized: unclear Self-selected: unclear Included: non-overweight Hypertension Mean age: 54.8 Mean weight: 85 Female/Total: 342/902	includes non-overweight	Diet: yes 1000-1600 kcal/d Exercise: yes 600 cal/w Behavioral: yes group, qwx8, qmo	1. Placebo (salt restriction) 2. Acebutolol 400 mg/d 3. Amlodipine 5 mg/d 4. Chlorthalidone 15 mg/d 5. Doxazosin 2 mg/d 6. Enalapril 5 mg/d	2 deaths otherwise not given	<u>Weight in kg 12 months</u> 1. (212) -4.5 (95%CI -4.5, -4.5) 2. (119) -4.3 (95%CI -4.4, -4.2) 3. (118) -5 (95%CI -5.1, -4.9) 4. (117) -5.6 (95%CI -5.7, -5.5) 5. (123) -3.9 (95%CI -4.0, -3.8) 6. (113) -5.3 (95%CI -5.4, -5.2)	<u>Cholesterol</u> 1. (221) 5.82 (95%CI 5.7, 5.9) 3. (122) 5.92 (95%CI 5.7, 6.1) 4. (125) 5.97 (95%CI 5.8, 6.1) 5. (128) 5.91 (95%CI 5.7, 6.1) 6. (127) 5.83 (95%CI 5.7, 6.0) 2. (124) 6 (95%CI 5.8, 6.2) <u>LDL</u> 1. (221) 4.05 (95%CI 3.9, 4.2) 2. (124) 4.18 (95%CI 4.0, 4.3) 3. (122) 4.12 (95%CI 3.9, 4.3) 4. (125) 4.16 (95%CI 4.0, 4.3) 5. (128) 4.09 (95%CI 3.9, 4.2) 6. (127) 3.96 (95%CI 3.8, 4.1) <u>HDL</u> 1. (221) 1.11 (95%CI 1.1, 1.2) 2. (124) 1.14 (95%CI 1.1, 1.2) 3. (122) 1.13 (95%CI 1.1, 1.2) 4. (125) 1.14 (95%CI 1.1, 1.2) 5. (128) 1.15 (95%CI 1.1, 1.2) 6. (127) 1.13 (95%CI 1.1, 1.2)	<u>Cholesterol</u> 12 months 1. (221) -0.13 (95%CI -0.1, -0.1) 2. (124) -0.33 (95%CI -0.3, -0.3) 3. (122) -0.19 (95%CI -0.2, -0.2) 4. (125) 0.03 (95%CI 0.0, 0.0) 5. (128) -0.33 (95%CI -0.3, -0.3) 6. (127) -0.2 (95%CI -0.2, -0.2) <u>LDL</u> 12 months 1. (221) -0.05 (95%CI -0.1, 0.0) 2. (124) -0.26 (95%CI -0.3, -0.2) 3. (122) -0.1 (95%CI -0.1, -0.1) 4. (125) 0.05 (95%CI 0.0, 0.1) 5. (128) -0.21 (95%CI -0.2, -0.2) 6. (127) -0.11 (95%CI -0.1, -0.1) <u>HDL</u> 12 months 1. (221) 0.04 (95%CI 0.0, 0.0) 2. (124) -0.01 (95%CI 0.0, 0.0) 3. (122) 0.06 (95%CI 0.1, 0.1) 4. (125) 0.06 (95%CI 0.1, 0.1) 5. (128) 0.06 (95%CI 0.1, 0.1) 6. (127) 0.07 (95%CI 0.1,	The effect of weight change on lipid levels was statistically significant for TC (p<.001), LDL (p<0.005), HDL (p=0.005) and TG (p<0.001). Those who lost more than 10 lb showed reductions in TC (-12.3 mg/dl), LDL (-8.1 mg/dl) and TG (-31 mg/dl). HDL for this group increased by 2 mg/dl.

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23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
							<u>TG</u> 1. (221) 1.42 (95%CI 1.3, 1.5) 2. (124) 1.49 (95%CI 1.4, 1.6) 3. (122) 1.47 (95%CI 1.3, 1.6) 4. (125) 1.46 (95%CI 1.3, 1.6) 5. (128) 1.46 (95%CI 1.3, 1.6) 6. (127) 1.61 (95%CI 1.4, 1.8)	0.1) <u>TG</u> 12 months 1. (221) -0.27 (95%CI -0.3, -0.3) 2. (124) -0.11 (95%CI -0.1, -0.1) 3. (122) -0.32 (95%CI -0.3, -0.3) 4. (125) -0.19 (95%CI -0.2, -0.2) 5. (128) -0.38 (95%CI -0.4, -0.4) 6. (127) -0.36 (95%CI -0.4, -0.3)	
Oberman 433	Randomized: unclear Self-selected: yes Included: >110-160% IBW Hypertension Mean age: 48.6 Mean weight: 88.0 Female/Total: 310/692	>110-160% IBW	Diet: yes 4-6: goal wt loss 4.5 kg 7-9: low Na, high K Exercise: no Behavioral: no	1. Usual diet plus placebo 2. Usual diet plus chlorthalidone 25 mg 3. Usual diet plus atenolol 50 mg 4. Weight loss diet plus placebo 5. Weight loss diet plus chlorthalidone 25 mg 6. Weight loss diet plus atenolol 7. Low sodium high potassium diet plus placebo 8. Low salt high potassium diet plus chlorthalidone 25 mg 9. Low salt high potassium diet plus atenolol 50 mg	Overall: 91 (13%)	<u>Weight in kg</u> 0. (692) -1.99 (n/a, n/a) 1. (79) -0.83 (n/a, n/a) 2. (75) -1.77 (n/a, n/a) 3. (75) 0.42 (n/a, n/a) 4. (84) -4.35 (n/a, n/a) 5. (75) -6.95 (n/a, n/a) 6. (76) -3.26 (n/a, n/a) 7. (69) -0.34 (n/a, n/a) 8. (78) -0.98 (n/a, n/a) 9. (81) 0.27 (n/a, n/a)	<u>Cholesterol</u> 0. (692) 6.0	<u>Cholesterol</u> 0. (692) 0.19 (n/a, n/a) 1. (79) 0.09 (n/a, n/a) 2. (75) 0.48 (n/a, n/a) 3. (75) 0.08 (n/a, n/a) 4. (84) 0.11 (n/a, n/a) 5. (75) 0.21 (n/a, n/a) 6. (76) 0.02 (n/a, n/a) 7. (69) 0.16 (n/a, n/a) 8. (78) 0.27 (n/a, n/a) 9. (81) 0.26 (n/a, n/a)	Adding either dietary component-weight loss or sodium-potassium to the chlorthalidone group decreased the total cholesterol response by 0.27 mmol/l (p=0.01) and 0.21 mmol/l (p=0.03), respectively. Among the total diet (all drugs) and drug groups (all diets) those persons on weight loss or atenolol showed the lowest relative risk at 6 months (0.89 and 0.88, respectively) in contrast to those on placebo or usual diet who had an estimated RR of 0.98. The response to weight loss was also different for blacks who had the lowest value for RR (0.81) for weight loss plus chlorthalidone rather than with weight loss plus atenolol as found in whites. The weight loss (all drugs) group was essentially equivalent to the atenolol (all diet) groups in lowering overall

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23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
									cardiovascular risk; the sodium-potassium (all drugs) group also lowered overall risk in whites but not in blacks. Weight reduction ameliorated the cholesterol-raising effects of chlorthalidone, so that active drugs combined with weight loss had the greatest effect on reducing relative cardiovascular risk after 6 months of therapy.
Singh 689	Randomized: yes Self-Selected: yes Included: hypertension Mean age: 47.0 Mean weight: 66.7 Female/Total: ng/217	BMI >25	Diet: yes 1. 2100 kcal 2. 1600 kcal Exercise: no Behavioral: no	1. Usual diet 2. Low calorie, low cholesterol, low salt diet	none	<u>Weight in kg</u> 1. (109) -0.8 (n/a, n/a) 2. (108) -3.6 (n/a, n/a) net change 2.8 (1.5, 4.1) <u>Weight in kg, in overweight patients</u> 1. (83) -1.8 2. (82) -4.2 net change 2.4 (0.44, 4.36)	<u>Cholesterol</u> 1. (109) 5.79 (95%CI 5.6, 6.0) 2. (108) 5.84 (95%CI 5.6, 6.1) <u>LDL</u> 1. (108) 4.27 (95%CI 3.9, 4.7) 2. (108) 4.32 (95%CI 3.9, 4.7) <u>HDL</u> 1. (108) 1.4 (95%CI 1.4, 1.4) 2. (108) 1.21 (95%CI 1.2, 1.3) <u>TG</u> 1. (108) 1.85 (95%CI 1.8, 1.9) 2. (108) 1.84 (95%CI 1.8, 1.9) <u>Cholesterol, in overweight patients</u> 1. (83) 6.31 (95%CI 6.1, 6.5) 2. (82) 6.32 (95%CI 6.1, 6.6) <u>LDL, in overweight patients</u> 1. (83) 4.37 (95%CI 4.3, 4.5) 2. (82) 4.4 (95%CI 4.3, 4.5)	<u>Cholesterol</u> 1. (109) -0.06 (95%CI n/a, n/a) 2. (108) -0.24 (95%CI n/a, n/a) net change: 0.18 (95%CI 0.08, 0.28) <u>LDL</u> 1. (109) -0.06 (95%CI n/a, n/a) 2. (108) -0.27 (95%CI n/a, n/a) net change: 0.21 (95%CI 0.09-0.31) <u>HDL</u> 1. (109) -0.04 (95%CI n/a, n/a) 2. (108) 0.06 (95%CI n/a, n/a) net change: 0.1 (95%CI 0.07, -0.13) <u>TG</u> 1. (109) -0.04 (95%CI n/a, n/a) 2. (108) -0.133 (95%CI n/a, n/a) net change: 0.09 (95%CI 0.04, -0.14) <u>Cholesterol, in overweight patients</u> 1. (83) -0.2 (95%CI n/a, n/a) 2. (82) -0.65 (95%CI n/a, n/a) net change:	

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23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
							<u>TG, in overwgt patients</u> 1. (83) 1.91 (95%CI 1.9, 2.0) 2. (82) 1.93 (95%CI 1.9, 2.0) <u>HDL, in overwgt patients</u> 1. (83) 1.14 (95%CI 1.1, 1.2) 2. (82) 1.17 (95%CI 1.1, 1.2)	0.64 (95%CI 0.19, 0.71) <u>LDL, in overwgt patients</u> 1. (83) -0.17 (95%CI n/a, n/a) 2. (82) -0.74 (95%CI n/a, n/a) Net change: 0.57 (95%CI 0.20, 0.87) <u>TG, in overwgt patients</u> 1. (83) -0.11 (95%CI n/a, n/a) 2. (82) -0.34 (95%CI n/a, n/a) Net change: 0.23(95%CI 0.08, 0.38) <u>HDL, in overwgt patients</u> 1. (83) -0.02 (95%CI n/a, n/a) 2. (82) 0.06 (95%CI n/a, n/a) Net change: 0.08(95%CI 0.05, 0.11)	
Singh 690	Randomized: yes Self-selected: no Included: AMI within 24 hrs Mean age: 50.5 Mean weight: 66 Female/Total: ng/406	includes non-overweight	Diet: yes 1. Usual diet 2. Low fat Exercise: no Behavioral: no	1. Usual diet 2. Low energy, high fruit and vegetable diet	1. 5/202 (2%) 2. 6/204 (2%)	<u>Weight in kg</u> 1. (179) -2.2 (n/a, n/a) 2. (182) -5.3 (n/a, n/a) net change: 3.1(1.28, 4.92)	<u>HDL</u> 1. (202) 1.1 (1.1, 1.1) 2. (204) 1.15 (1.1, 1.2) <u>TG</u> 1. (202) 1.97 (n/a, n/a) 2. (204) 1.94 (n/a, n/a)	<u>HDL</u> 1. (179) -0.03 (n/a, n/a) 2. (182) 0.07 (n/a, n/a) net change: 0.10 (0.06, 0.14) <u>TG</u> 1. (179) -0.1 (n/a, n/a) 2. (182) -0.28 (n/a, n/a) net change: 0.18 (0.09, 0.27)	
Viddal 706	Randomized: unclear Self-selected: unclear Included: weight not specified Mean age: 34 Mean weight: 110.4 kg Female/Total: 20/21	not given	Diet: no Exercise: no Behavioral: no	1. End to side jejunioleostomy 2. End to end jejunioleostomy	not given	<u>At 18 months</u> 1. -37 kg 2. -40 <u>2vs1</u> : 3 kg p=0.026	<u>Cholesterol</u> 1. (0) 6.03 (95%CI 5.1, 6.9) 2. (10) 5.80 (95%CI 4.7, 6.9) <u>2vs1</u> -0.52 (-1.13, 0.09)	<u>Cholesterol</u> 1. (10) 3.37 (95%CI 2.6, 4.1) 2. (10) 2.85 (95%CI 2.3, 3.4)	
	Behavioral								
Lovibond 484	Randomized: unclear Self-selected: yes Included: non-overweight, subjects at high risk of CAD	includes non-overweight	Diet: yes to reach or maintain weight Exercise: yes	1. Basic behavioral therapy 2. Extended behavioral therapy 3. Maximal behavioral therapy	1. (20%) 2. (8%) 3. (8%)	<u>Weight in kg</u> 1. (ns, overwgt) -5.15 (95%CI n/a, n/a) 2. (ns, overwgt) -8 (95%CI n/a, n/a)	not given	not given	<u>Cholesterol</u> Serum cholesterol: no statistically significant differences between the treatment conditions were

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23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
	Mean age: ng Mean weight: ng Female/Total: 18/75		aerobic Behavioral: yes group and individual			3. (ns, overwgt) -10.35 (95%CI n/a, n/a) <u>Weight in kg</u> 12 months 1. (ns, overwgt) -5.5 (95%CI n/a, n/a) 2. (ns, overwgt) -8.3 (95%CI n/a, n/a) 3. (ns, overwgt) -9.6 (95%CI n/a, n/a)			found. Serum triglycerides: no statistically significant differences between the treatment groups were found. <u>CHD estimated risk</u> Baseline: 0.175, 0.169, 0.173 for group 3, 2, and 1, respectively; 12 months: 0.071, 0.059, 0.035, respectively.
Uсутupa 490	Randomized: unclear Self-selected: not Included: diabetes >120% IBW Mean age: 53 Mean weight: 93kg Female/Total: ng/88	>120% IBW	Diet: yes kcal ng, low fat Exercise: no Behavioral: yes Format: unclear q2w	1. Conventional diet education 2. Intensified diet education	overall 1. (4%)	<u>BMI</u> 1. (46) -0.8 2. (40) -1.8 <u>2vs1</u> -1.0 (-2.65, 0.65)	<u>Cholesterol</u> 1. (48) 6.5 (95%CI 6.2, 6.8) 2. (40) 6.3 (95%CI 5.9, 6.7) <u>HDL</u> 1. (48) 1.12 (95%CI 1.0, 1.2) 2. (40) 1.07 (95%CI 1.0, 1.2) <u>TG</u> 1. (48) 2.88 (95%CI 2.4, 3.4) 2. (40) 2.76 (95%CI 2.2, 3.3) After run-in <u>Cholesterol</u> 1. (48) 6.3 (6.0, 6.7) 2. (40) 6.1 (5.7, 6.3) <u>HDL</u> 1. (48) 1.17 (1.1, 1.3) 2. (40) 1.07 (1.0, 1.3) <u>TG</u> 1. (48) 2.26 (1.9, 2.7) 2. (40) 2.5 (2.0, 2.2)	<u>Cholesterol</u> 1. (46) 6.4 (95%CI 6.1, 6.7) 2. (40) 6 (95%CI 5.7, 6.3) <u>2vs1</u> -0.2 (-0.54, 0.14) <u>HDL</u> 1. (46) 1.21 (95%CI 1.1, 1.3) 2. (40) 1.2 (95%CI 1.1, 1.3) <u>TG</u> 1. (46) 2.33 (95%CI 2.0, 2.7) 2. (40) 1.96 (95%CI 1.7, 2.2) <u>Cholesterol</u> 108 weeks 1. (44) 6.5 (95%CI 6.2, 6.8) 2. (38) 6.4 (95%CI 6.0, 6.8) <u>HDL</u> 108 weeks 1. (44) 1.19 (95%CI 1.1, 1.3) 2. (38) 1.17 (95%CI 1.1, 1.2) <u>TG</u> 108 weeks 1. (44) 2.25 (95%CI 1.9, 2.6) 2. (38) 2.34 (95%CI 1.9, 2.7)	During the trial, no statistically significant change in cholesterol or blood pressure, except HDL increased significantly during the intervention for group 2. Only group 2 had a significant decrease of TG. At follow-up: Both groups had a significant increase in body weight, BMI and FBS and HgbA1c. TC, TG, BP increased in group 2. In group 1 only SBP increased. FBS <6.7 mmol/l: 55.3% and 31.8% in groups 2 and 1, respectively; p=0.016 HgbA1c <7.0% 55.3% and 31.8% in groups 2 and 1, respectively, p=0.016. In multiple regression analysis, determinants for decreased serum TG were high TG at baseline and a decreased proportion of palmitic acid in serum TG; no variables had an independent contribution to the increase in serum HDL. Conclusion: a reduction of palmitic acid

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23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
									in the serum lipids, and beneficial effects on serum lipids in obese patients with type II diabetes, independently of weight loss and improvement in glycemic control.
Jeffery 367	Randomized: unclear Self-selected: yes Included: 14-32 kg overweight, multiple failed attempts Mean age: 37.5 Mean weight: 98.7 Female/Total: 22/54	14-32 kg overweight	Diet: yes 1000-1500 kcal/d Exercise: yes 2 and 5 1000 kcal/w Behavioral: yes group, qwx20, qmo	1. Control 2. Standard behavioral treatment 3. Standard behavioral treatment plus food provision 4. Standard behavioral treatment plus monetary incentive 5. Standard behavioral treatment plus food provision plus monetary incentive	not given	<u>Weight in kg</u> 1. (ns) 0.5 (n/a, n/a) 2. (ns) -3.5 (n/a, n/a) 3. (ns) -6 (n/a, n/a) 4. (ns) -3 (n/a, n/a) 5. (ns) -6 (n/a, n/a) <u>Weight in kg 12 months</u> 1. (ns) 0 (n/a, n/a) 2. (ns) -4 (n/a, n/a) 3. (ns) -8 (n/a, n/a) 4. (ns) -5 (n/a, n/a) 5. (ns) -8 (n/a, n/a) <u>Weight in kg 12 months</u> 1. (28) -1.5 2,3,4,5. (131) -7.5 <u>Weight in kg 120 weeks</u> 1. (27) 0.6 (-1.5, 2.7) 2. (24) -1.4 (-4.4, 1.6) 3. (34) -2.2 (-4.5, 0.1) 4. (34) -1.6 (-3.5, 0.3) 5. (34) -1.6 (-3.8, 0.6) <u>Weight in kg 120 weeks</u> 1. (28) -1.2 2,3,4,5. (131) -6.0	<u>Cholesterol</u> 1. (27) 4.89 (95%CI 4.9, 4.9) <u>HDL</u> 1. (27) 1.13 (95%CI 1.0, 1.2) <u>TG</u> 1. (27) 1.25 (95%CI 1.0, 1.5) <u>Cholesterol</u> 1. (27) 4.89 (95%CI 4.9, 4.9) 2,3,4,5. (129) 5.02 (95%CI 4.9, 5.2) <u>HDL</u> 1. (27) 1.13 (95%CI 1.0, 1.2) 2,3,4,5. (129) 1.2 (95%CI 1.2, 1.2) <u>TG</u> 1. (27) 1.25 (95%CI 1.0, 1.5) 2,3,4,5. (129) 1.16 (95%CI 1.0, 1.3) <u>Cholesterol, men</u> 2,3,4,5. (67) 5.12 (95%CI 4.9, 5.3) <u>Cholesterol, women</u> 2,3,4,5. (62) 4.92 (95%CI 4.7, 5.1) <u>HDL, men</u> 2,3,4,5. (67) 1.11 (95%CI 1.1, 1.2)	<u>Cholesterol</u> 6 months 1. (27) -0.11 (95%CI) 2,3,4,5. (129) -0.47 (95%CI) <u>Cholesterol, men</u> 6 months 2,3,4,5. (ns) -0.55 (95%CI) <u>Cholesterol, women</u> 6 months 2,3,4,5. (ns) -0.39 (95%CI) <u>HDL</u> 6 months 1. (27) -0.03 (95%CI) 2,3,4,5. (129) -0.02 (95%CI) <u>HDL, men</u> 6 months 2,3,4,5. (ns) 0.06 (95%CI) <u>HDL, women</u> 6 months 2,3,4,5. (ns) -0.03 (95%CI) <u>TG</u> 6 months 1. (27) 0.28 (95%CI) 2,3,4,5. (129) -0.18 (95%CI) <u>TG, men</u> 6 months 2,3,4,5. (ns) -0.29 (95%CI) <u>TG, women</u> 6 months 2,3,4,5. (ns) -0.06 (95%CI) From article #11767 <u>HDL</u> 12 months 1. (ns) 0.05 (95%CI) 2,3,4,5. (ns) 0.13 (95%CI) <u>TG</u> 12 months 1. (ns) 0.07 (95%CI) 2,3,4,5. (ns) -0.17 (95%CI)	

Reference numbers refer to the Reference List in the Clinical Guidelines Report.

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference	Design	Overweight defined as:	Adjuvant therapy	Intervention	Drop-out total	Mean weight change	Lipid baseline	Lipid change	Side effects/comments
							<p><u>HDL, women</u> 2,3,4,5. (62) 1.57 (95%CI 1.5, 1.6)</p> <p><u>TG, men</u> 2,3,4,5. (67) 1.36 (95%CI 1.2, 1.6)</p> <p><u>TG, women</u> 2,3,4,5. (62) 0.94 (95%CI 0.8, 1.1)</p>	<p><u>Cholesterol, men</u> 12 months 2,3,4,5. (ns) -0.41 (95%CI)</p> <p><u>Cholesterol, women</u> 12 months 2,3,4,5. (ns) -0.29 (95%CI)</p> <p><u>HDL, men</u> 12 months 2,3,4,5. (ns) 0.16 (95%CI)</p> <p><u>HDL, women</u> 12 months 2,3,4,5. (ns) 0.09 (95%CI)</p> <p><u>TG, men</u> 12 months 2,3,4,5. (ns) -0.28 (95%CI)</p> <p><u>TG, women</u> 12 months 2,3,4,5. (ns) -0.05 (95%CI)</p> <p>There was no contact between participants and study staff in this interval.</p> <p><u>Cholesterol</u> 120 weeks 1. (ns) 0 (95%CI) 2,3,4,5. (ns) -0.19 (95%CI)</p> <p><u>HDL</u> 120 weeks 1. (ns) 0.08 (95%CI) 2,3,4,5. (ns) 0.16 (95%CI)</p> <p><u>TG</u> 120 weeks 1. (ns) 0.23 (95%CI) 2,3,4,5. (ns) -0.01 (95%CI)</p>	
Wing 694	Randomized: unclear Self-selected: unclear Included: 13.6-31.8 kg above IBW Mean age: 37.4 Mean weight: 89.8 Female/Total: 101/202	13.6-31.8 kg above IBW	Diet: yes Exercise: yes Behavioral: yes Format: group Frequency: weekly	0. Patients were assigned to one to four groups which varied in the type of behavioral strategies used to promote adherence but not described further in this publication.	not given	<p><u>Weight in kg</u> men (101) -9.77 (95%CI -11.12, -8.42) women (101) -6.43 (95%CI -7.57, -5.29)</p>	<p><u>Cholesterol</u> men (101) 5.1 (95%CI 4.91, 5.29) women (101) 4.94 (95%CI 4.80, 5.08)</p> <p><u>Triglycerides</u> men (101) 1.36 (95%CI 1.20, 1.52) women (101) 0.94 (95%CI 0.84, 1.04)</p> <p><u>HDL</u> men (101) 1.07 (95%CI 1.03, 1.11) women (101) 1.32 (95%CI 1.27, 1.37)</p>	<p><u>Cholesterol</u> men (101) -0.5 (95%CI -0.64, -0.36) women (101) -0.34 (95%CI -0.45, -0.23)</p> <p><u>Triglycerides</u> men (101) -0.22 (95%CI -0.36, -0.08) women (101) 0 (95%CI -0.11, 0.11)</p> <p><u>HDL</u> men (101) 0.05 (95%CI 0.02, 0.08) women (101) -0.04 (95%CI -0.08, 0.00)</p>	

Reference numbers refer to the Reference List in the Clinical Guidelines Report.

23. What is the evidence that weight loss directly affects dyslipidemia (cholesterol)?

Reference numbers refer to the Reference List in the Clinical Guidelines Report.