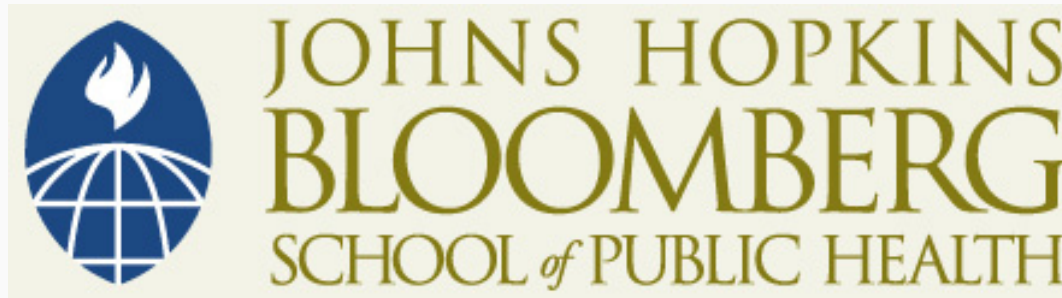


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JOHNS HOPKINS  
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## Section C

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OmniHeart Clinical Trial

# Background

- The DASH diet is rich in carbohydrate and reduced in saturated fat
  - Lowers blood pressure
  - Lowers LDL cholesterol
  - Meets each of the major nutrient recommendations
  - Is advocated in several policy documents, including 2005 U.S. dietary guidelines
- Issue: Can it be improved?

# Objective

- Determine, in the setting of a healthy diet, the effects of partially replacing carbohydrate with:
  1. Protein (about half from plant sources) or
  2. Unsaturated fat (mostly monounsaturated fat) ...... on blood pressure, serum lipids, and estimated CHD risk

# Macronutrient Goals, % kcal

	Carb.*	Prot.	Unsat.
Carbohydrate	58	48	48
Protein	15	25	15
Fat	27	27	37
▪ Monounsaturated	13	13	21
▪ Polyunsaturated	8	8	10
▪ Saturated	6	6	6

\*Similar to DASH diet, except that the carbohydrate content of DASH was 55% kcal and its protein content 18% kcal

# Sources of Protein (Average Daily Intake)

	Unit	Carb.	Prot.	Unsat.
Legumes, nuts, seeds, vegetable protein	oz	1.3	3.0	1.2
Milk, milk products	cup	2.1	2.5	1.9
Beef, pork, ham	oz	0.9	1.1	1
Poultry	oz	1.6	2.6	1.8
Fish	oz	1.1	1.3	1
Egg product substitutes	oz	0.2	1.1	0.1

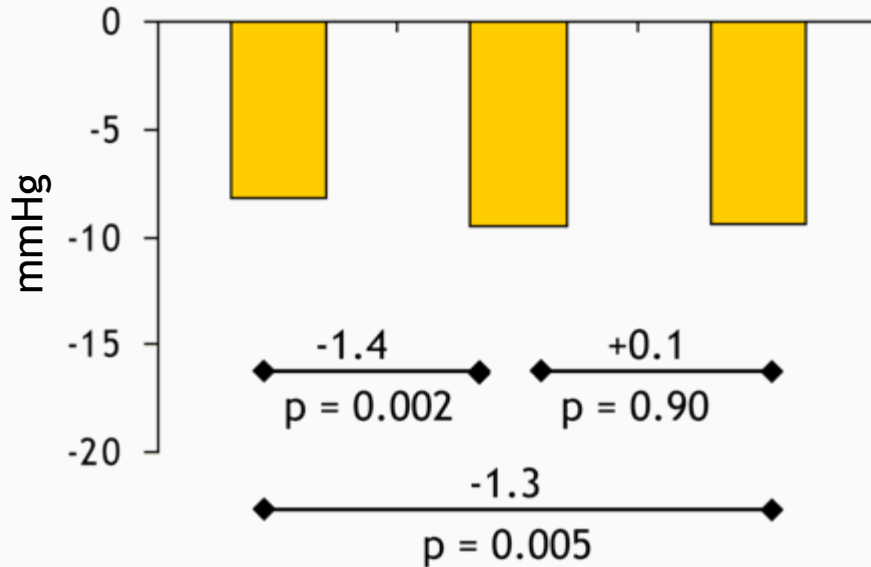
# Common Aspect of All Diets (At 2,100 kcal)

Cholesterol	150 mg per day
Fiber	30 g per day
Sodium	2,300 mg (100 mmol) per day
Potassium	4,700 mg (120 mmol) per day
Magnesium	500 mg per day
Calcium	1,200 mg per day

# Systolic Blood Pressure

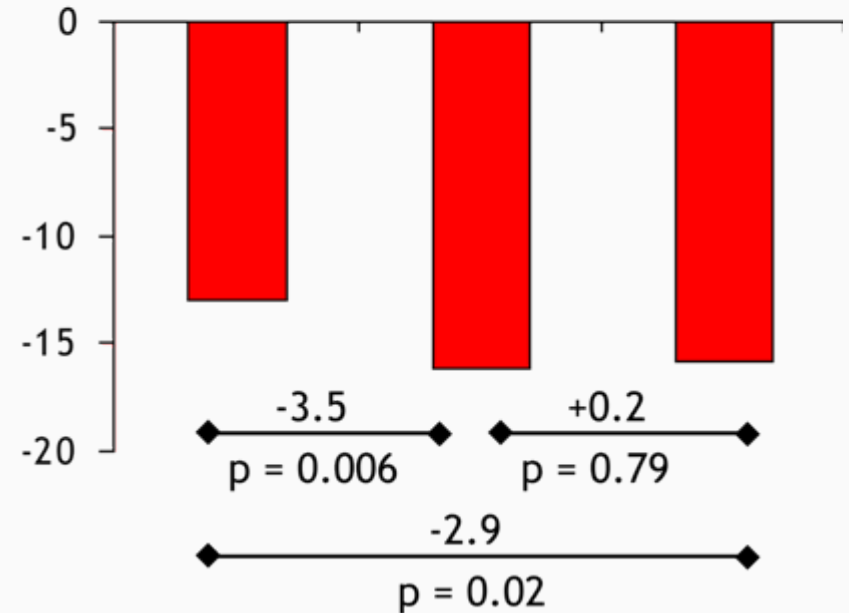
All (n = 164)

Baseline mean = 131.2 mmHg



Hypertension (n = 32)

Baseline mean = 146.5 mmHg

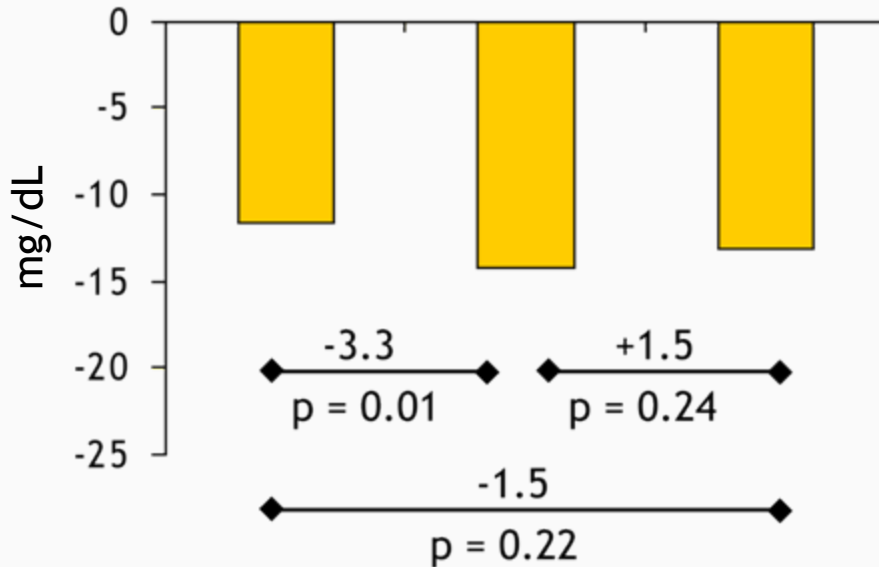


\*CARB similar to DASH diet

# LDL Cholesterol

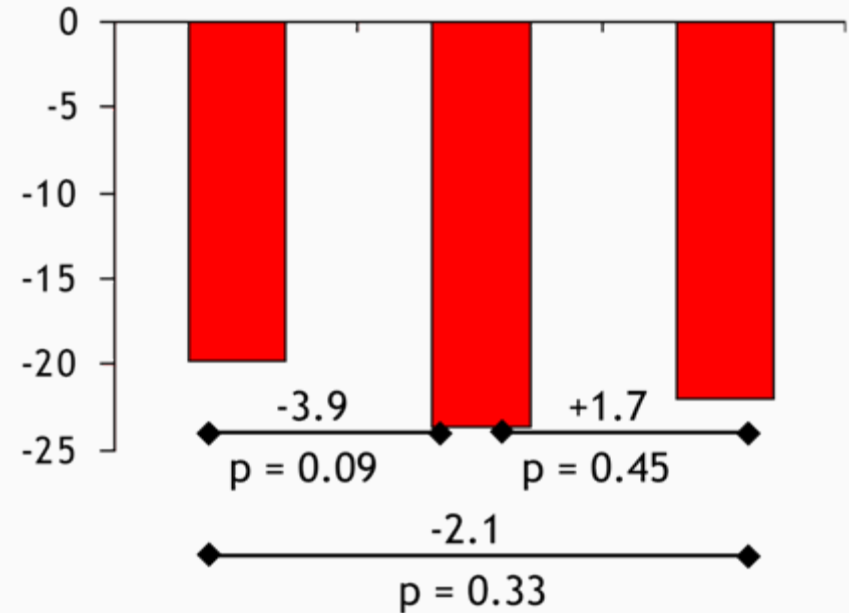
All (n = 161)

Baseline mean = 129.2 mg/dL



LDL  $\geq$  130 mg/dL (n = 75)

Baseline mean = 156.7 mg/dL

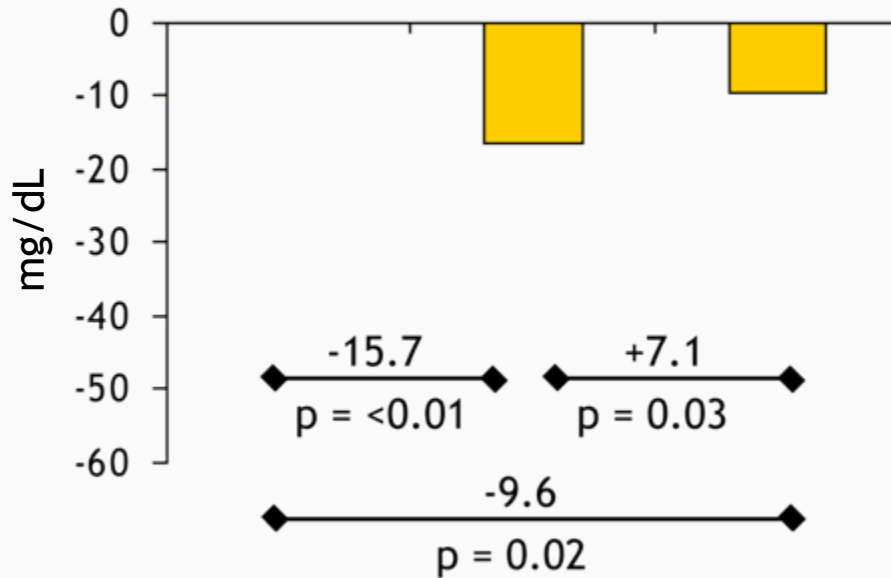


\*CARB similar to DASH diet

# Triglycerides

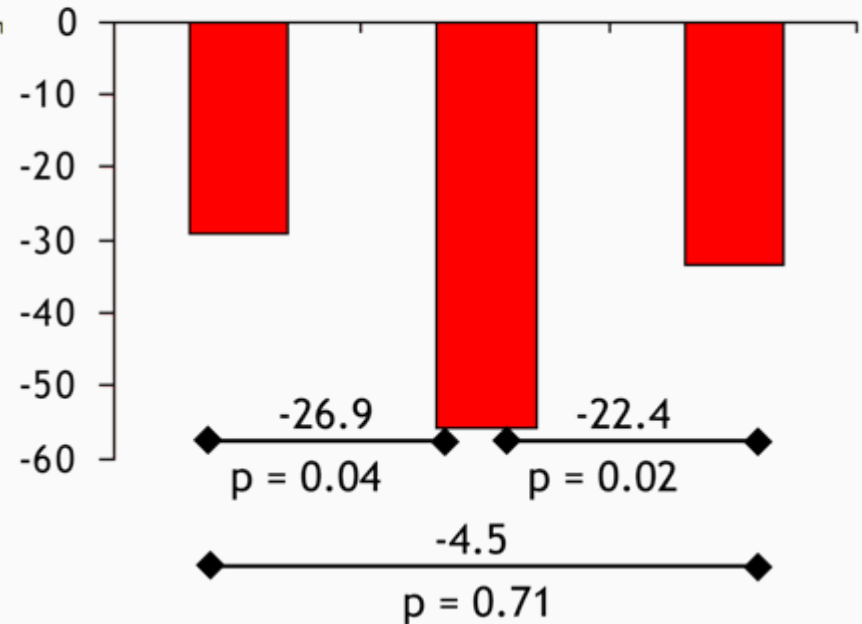
All (n = 164)

Baseline mean = 101.5 mg/dL



Triglycerides  $\geq 150$  (n = 45)

Baseline mean = 209 mg/dL



\*CARB similar to DASH diet

# Estimated 10-Year CHD Risk

- From Framingham risk equation

	Baseline	Carb.	Prot.	Unsat.
CHD events per 100 person-years	5.1	4.3	4.0	4.1
Percent change from baseline	ref.	-16%	-21%	-20%
Percent change from carb.		ref.	-5.8%	-4.2%

# Conclusions

- All three “DASH style” diets were healthy and had beneficial effects on cardiovascular disease (CVD) risk factors and CHD risk
- Individuals have multiple choices to eat a healthy diet that ...
  - Meets national dietary guidelines
  - Reduces risk of CVD