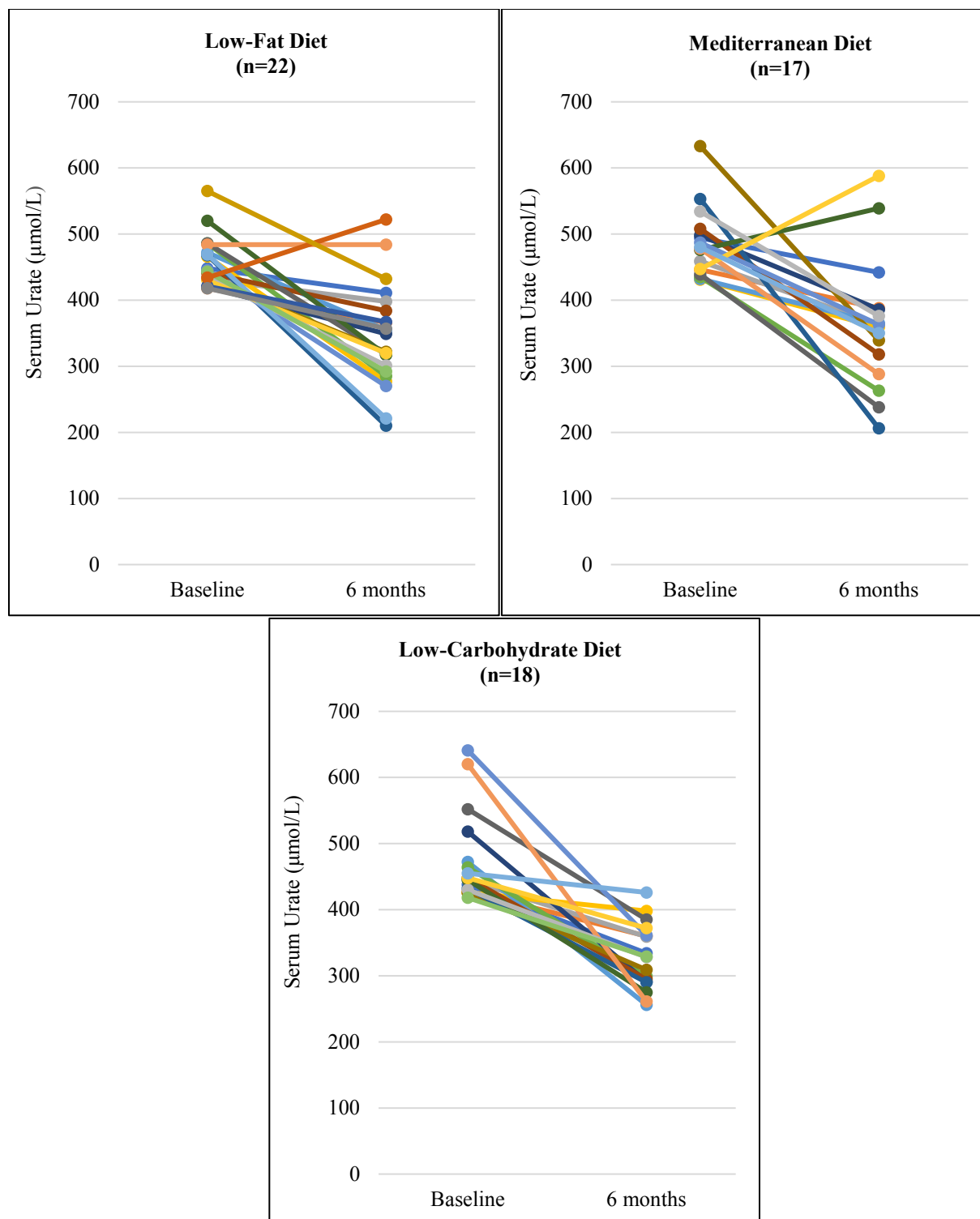
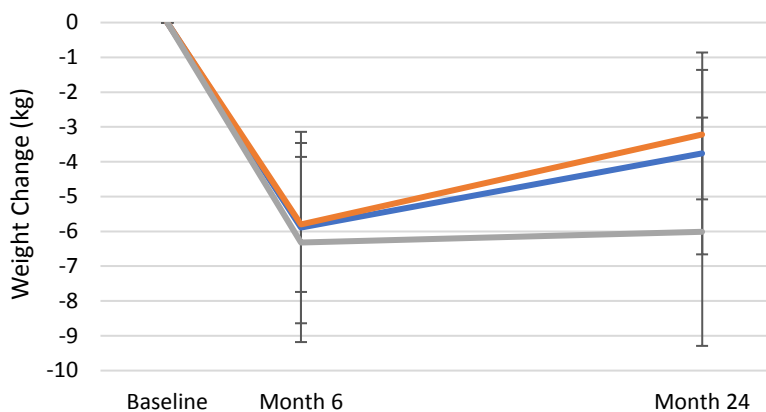


**Supplemental Figure S1: Consolidated Standards of Reporting Trials (CONSORT) Flow Diagram**

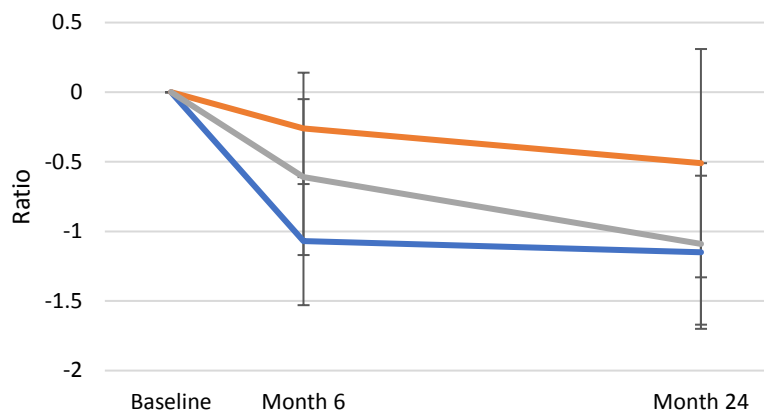


**Supplemental Figure S2. Serum Urate Change at 6 Months Among Those with Baseline Hyperuricemia, According to Assigned Diet.**

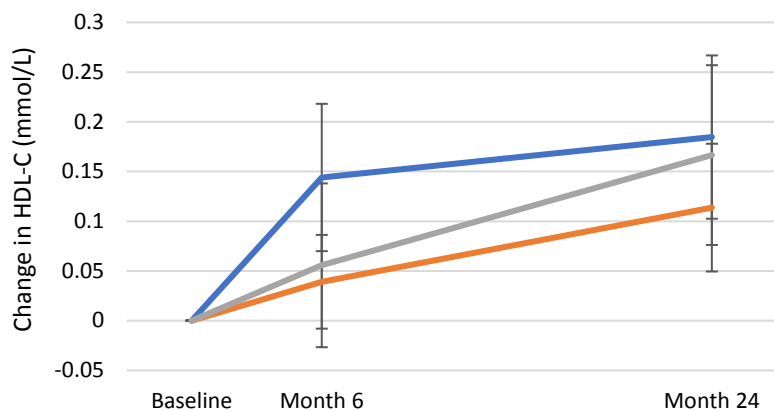
**Weight Loss**



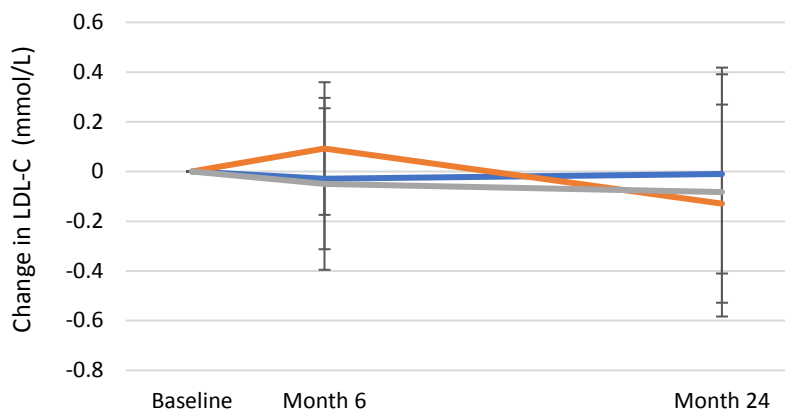
**Total Cholesterol : HDL Ratio**



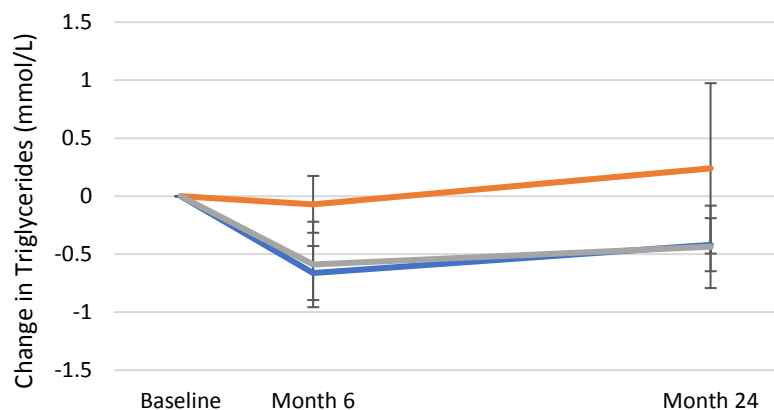
**HDL-C**



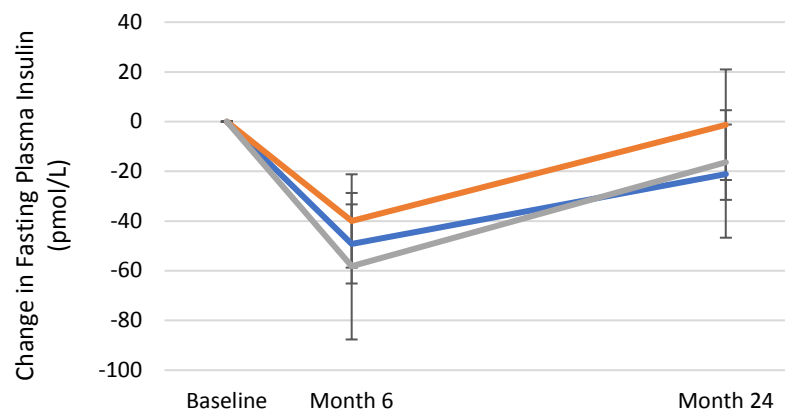
**LDL-C**



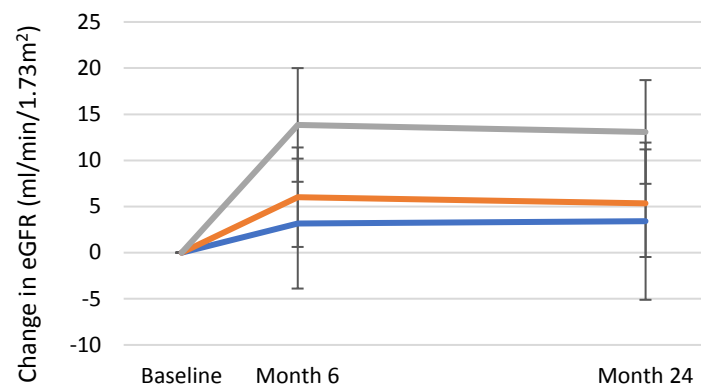
**Triglycerides**



**Fasting Plasma Insulin (Persons without Diabetes)**



**eGFR**



— Low-Carb Diet — Low-Fat Diet — Mediterranean Diet

**Supplemental Figure S3: Change in  
Cardiometabolic Parameters at 6- and 24-Months  
Among Participants with Baseline Hyperuricemia.**  
Vertical bars indicate standard errors.

**Supplemental Table S1. Overview of Each Diet**

Diet	Characteristics
Low fat, restricted calorie	<ul style="list-style-type: none"> <li>• Participants counseled to consume low-fat grains, vegetables, fruits, and legumes and limit added fats, sweets, and high-fat snacks</li> <li>• Up to 30% of calories from fat, 10% from saturated fat and up to 300mg cholesterol/day</li> <li>• Up to 1500kcal/day for women and 1800kcal/day for men</li> </ul>
Mediterranean, restricted calorie	<ul style="list-style-type: none"> <li>• Moderate-fat, rich in vegetables and low in red meat, with poultry and fish replacing beef and lamb</li> <li>• Main sources of added fat were from 30-45 grams of olive oil and a handful of nuts (5-7, &lt; 20 grams) per day</li> <li>• Up to 35% of calories from fat</li> <li>• Up to 1500kcal/day for women and 1800kcal/day for men</li> </ul>
Low carbohydrate, non-restricted calorie	<ul style="list-style-type: none"> <li>• Based upon the low-carbohydrate, high-protein/fat Atkins diet</li> <li>• 20g/day of carbohydrates during the <b>induction phase</b> (first 2 months), returning to this level of severe carb restriction after each religious holiday</li> <li>• During <b>maintenance phase</b>, participants instructed to increase carbs gradually up to a maximum of 120g/day to maintain weight loss</li> <li>• Participants counseled to choose vegetarian sources of fat and protein</li> <li>• Total calories, protein and fat intake from any source (except industrial- <i>trans</i> fats), intakes not limited.</li> </ul>

Adapted from Shai I, Schwarzfuchs D, Henkin Y, Shahar DR, Witkow S, Greenberg I, et al. Weight loss with a low-carbohydrate, Mediterranean, or low-fat diet. N Engl J Med. 2008;359(3):229-41.

**Supplemental Table S2. Sample Daily Meal Plans for Each Diet**

	Low fat, restricted calorie				Mediterranean, restricted calorie				Low carbohydrate, non-restricted calorie			
	Day 1		Day 2		Day 1		Day 2		Initiation Phase		Maintenance Phase	
<b>Breakfast</b>	Light whole-wheat bread	2 slices	Low fat yogurt	150g	Coffee with 1% fat milk		Coffee with 1% fat milk		Walnut	1 unit (6g)	Sour cream 15% fat	Liberal
	Cottage cheese (5% fat)	75g	Grapes	6 medium (42g)	Light whole wheat bread	2 slices	Low-fat yogurt	150g	High fat cream cheese	100g		
	Tomato	1 medium (160g)	Plum	1 medium (70g)	Low fat white cheese	2 TB	Fruits	2 units				
			Granola	2 spoons (30g)	Cucumber and tomato	few slices each						
					Fruit	1 unit						
<b>Snack</b>	Peach	1 medium (160g)										
<b>Lunch</b>	Roast chicken breast	150g	Chicken legs, baked, w/o skin	2 units	Grilled fish	1 portion, 150 gr	Greek salad with low-fat feta cheese	Big bowl	Fried chicken breast	Liberal	Fish, chicken, or beef, fried or roasted, not breaded	Liberal
	Roast potatoes	2 medium (140g)	Spaghetti in tomato sauce	1 cup (150g)	Cooked chickpeas	1 cup	Olive oil	1.5 TB	Cucumber	1 small (82g)	Stir fried zucchini with herbs	½ cup
	Cabbage salad	100g	Mixed vegetable salad, low-fat dressing	1 cup (150g)	Fresh and cooked vegetable salad	1 cup	Cooked peas	½ cup	Tomato	1 small (80g)	Roasted eggplants	½ cup
					Olive oil	1.5 TB	Whole wheat rice	½ cup	Tahini	2 T	Fresh vegetable salad with 2 tablespoons (17 g) of tahini	2 cups
<b>Snack</b>	Low fat yogurt	150g	Whole-wheat cracker	2 crackers	Low-fat yogurt	150g	Light whole wheat bread	1 slice	Turkey pastrami	2 slices (64g)	Almond cookies (with eggs, almonds and sugar substitute)	2 small (12g)
	Energy bar	1 bar (43g)	Strawberry jam	2 teaspoons (12g)	Fresh vegetables	few slices	Low-fat white cheese	2 TB				
					Fruit	1 unit	Fresh vegetables	few slices				
							Fruit	1 unit				

	Low fat, restricted calorie				Mediterranean, restricted calorie				Low carbohydrate, non-restricted calorie			
	Day 1		Day 2		Day 1		Day 2		Initiation Phase		Maintenance Phase	
<b>Dinner</b>	Whole-wheat bread	2 slices	Whole-wheat bread	2 slices	Light whole wheat bread	2 slices	Light whole wheat bread	2 slices	Tuna fish preserved in oil	Liberal	Cream cheese	250g
	Hard cheese (9% fat)	1 slice (20g)	Low fat cream cheese	35g	Low fat white cheese	3 TB	Low fat white cheese	3 TB	Fried eggs	Liberal	Broccoli and mushrooms coated with eggs, no flour	½ cup
	Carrot salad, low-fat dressing	200g	Smoked salmon	50g	Fresh vegetable salad	1 cup	Fresh vegetable salad	1 cup	Avocado	Liberal	Tuna	Liberal
			Tomato	1 medium (160g)	Olive oil	1 TB	Olive oil	1 TB	Cucumber	2 medium (160g)	Olives	Liberal
					Walnuts	5 units	Walnuts	5 units	Lettuce	1 cup (55g)		
<b>Night</b>							Hard boiled egg	1 unit				
							Chickpeas, cooked	½ cup				
	Watermelon	250g	Low fat yogurt	150g	Fresh vegetables	few slices	Fresh vegetables	few slices			Fruit flavor diet yogurt	150g
			Banana	1 medium (100g)	Fruit	1 unit	Fruit	1 unit			Walnuts	5 units (28g)
											Apple	1 small (100g)

Adapted from Shai I, Schwarzfuchs D, Henkin Y, Shahar DR, Witkow S, Greenberg I, et al. Weight loss with a low-carbohydrate, Mediterranean, or low-fat diet. N Engl J Med. 2008;359(3):229-41.

**Supplemental Table S3. Baseline Characteristics of Included Subjects and Those Not Included in Analysis Due to Missing Serum Urate**

<b>Baseline Characteristics*</b>	<b>Included Subjects (n=235)</b>	<b>Excluded Subjects (n=87)</b>
<b>Age, years</b>	51.5 ± 6.3	50.3 ± 6.4
<b>Male, N (%)</b>	206 (87.7)	71 (81.6)
<b>SU, µmol/L (mg/dL)</b>	363 ± 83 (6.1 ± 1.4)	-
<b>SU ≥ 416 µmol/L (≥ 7 mg/dL), N (%)</b>	57 (24.3)	-
<b>BMI, kg/m<sup>2</sup></b>	30.5 ± 3.3	32.1 ± 4.2
<b>Weight, kg</b>	90.0 ± 13.0	95.3 ± 13.8
<b>Diabetes, N (%)</b>	34 (14.5)	12 (13.8)
<b>Coronary heart disease, N (%)</b>	85 (36.2)	33 (37.9)
<b>Blood pressure, mm Hg</b>		
<b>Systolic</b>	130.2 ± 14.3	132.9 ± 15.1
<b>Diastolic</b>	78.9 ± 9.1	80.8 ± 9.3
<b>Lipid profile</b>		
<b>HDL, mmol/L</b>	1.00±0.24	0.98±0.23
<b>Triglycerides, mmol/L</b>	1.86±0.80	2.13±1.39
<b>Total cholesterol : HDL ratio</b>	5.3 ± 1.4	5.7 ± 2.0
<b>eGFR, ml/minute/1.73 m<sup>2</sup></b>	96.1 ± 21.5	97.0 ± 22.8
<b>HOMA-IR</b>	3.2 ± 2.6	3.4 ± 2.4
<b>Statins, N (%)</b>	52 (22.1)	20 (21.0)
<b>Antihypertensive therapy, N (%)</b>	72 (30.6)	24 (27.6)
<b>Diuretics, N (%)</b>	18 (7.7)	8 (9.2)

\*Unless indicated otherwise, values are the mean ± standard deviation.

Abbreviations: SU – serum urate; BMI – body mass index; HDL – high-density lipoprotein; eGFR – estimated glomerular filtration rate; HOMA-IR – homeostasis model assessment of insulin resistance