

# The Mediterranean Diet

Elizabeth Cruse, MD

Internal Medicine Associates at Buffalo Ridge  
BCH Medical Director of Quality Improvement  
and Population Health  
303-415-8820



Boulder Community Health

# Healthy, Tasty and Flexible





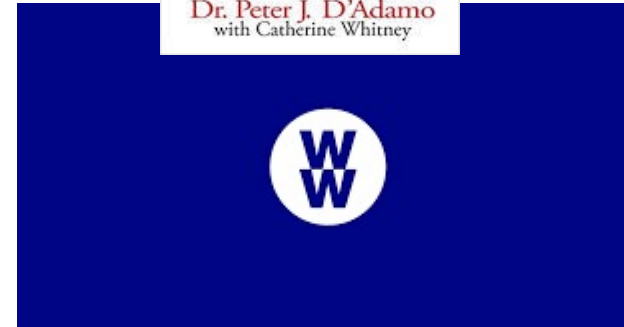
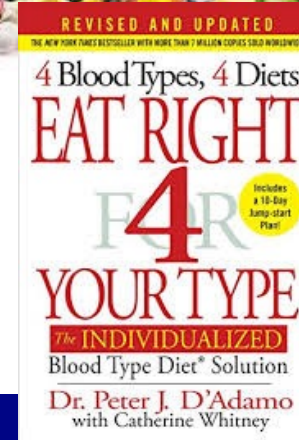
# Disclaimer





## ATKINS DIET for Beginners

The Easy-To-Follow Guide to Understanding  
Atkins Meal Plan, Low-Carb Recipes and The  
Power of Protein for Burn Fat, Boost Your Health  
and Living at Low-Sugar Lifestyle



© Randy Glasbergen / glasbergen.com



**“Everyone knows food is bad for you,  
but I don’t know what else to eat!”**



---

## HISTORY OF MEDICINE

# Something New under the Sun? The Mediterranean Diet and Cardiovascular Health

Sarah W. Tracy, Ph.D.

[Related article, p. 1279](#)

**I**ncreasingly, the Mediterranean diet has become the standard for healthy eating. Adherence to it appears to reduce the risk of cardiovascular disease, cancer, Alzheimer's disease, and Parkinson's

olive oil or nuts) for the primary prevention of cardiovascular events. The data are impressive and seem to support the high ranking of the Mediterranean diet and its constituent foods

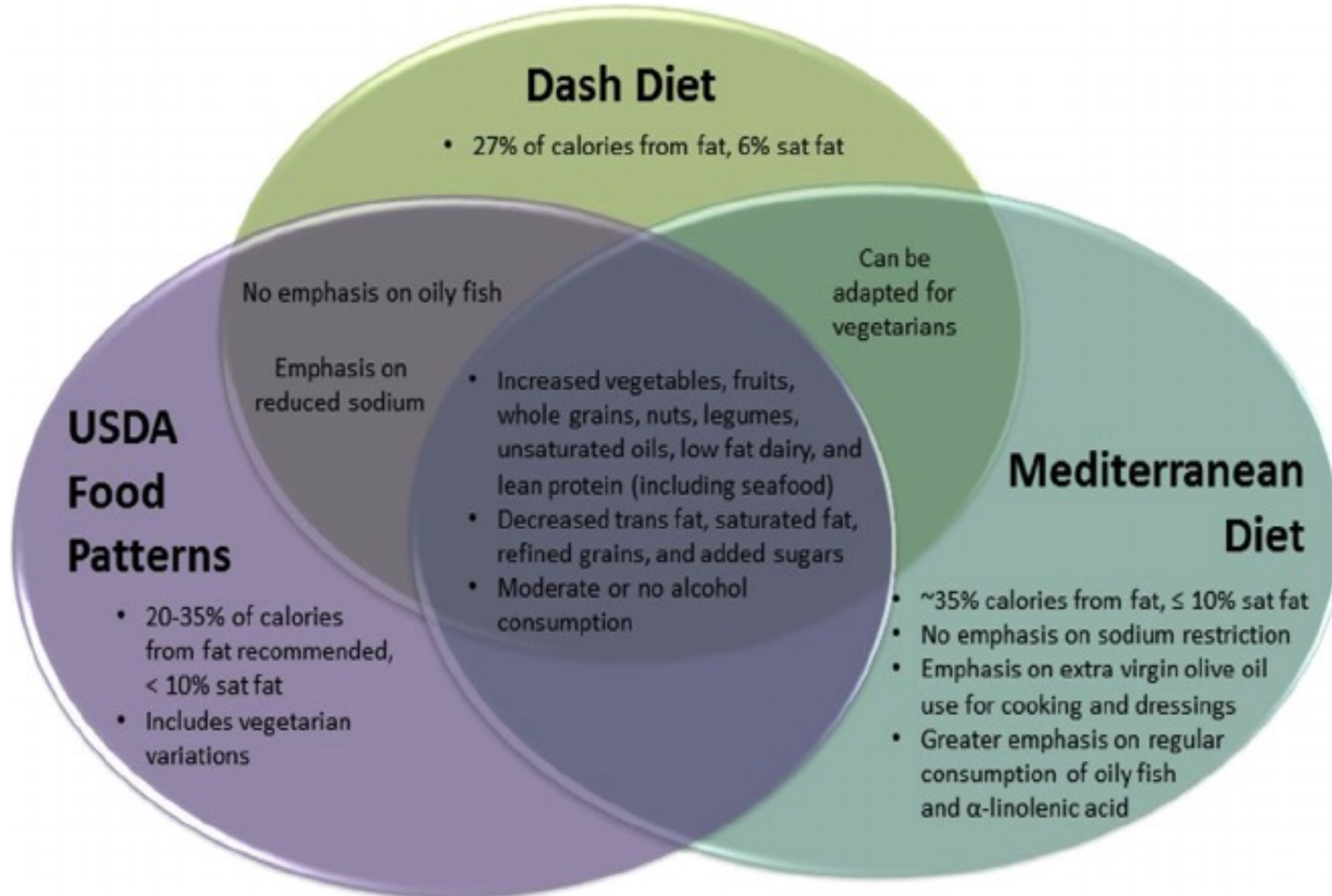
gation of diet and other cardiovascular-disease risk factors in 16 cohorts totaling nearly 13,000 men in the United States, Italy, Greece, Yugoslavia, Finland, the Netherlands, and Japan, which began



- Reduces risk of developing Type 2 Diabetes
- Improves blood sugar control in diabetes
- Prevents cardiovascular disease and mortality
- May reduce age-related cognitive decline
- May improve longevity
- May reduce cancer risk



- Dietary Approaches to Stop Hypertension (DASH)
- 2015 -2020 Dietary Guidelines for Americans
- Healthy Vegetarian Diets



From: Chelsea, R. Recent Findings of Studies on the Mediterranean Diet : What are the Implications for Current Dietary Recommendations?

Endocrinology and metabolism clinics of North America 43(4) · November 2014



## U.S. News Reveals Best Diets Rankings for 2020

U.S. News rings in the new year with rankings across 35 diet plans including Best Overall Diets, Best Diets for Weight Loss and more.

Jan. 2, 2020, at 9:28 a.m.

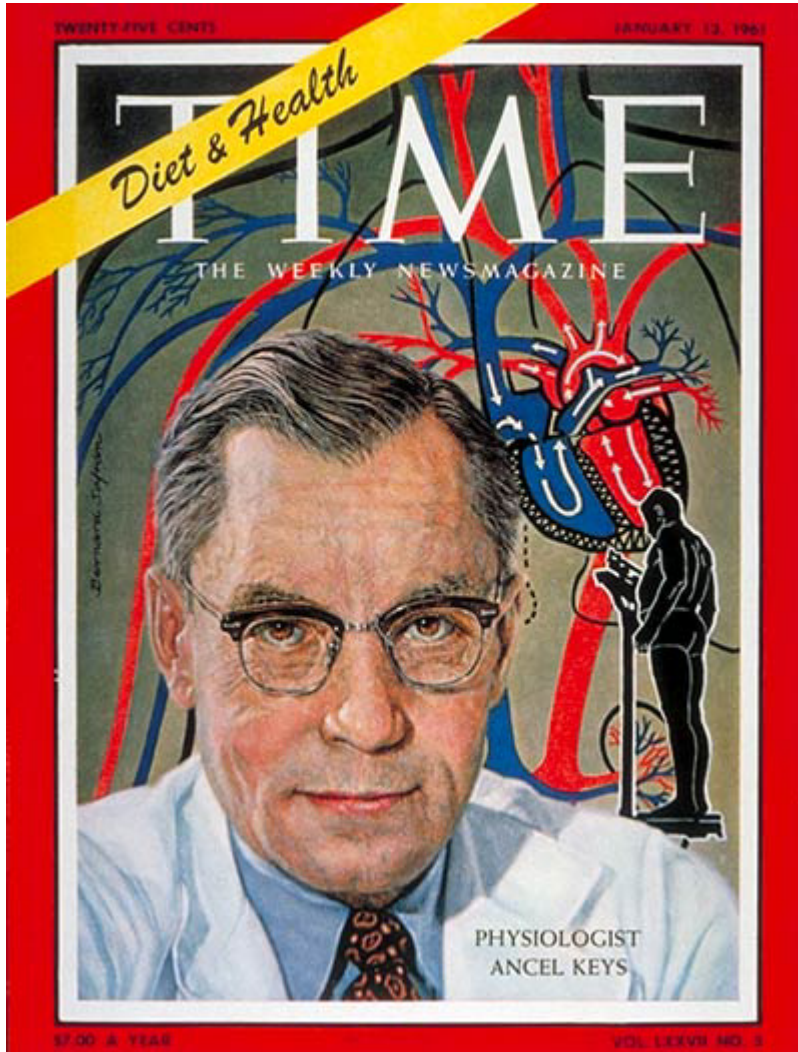


**Washington, D.C.** – U.S. News & World Report, the global authority in rankings and consumer advice, today released its annual assessment of the year's [Best Diets](#). For the millions of Americans making health-related resolutions for the New Year, the Best Diets platform offers rankings, data and information on 35 diet plans to help people across the country achieve their health goals.

### About Press Room

The latest press releases and information about U.S. News & World Report



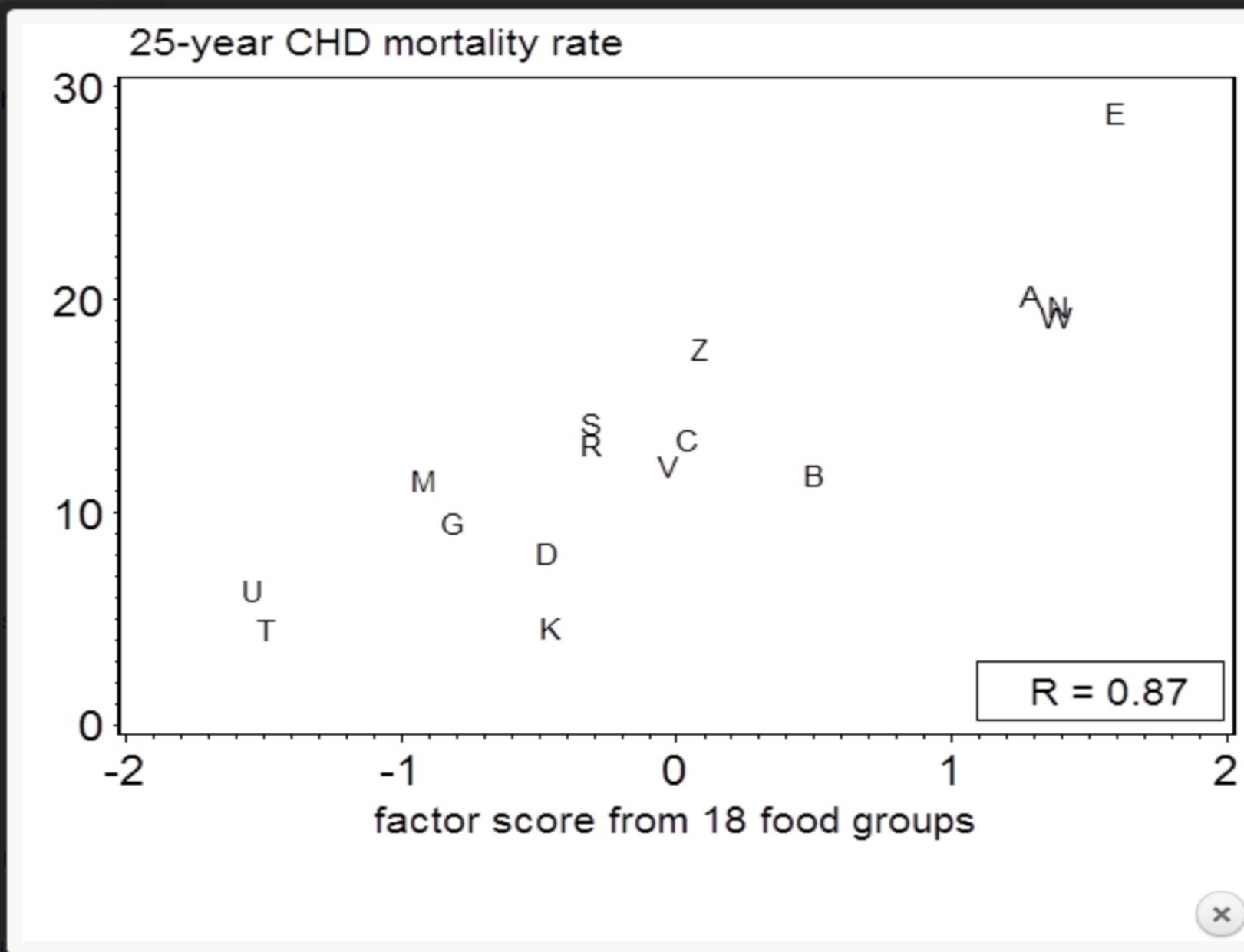


## 7 Countries Study

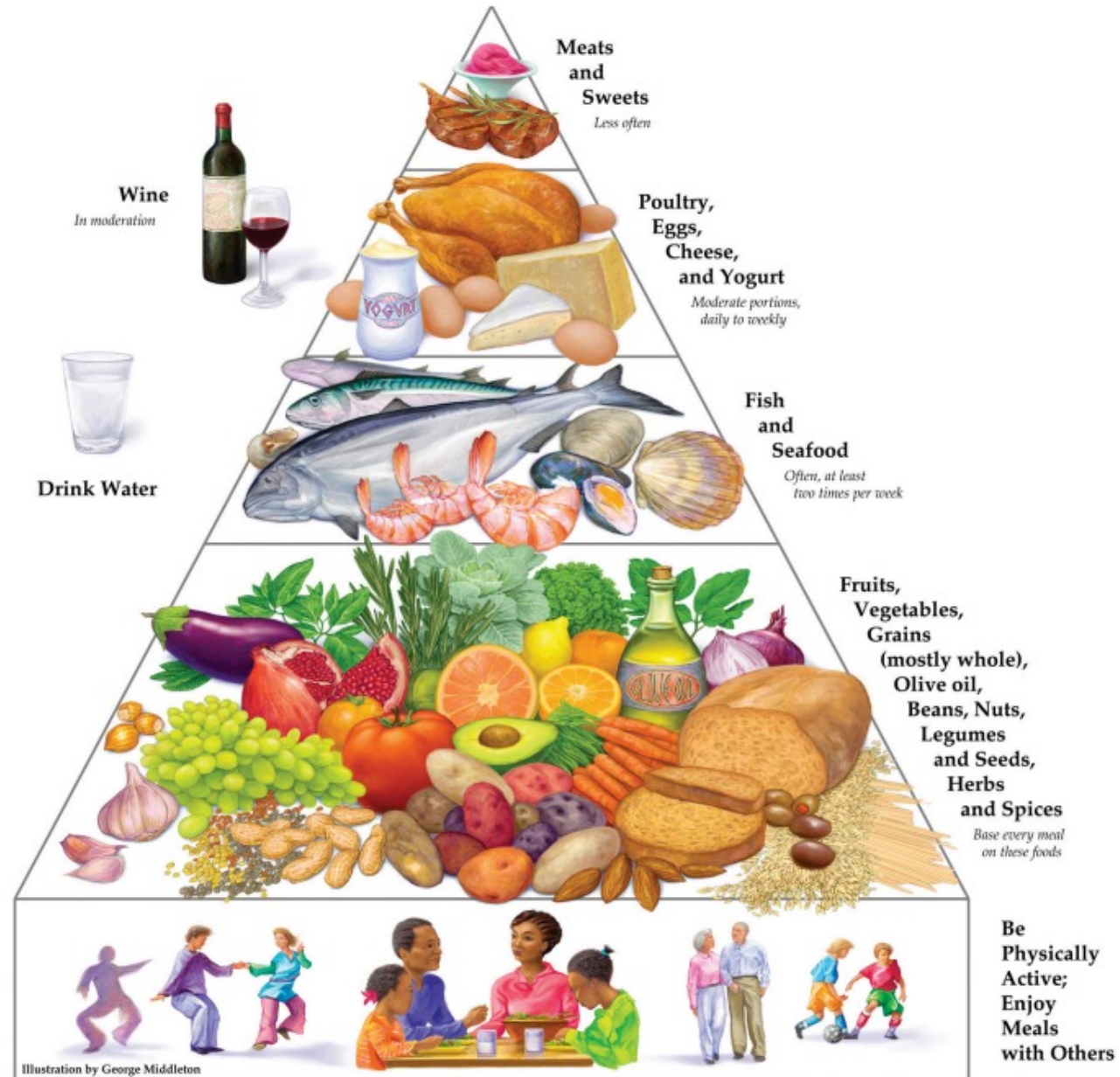




## Summary dietary factor score and CHD mortality



# Mediterranean Diet Pyramid







Couscous, barley, wheat  
pasta, garbanzo beans  
kidney beans.

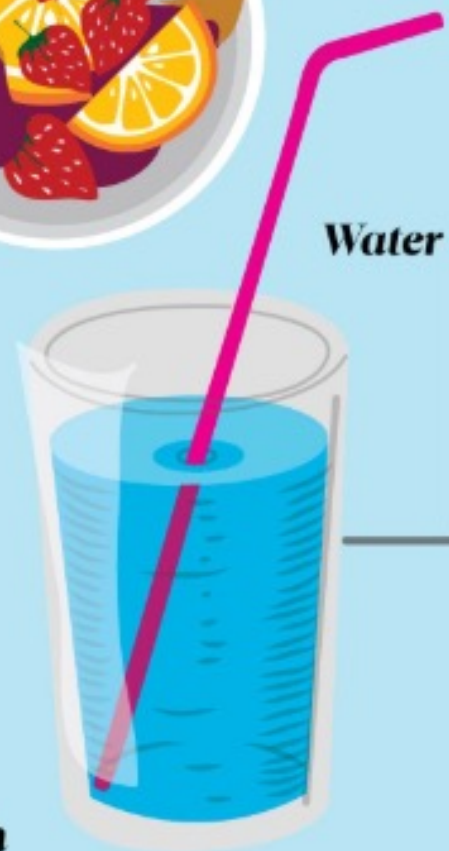
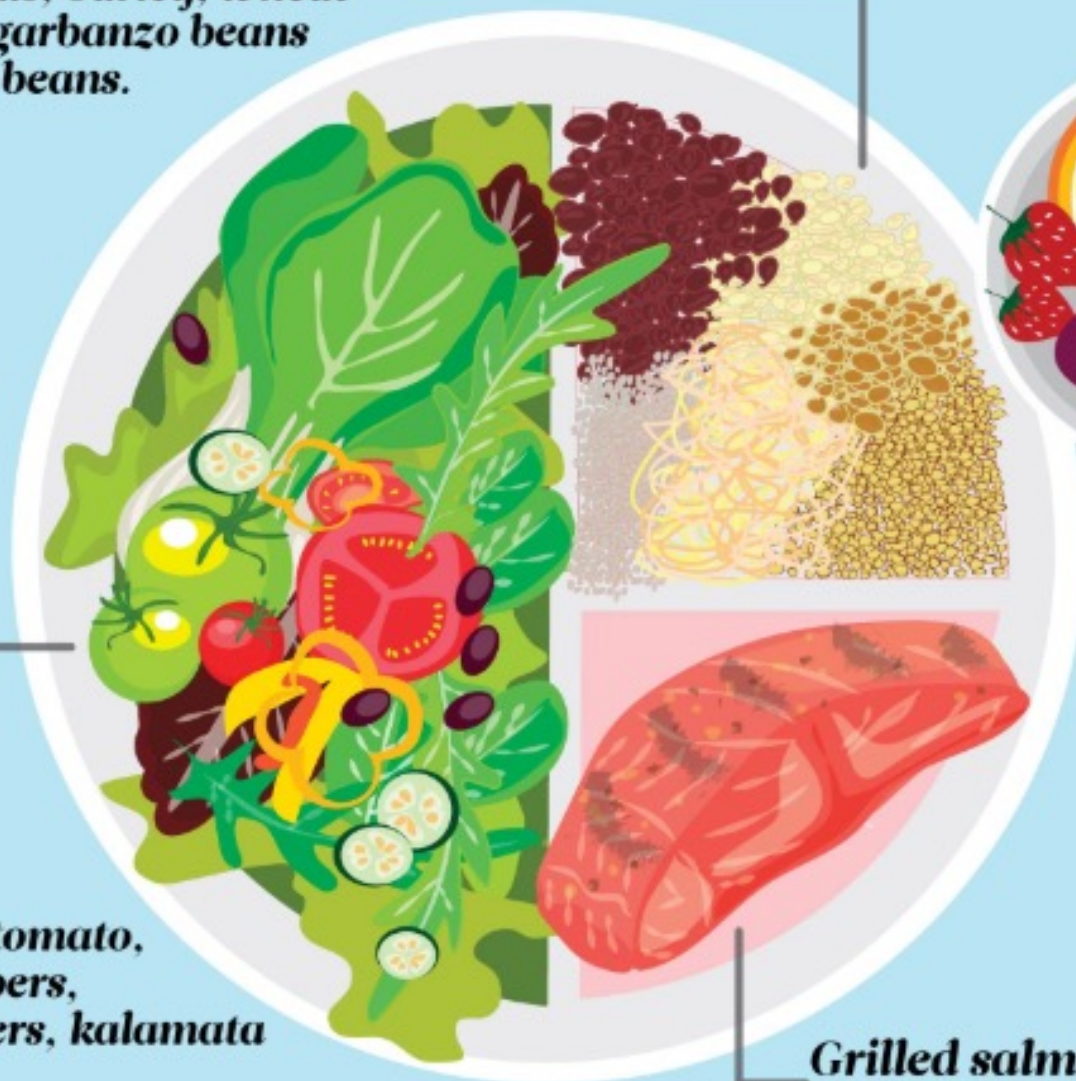


Orange, fig,  
strawberries.

Greens, tomato,  
bell peppers,  
cucumbers, kalamata  
olives .

Grilled salmon

Water



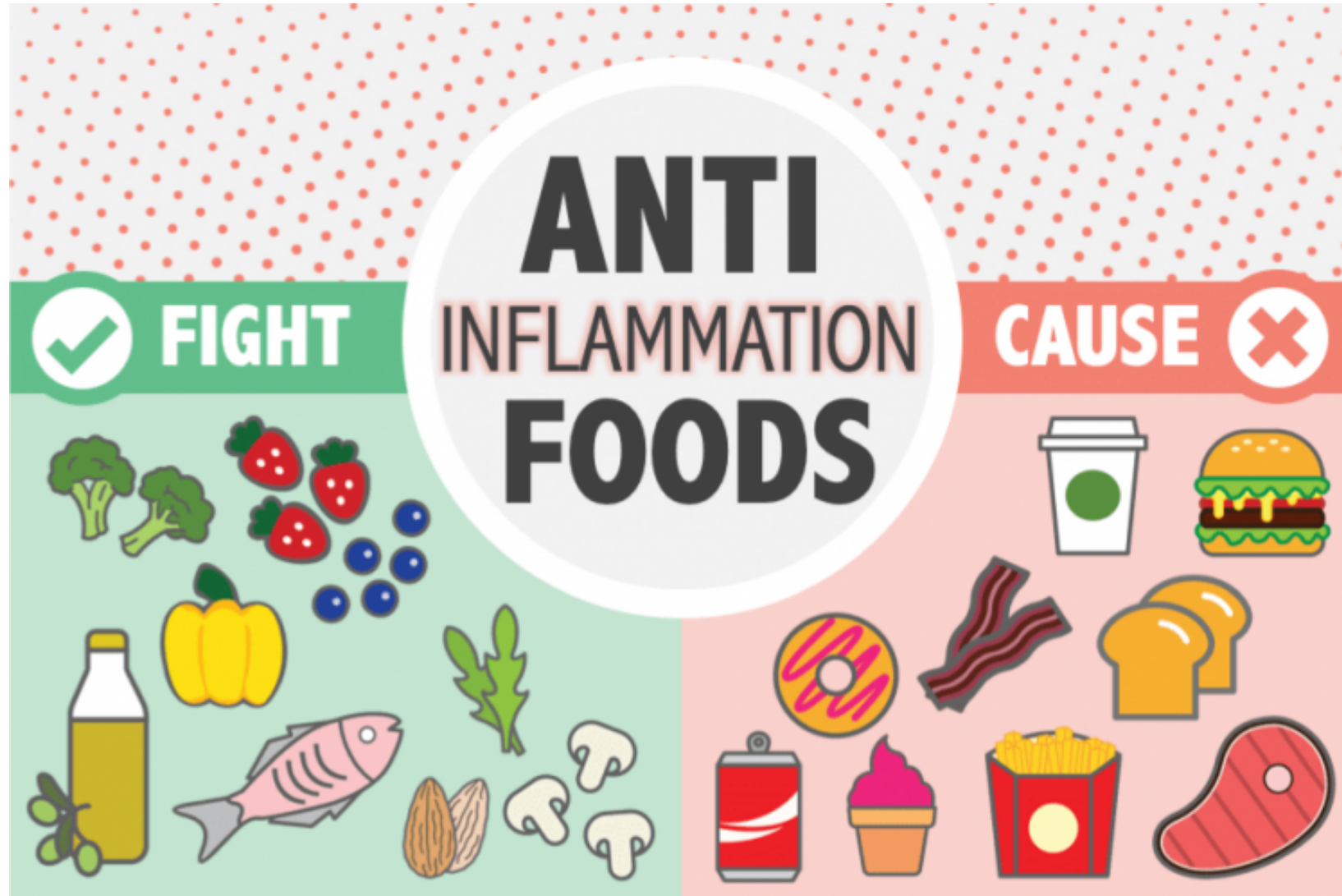
# Mediterranean Diet and Evidence for Weight Loss



*"Ten pounds isn't bad. On my last diet I put on 12."*



- Systematic review, including 998 overweight and obese persons
- Compared MD to any other diet for >12 months, counseling and some with exercise
- Similar weight loss among diets



- Systematic review of over 558 trials, found 28 trials that met their criteria, which included 570,000 participants.
- Only 4 trials failed to show a benefit.
- Reduction in digestive tract cancers most notable.
- Subgroup analysis of recent PREDIMED trial showed reduction in breast cancer risk.



- Multi-center prospective cohort study of more than 500,000 people.
- Aim has been to investigate the relationship of dietary, genetic, lifestyle and environmental factors on cancer and chronic disease.
- Adherence to the MD found to be protective against colorectal and breast cancer.

# Brain Foods



## Blueberries

Blueberries help protect the brain from oxidative stress and may reduce the effects of age-related conditions such as Alzheimer's disease or dementia.



## Nuts and Seeds

Nuts and seeds are good sources of vitamin E, explaining that higher levels of vitamin E correspond with less cognitive decline as you get older.



## Dark Chocolate

Dark chocolate has powerful antioxidant properties, contains several natural stimulants, including caffeine, which enhance focus and concentration.



## Pomegranate Juice

Pomegranate juice offers potent antioxidant benefits, which protect the brain from the damage of free radicals.



## Wild Salmon

Deep-water fish, such as salmon, are rich in omega-3 essential fatty acids, which are essential for brain function.



## Avocados

Avocado is a fatty fruit, but it's a monounsaturated fat, which contributes to healthy blood flow. And healthy blood flow means a healthy brain.



## Freshly Brewed Tea

Two to three cups a day of freshly brewed tea contains a modest amount of caffeine can boost brain power by enhancing memory, focus, and mood.

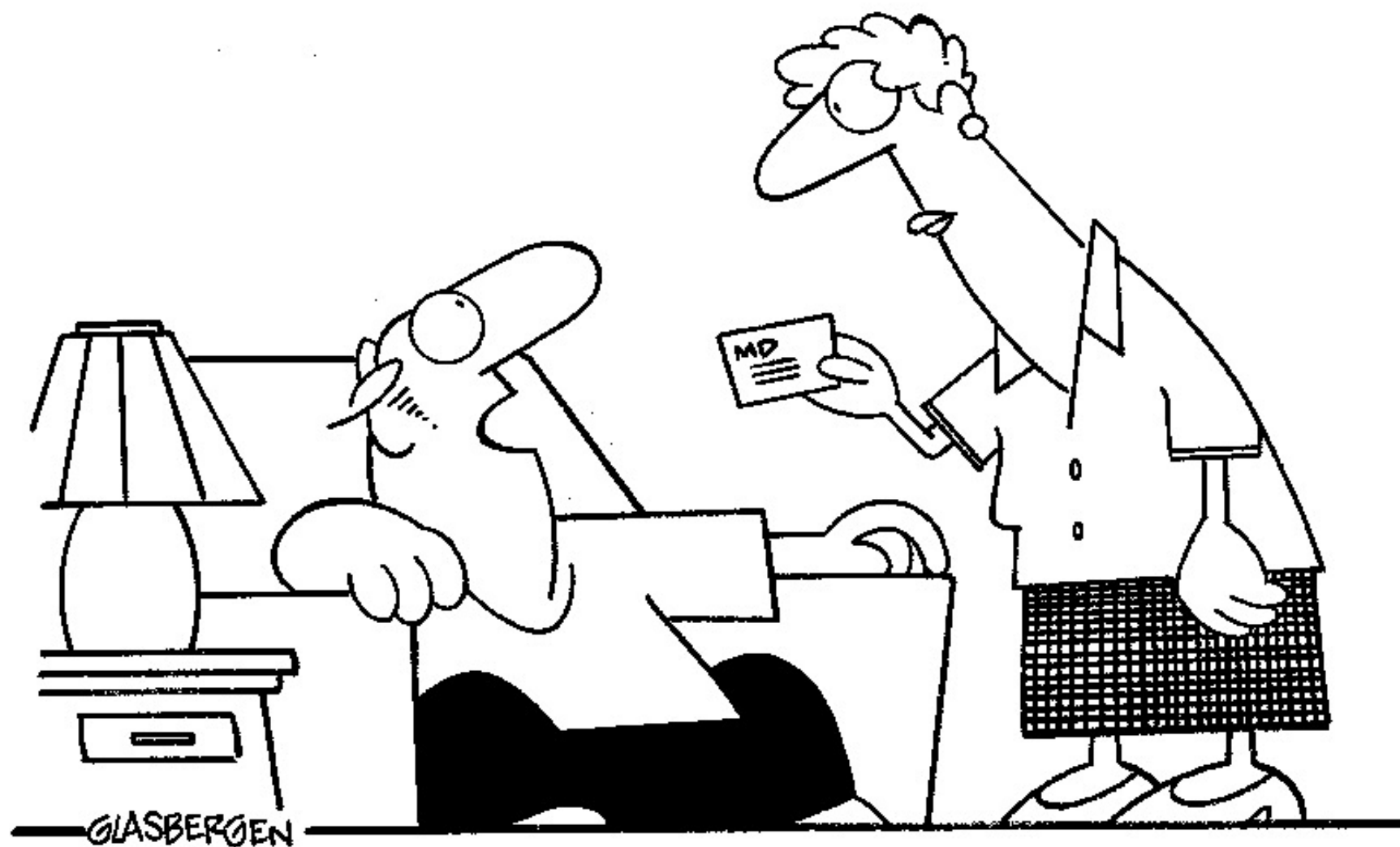


## Whole Grains

Whole grains, such as oatmeal, whole-grain breads, and brown rice can reduce the risk for heart disease. If you promote cardiovascular health, you're promoting good flow to the organ system, which includes the brain.

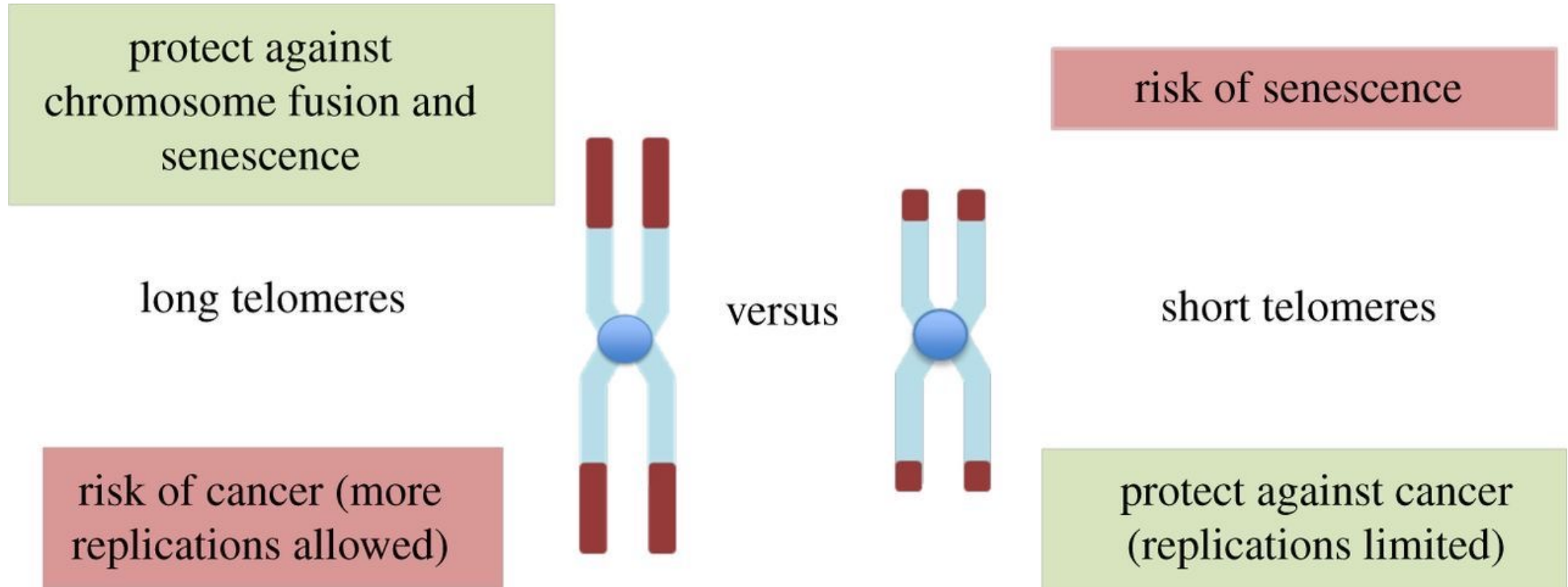
- Systematic review comparing adherence to Med Diet and cognitive outcomes
- 6 of 12 studies with 3-7 years of follow-up showed benefit
- Other 6 showed benefit, but not significant
- Studies very heterogenous
- PREDIMED subgroup analysis showed significant improvement in cognitive testing





**“If I don’t go to the doctor, he can’t find anything wrong with me. That’s how I stay healthy!”**

- Reduction in chronic disease = longer life
- Large observational epidemiologic studies and 2 large RTs have shown increased life expectancy
- Multi-Ethnic Cohort Study
- Longer telomeres on the Mediterranean diet?

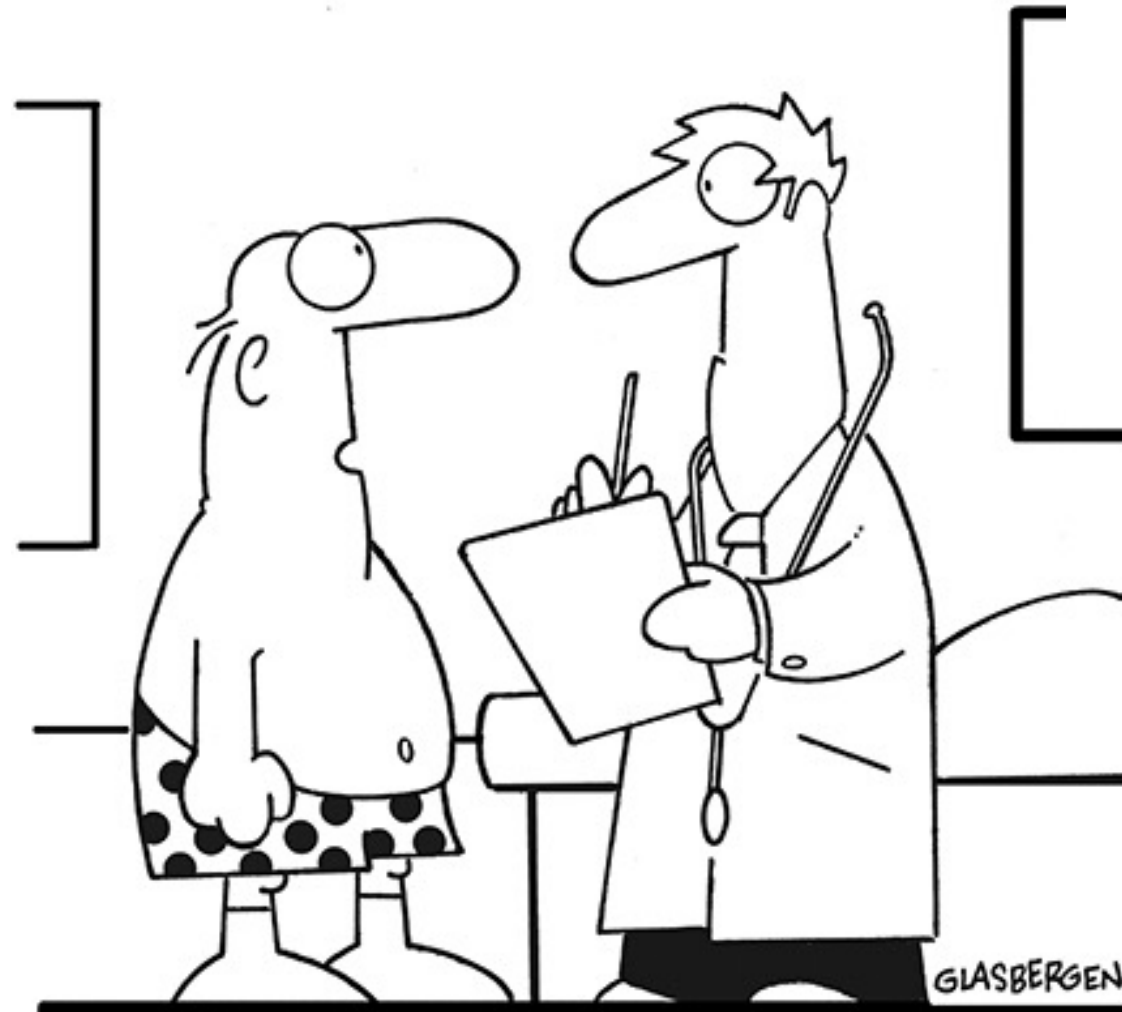






**“Which is more evil...Darth Vader, The Joker, Frankenstein, sugar, fat or carbs?”**

- Lowers BMI and waist circumference
- Improved HgbA1C as much as adding a medication - by up to 0.5%
- Increases chance of remission of metabolic syndrome by 50%
- Other beneficial cardiovascular benefits
- Diet pattern recommended by the ADA

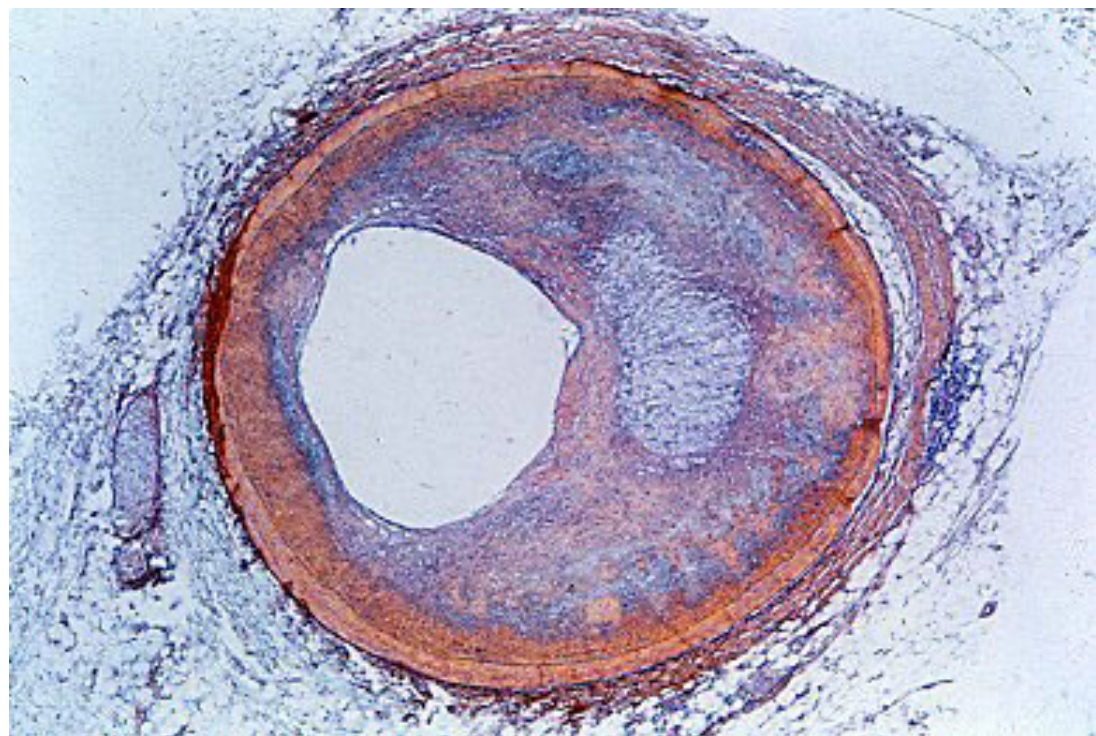
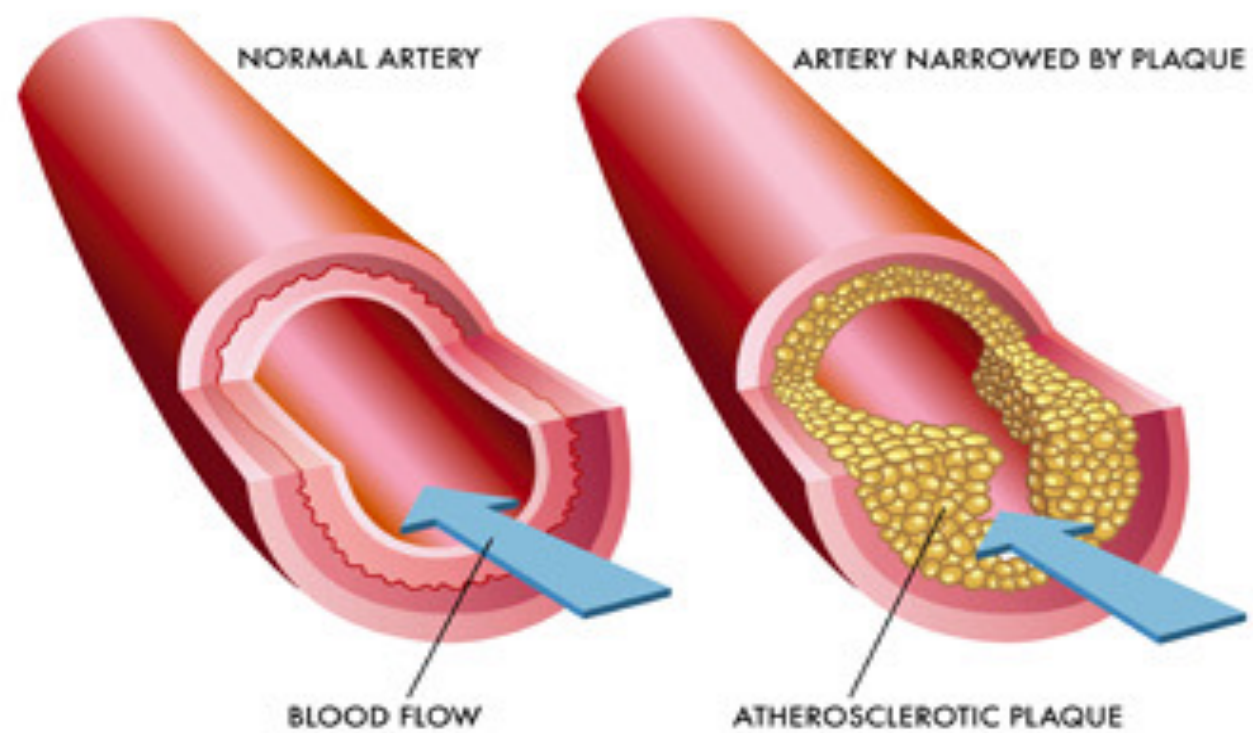


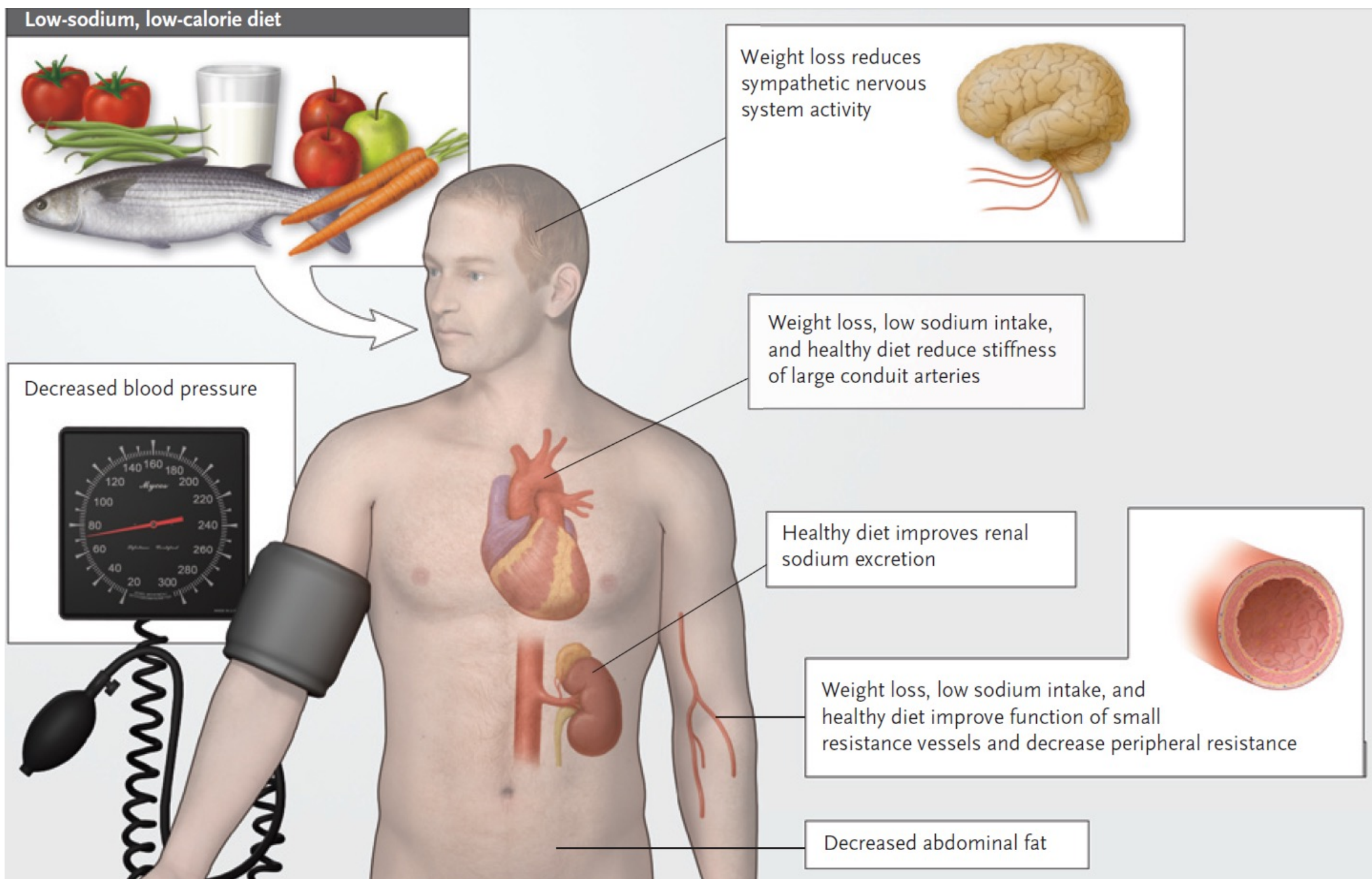
**"My bones are getting softer, but my arteries  
are getting harder, so it balances out!"**





## ATHEROSCLEROSIS





From Sacks, F. Dietary Therapy in Hypertension. NEJM 2010;362:2102-12.

- Lyon Heart Study - 2001
- Med Diet + special margarine vs. no specific recommendations
- 73% reduction in recurrent coronary events at 27 months of follow up
- 4% difference in total fat consumed, 4% difference in saturated fat consumed



## ORIGINAL ARTICLE

## Primary Prevention of Cardiovascular Disease with a Mediterranean Diet Supplemented with Extra-Virgin Olive Oil or Nuts

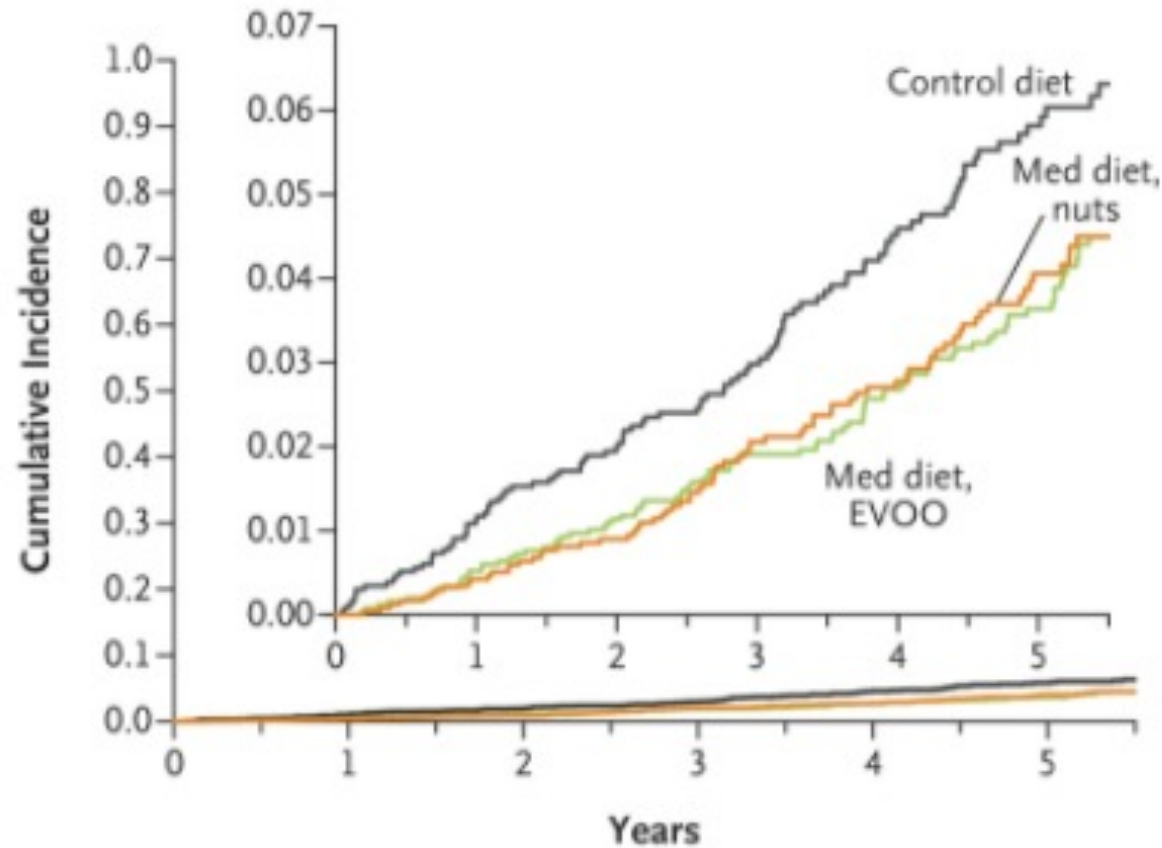
Ramón Estruch, M.D., Ph.D., Emilio Ros, M.D., Ph.D., Jordi Salas-Salvadó, M.D., Ph.D., Maria-Isabel Covas, D.Pharm., Ph.D., Dolores Corella, D.Pharm., Ph.D., Fernando Arós, M.D., Ph.D., Enrique Gómez-Gracia, M.D., Ph.D., Valentina Ruiz-Gutiérrez, Ph.D., Miquel Fiol, M.D., Ph.D., José Lapetra, M.D., Ph.D., Rosa M. Lamuela-Raventós, D.Pharm., Ph.D., Lluís Serra-Majem, M.D., Ph.D., et al., for the PREDIMED Study Investigators\*

- Multicenter randomized trial in Spain
- 7,447 people aged 55-80 years with no history of CVD, but at high risk
- Mediterranean diet supplemented with 3-4 tbsp of olive oil daily or 1 oz of nuts daily vs. counseling on a low-fat diet
- Primary end point was major cardiovascular events (MI, stroke, or death from CV disease)
- Trial was stopped early at 4.8 years due to benefit

**A Primary End Point (acute myocardial infarction, stroke, or death from cardiovascular causes)**

Med diet, EVOO: hazard ratio, 0.69 (95% CI, 0.53–0.91)

Med diet, nuts: hazard ratio, 0.72 (95% CI, 0.54–0.95)



**No. at Risk**

Control diet	2450	2268	2020	1583	1268	946
Med diet, EVOO	2543	2486	2320	1987	1687	1310
Med diet, nuts	2454	2343	2093	1657	1389	1031

30% reduction  
MI, stroke, CV death

**Table 2 – Relative risk reduction, absolute risk reduction and number needed to treat associated with the PREDIMED primary prevention intervention for several hard clinical events (assuming median follow-up = 4.8 years).**

Clinical Event	Mediterranean Diet Supplemented With Extra-Virgin Olive Oil			Mediterranean Diet Supplemented With Mixed Nuts		
	Relative Risk Reduction	Absolute Risk Reduction	Number needed to treat	Relative risk Reduction	Absolute Risk Reduction	Number Needed to Treat
Primary CVD end-point	30% (8.0%; 46%)	1.34% (0.36%; 2.05%)	75 (49–281)	28% (4.0%; 46%)	1.25% (0.18%; 2.05%)	80 (49–562)
Type 2 diabetes	40% (15%; 57%)	3.52% (1.32%; 5.02%)	28 (20–76)	18% (–10%; 39%)	1.59% (–0.88%; 3.44%)	-
Peripheral artery disease	64% (35%; 79%)	1.18% (0.64%; 1.45%)	85 (69–155)	46% (8%; 68%)	0.85% (0.15%; 1.25%)	118 (80–679)
Atrial fibrillation	38% (12%; 55%)	1.54% (0.48%; 2.22%)	65 (45–206)	10% (–23%; 34%)	0.40% (–0.93%; 1.37%)	-

Fully adjusted estimates for the hazard ratios from Cox regression models were used to compute the relative risks (RR).

The relative risk reduction (RRR) was computed as  $RRR = (1 - RR)\%$ .

The absolute risk reduction (ARR) was computed taking into account the baseline incidence of events in the control group ( $I_0$ ) after a median follow-up of 4.8 years and applying the estimates for the relative risks, i.e.  $ARR = I_0 (1 - RR)$ .





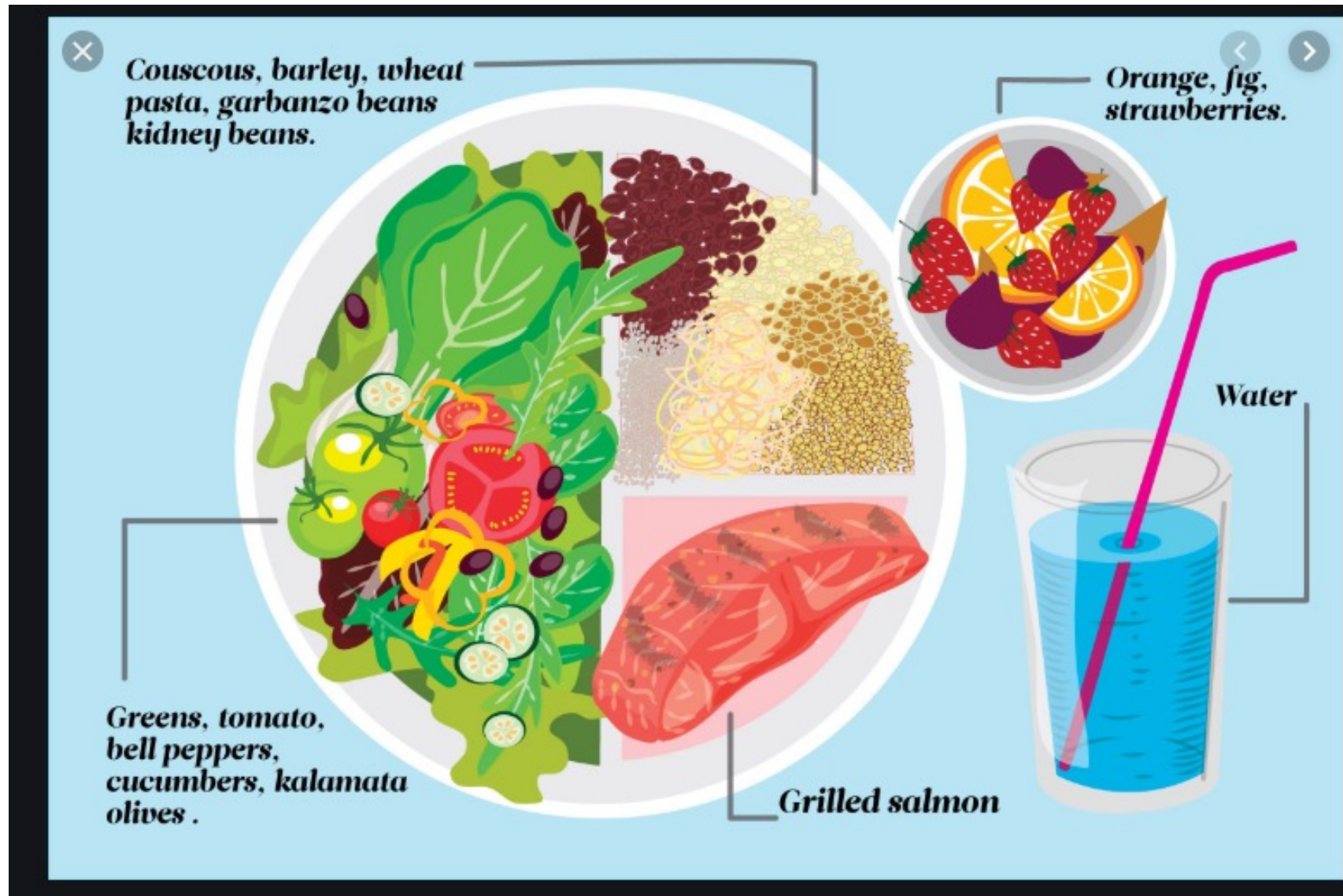
**Table 1.** Dietary Characteristics of the Traditional Mediterranean Diet

---

Mediterranean diets

---

1. A variety of minimally processed whole grains and legumes as the staple food
2. Plenty of a huge diversity of fresh vegetables consumed on a daily basis
3. Fresh fruits as the typical daily dessert; sweets based on nuts, olive oil, and honey consumed only during celebratory occasions
4. Cold pressed extra-virgin olive oil, nuts and seeds as the principal source of fat
5. Moderate consumption of fish
6. Dairy products (mainly local cheese and yogurt) consumed in low amounts; butter, cream and milk never used, except for milk in coffee (caff  macchiato) or for infants
7. Red and processed meat consumed in very low frequency (only once every week or two) and amounts;
8. Wine consumed in low to moderate amounts only with meals





# Fats



Olive Oil, canola, avocado, grapeseed  
and others



# Proteins

- Beans
- Legumes
- Fish
- White meat
- Low Fat Dairy
- Nuts



# Special Occasion Foods

- Fruits for dessert
- Chocolate may be beneficial in moderation
- Sugar sweetened beverages – choose flavored waters instead, unsweetened tea
- Alcohol



80:20 Rule





- Meal plan and use leftovers
- Doesn't have to be expensive- frozen veggies are healthy and can be less expensive
- Shop for the week
- Engage the family
- Stick to a few recipes during the week (KISS)
- Prep and freeze ingredients or meals





## The Nutrition Source

[Home](#) > [The Nutrition Source](#) > [Recipes](#) > Home Cooking

### THE NUTRITION SOURCE



## Home Cooking

### Recipes – Table of Contents

**CookingLight**

[Your Account](#) ▾[Login](#)[Sweepstakes](#)[EXPLORE](#)[RECIPES](#)

### Healthy Living

[SEE ALL HEALTHY LIVING](#)[Weight-Loss](#)[Health](#)[Fitness](#)[Home](#)[Travel](#)[Nutrition 101](#)







Thank You!

Questions?



# The Mediterranean Diet

Elizabeth Cruse, MD

Internal Medicine Associates at Buffalo Ridge  
BCH Medical Director of Quality Improvement  
and Population Health  
303-415-8820



Boulder Community Health