

American Society for Nutrition

8,000+ members

Network of leading nutrition scientists around the world

Initiatives

- Improve DEIA in nutrition, dietetics, food industries
- Build partnerships (IFT, IUNS, AND, Industry, Government)
- Improve transparency of nutrition science
- Increase funding for nutrition research
- Organize academic, industrial and federal bodies pertinent to nutrition sciences



Food is Medicine

AHA PRESIDENTIAL ADVISORY

Dietary Fats and Cardiovascular Disease

A Presidential Advisory From the American Heart Association

Circulation. 2017;136:e1-e23. DOI: 10.1161/CIR.0000000000000510

Sacks FM, Lichtenstein AH, Wu JHY, Appel LJ, et al.,

that lowered intake of dietary saturated fat and replaced it with polyunsaturated vegetable oil reduced CVD by $\approx 30\%$, similar to the reduction achieved by statin treatment. Prospective observational studies in many populations showed that lower intake of saturated fat coupled

Linoleic Acid Reduces Cholesterol: *Protective effects of linoleic acid against dyslipidemia*

Not all fats in the diet have the same effect on the amount of cholesterol in the blood. Those high in saturated fats tend to increase it, and those high in poly-unsaturated fats may cause a decrease. With vegetable oils this decrease is thought to be largely due to a poly-unsaturated fatty acid known as linoleic acid.

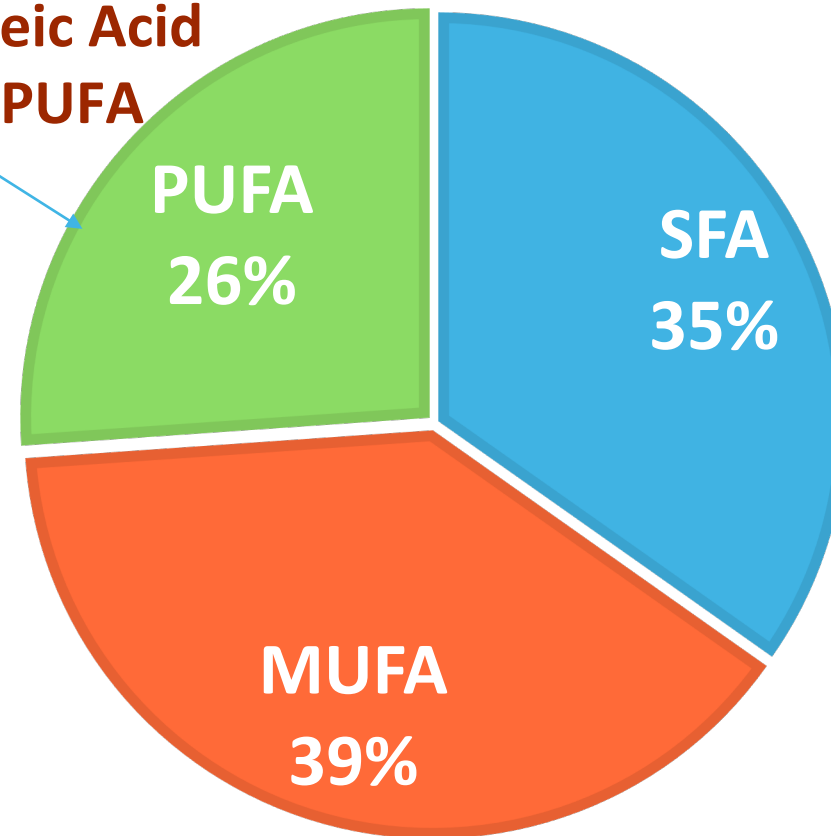
Page et al., (1957) Circulation 15: 97

What Fats Do We Eat?

FATS/OILS (~ 90 G / DAY)

■ SFA ■ MUFA ■ PUFA

24 % Linoleic Acid
2 % other PUFA



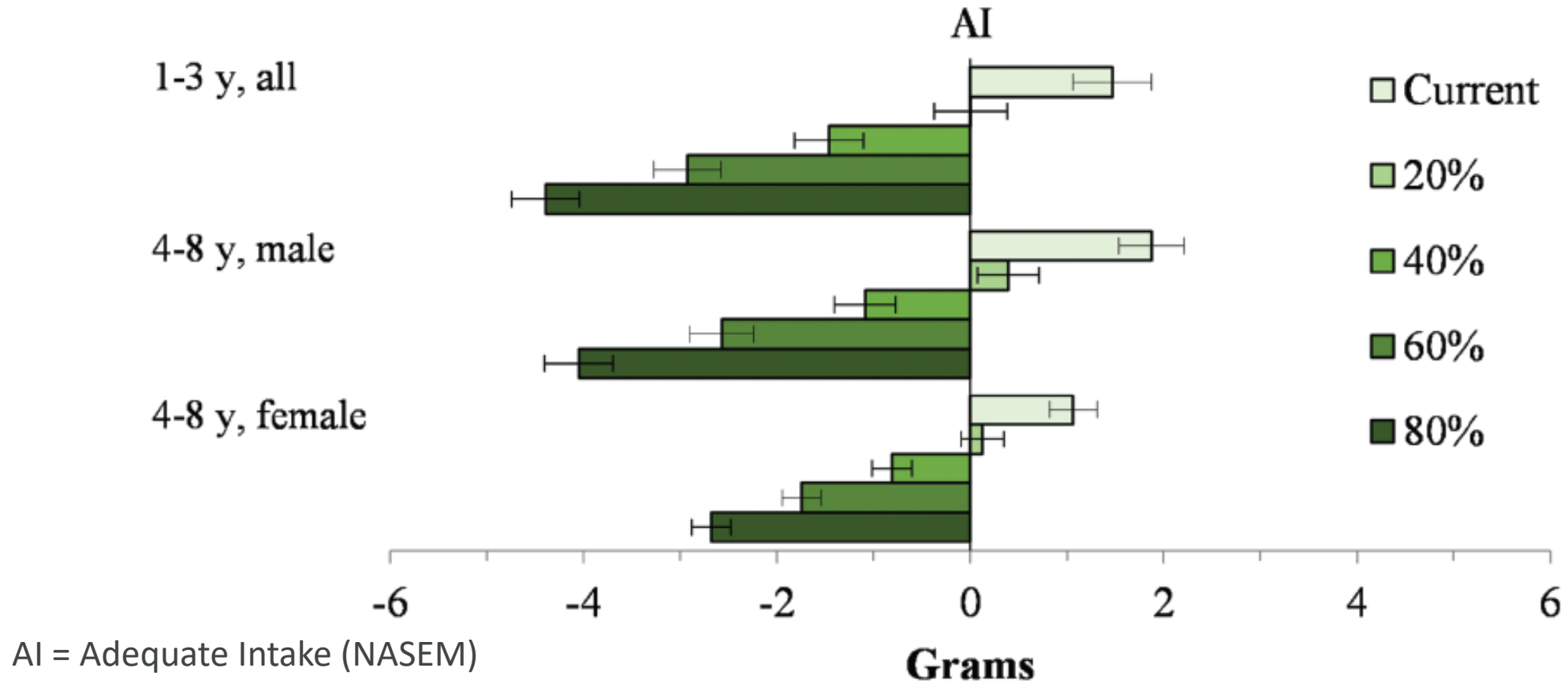
NHANES 2017-2018

The Changing the identity of vegetable oil in U.S.

Nutrition Facts	
Serving Size 1 Tbsp (15mL)	
Servings Per Container about 63	
Amount Per Serving	
Calories 120	Cal. from fat 120
% Daily Value*	
Total Fat 14g	21%
Saturated Fat 1g	6%
Trans Fat 0g	
Polyunsaturated 11g	
Monounsaturated 2g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 0g	
Protein 0g	
Vitamin E 20%	

Nutrition Facts	
Serving Size 1 Tbsp (14g)	
Servings Per Container about 63	
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Substituting High Monounsaturated Oils in Place of High Polyunsaturated Oils Will Reduce Linoleate Intake

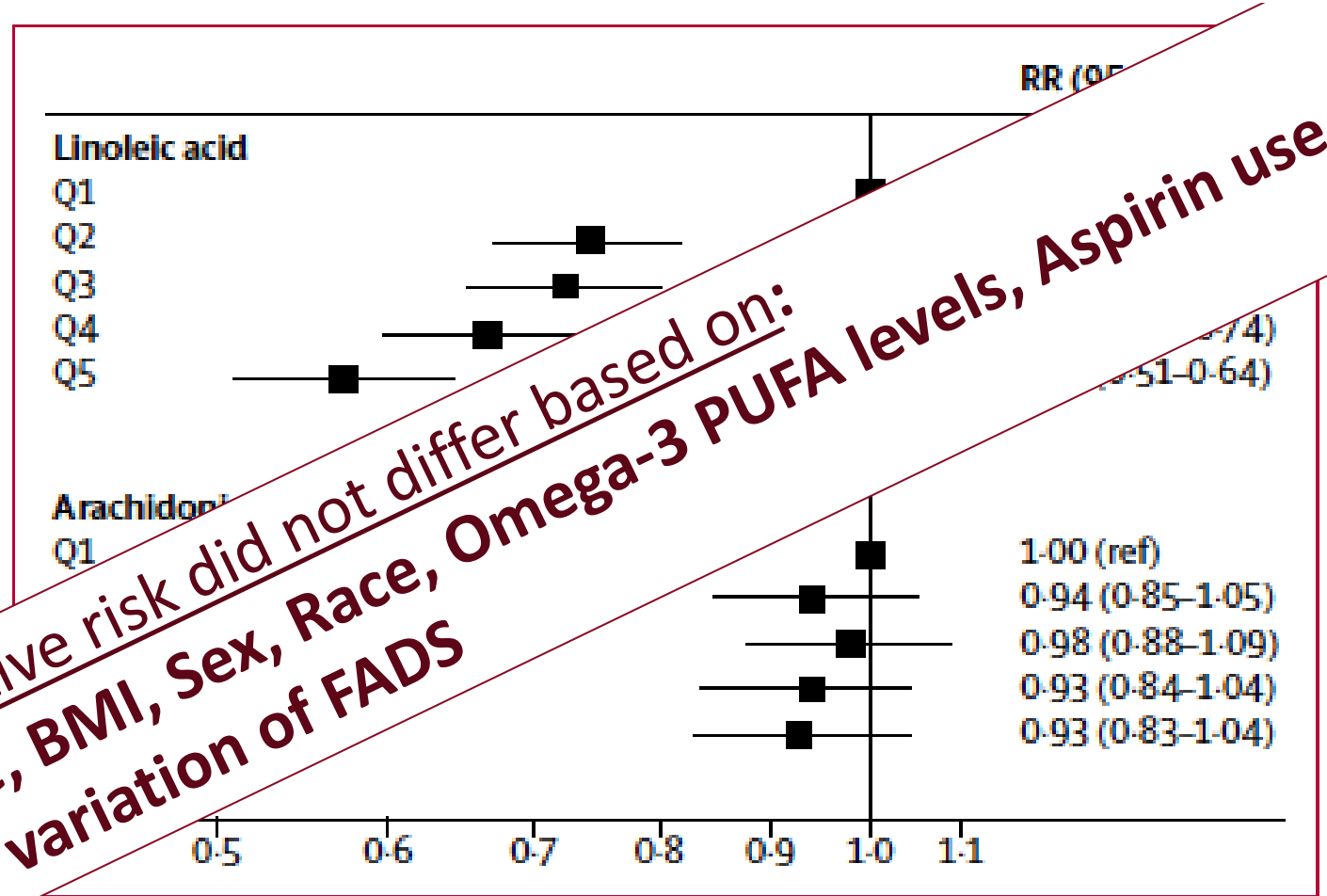


AI = Adequate Intake (NASEM)

Belury et al., Am J Clin Nutr 2022 (Adult data in Raatz S et al., AJCN 2018)

**Omega-6 fatty acid biomarkers and incident type 2 diabetes:
pooled analysis of individual-level data for 39 740 adults
from 20 prospective cohort studies**

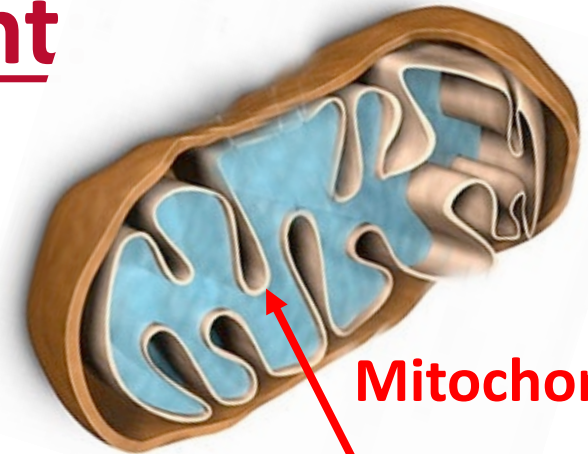
Lancet Diabetes Endocrinol 2017 Jason H Y Wu, et al.



**Relative risk did not differ based on:
Age, BMI, Sex, Race, Omega-3 PUFA levels, Aspirin use,
or variation of FADS**

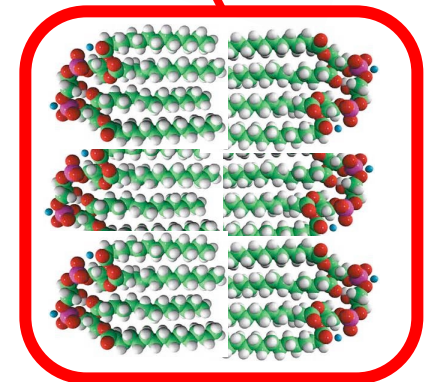
New Discoveries for an Old Nutrient Linoleic acid Is the Preferred Structural Fat in Mitochondria

- Increases ATP production
- Improves Metabolism



Mitochondria

Cardiolipin of
Inner
Mitochondrial
Membrane



Food as Medicine: How Do We Get There?

Investing into Nutrition Research Will Inform:

- **Food and Drug Administration (FDA)**
 - ✓ Fortification policies
 - ✓ Labeling
- **National Academy of Science, Engineering and Medicine (NASEM)**
 - ✓ RDAs
- **United States Department of Agriculture (USDA)**
 - ✓ Crop Subsidies
- **Medical Practice**