# Priest Wellness Webinar Series

## Nutrition and Alcohol: Tips for Fostering Healthy Habits

September 14, 2021

Ascension

*Listening to you, caring for you.®*

# Welcome and Opening Prayer

Tim Waldoch
Chief Mission Integration Officer, Ascension Wisconsin

*"Grant them the wisdom, understanding, and strength they need to follow in the footsteps of Jesus."*

***-United States Conference of Catholic Bishops***

**Tim Waldoch**

Chief Mission Integration Officer, Ascension WIsconsin

# Nutrition and Alcohol:

## Tips for Fostering Healthy Habits

Dr. Adam Romeiser III, MD

2021 – Priest Wellness Webinar Series

# Which 3 factors are the most important predictors of poor long-term [physical] health?

1) Alcohol use
2) Obesity
3) High Blood Pressure
4) Current Smoking Status
5) Low Sun Exposure
6) Sleep Duration < 7 hours/night
7) Poor Physical Fitness

**Current smoking status, Obesity, and Poor Physical Fitness**


Hainer V, Toplak H, Stich V. Fat or fit: what is more important?. *Diabetes Care*. 2009;32 Suppl 2(Suppl 2):S392-S397. doi:10.2337/dc09-S346

Sturm, Roland and Kenneth B. Wells, The Health Risks of Obesity: Worse Than Smoking, Drinking or Poverty. Santa Monica, CA: RAND Corporation, 2002.

Siahpush M, Singh GK, Tibbits M, Pinard CA, Shaikh RA, Yaroch A. It is better to be a fat ex-smoker than a thin smoker: findings from the 1997-2004 National Health Interview Survey-National Death Index linkage study. Tob Control. 2014 Sep;23(5):395-402.

# What is Obesity?

According to the WHO, it is defined as abnormal or excessive fat accumulation that presents a risk to health.

Measured by the body mass index (BMI) = weight (kg) / height ($m^2$)

BMI < 18.5 underweight

BMI 18.5-24.9 normal weight

BMI 25-29.9 overweight

BMI 30-39.9 obese

BMI >40 morbidly obese

BMI can be helpful but also is sometimes misleading, as in those with

- High muscle mass, who would be regarded as obese according to the formula
- Low lean muscle mass and high body fat percentage, “normal weight obesity”
- Utilize waist circumference (>40 inches in men, >35 in. in women)

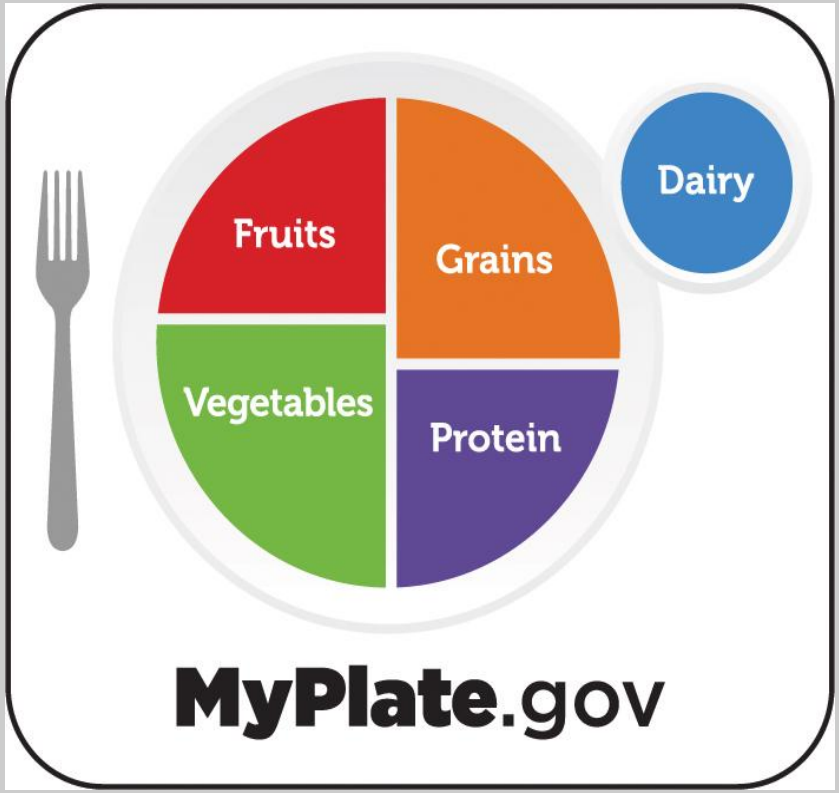
# Why is Obesity Bad?

- Increased risk for diabetes (30-90x higher risk)
- Heart Disease (yet obesity paradox for those with heart disease muddies the waters)
- Stroke (at least doubling of risk, which is also linear with increasing BMI)
- Osteoarthritis (2.5-7x higher risk)
- Disability
- Dementia and early death (also paradox depending on mid-life vs late-life obesity)

How do we prevent it?

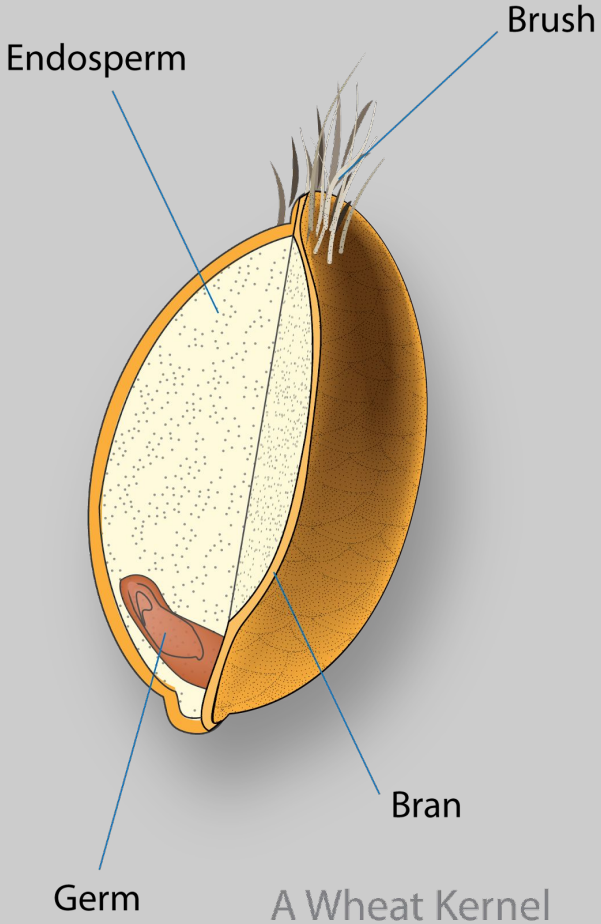
# My Plate Messages

1) Make more than half your plate fruits and veggies
   a) Focus on whole fruits- 2/day
   b) Vary your veggies- 3/day
2) Make half your grains whole grains
3) Vary your protein sources
   a) Beans, peas and lentils (legumes), nuts, seeds, eggs, fish
4) Move towards fat free and low fat dairy milk or yogurt. Dairy may lower cardiovascular disease risk.
   - *This latter point is certainly debatable*

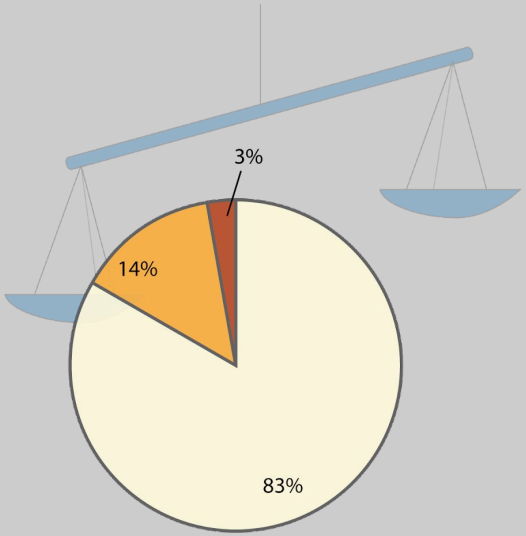


# What is a whole grain?

- Barley
- Buckwheat
- Bulgar
- Corn
- Millet
- Oats
- Quinoa
- Rice (brown, red, or wild)
- Rye
- Wheat




A Wheat Kernel




Composition by weight

| | *Carb./g* | *Protein/g* | *Fat/g* | *Fiber/g* | *Iron (% daily req.)* | *Others* |
|---|---|---|---|---|---|---|
| **Bran** | 63 | 16 | 3 | 43 | 59 | vitamin Bs |
| **Endosperm** | 79 | 7 | 0 | 4 | 7 | |
| **Germ** | 52 | 23 | 10 | 14 | 35 | vitamin Bs<br>omega-3/6 lipids |

Nutritional Value (per 100g)

# General Nutritional Concepts

## Macronutrients

Protein: 10-35% of calories, 1 g/kg of body wt

Carbohydrate: 45-65% of calories

Fat: 20-35% of calories, more energy dense

Fiber (technically carbohydrate): 25-35 g/day

## Micronutrients

Vitamins and minerals

No need for multivitamin (most)

Sodium intake goal <2300 mg/day

New Label


1 The serving size now appears in larger, bold font and some serving sizes have been updated.

2 Calories are now displayed in larger, bolder font.

3 Daily Values have been updated.

4 Added sugars, vitamin D, and potassium are now listed. Manufacturers must declare the amount in addition to percent Daily Value for vitamins and minerals.

# Types of Fat

**Saturated**: solid at room temperatures, and known to increase LDL ("bad" cholesterol). Some large studies have shown an increased cardiovascular risk with high consumption, while other studies have not. USDA recommends **<10% of total calories should be from saturated fat**, and the American Heart Association recommends that <7% of total calories be from saturated fat.

**-Butter**

**-Lard**

**-Red meat**

**-Full or partial-fat cheese, yogurt and milk**

**Unsaturated**: liquid at room temperature, and known to raise HDL ("good" cholesterol) and lower LDL ("bad" cholesterol). These are the healthy fats and large studies have shown that replacing saturated fats with unsaturated fats (as long as they are not trans fats) reduces one's cardiovascular risk.

**Mono-unsaturated fat: olive oil, canola oil, sunflower oil, avocado, peanuts, and most tree nuts**

**Poly-unsaturated fat: fish (omega-3), soybean, corn oil, cottonseed oil, sunflower, sesame, pumpkin seeds, walnuts, and pine nuts**

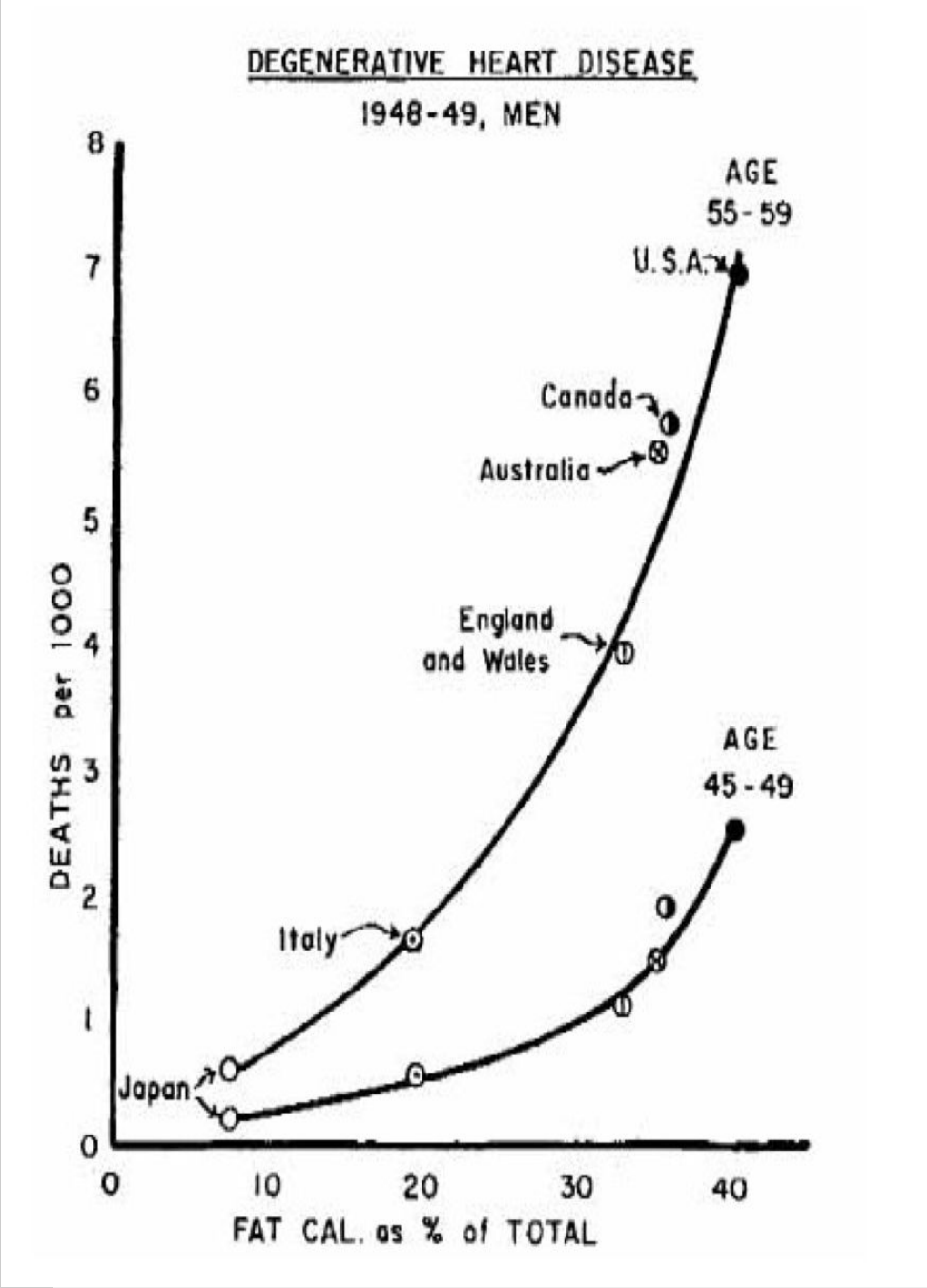
# Glycemic Index of Carbohydrates

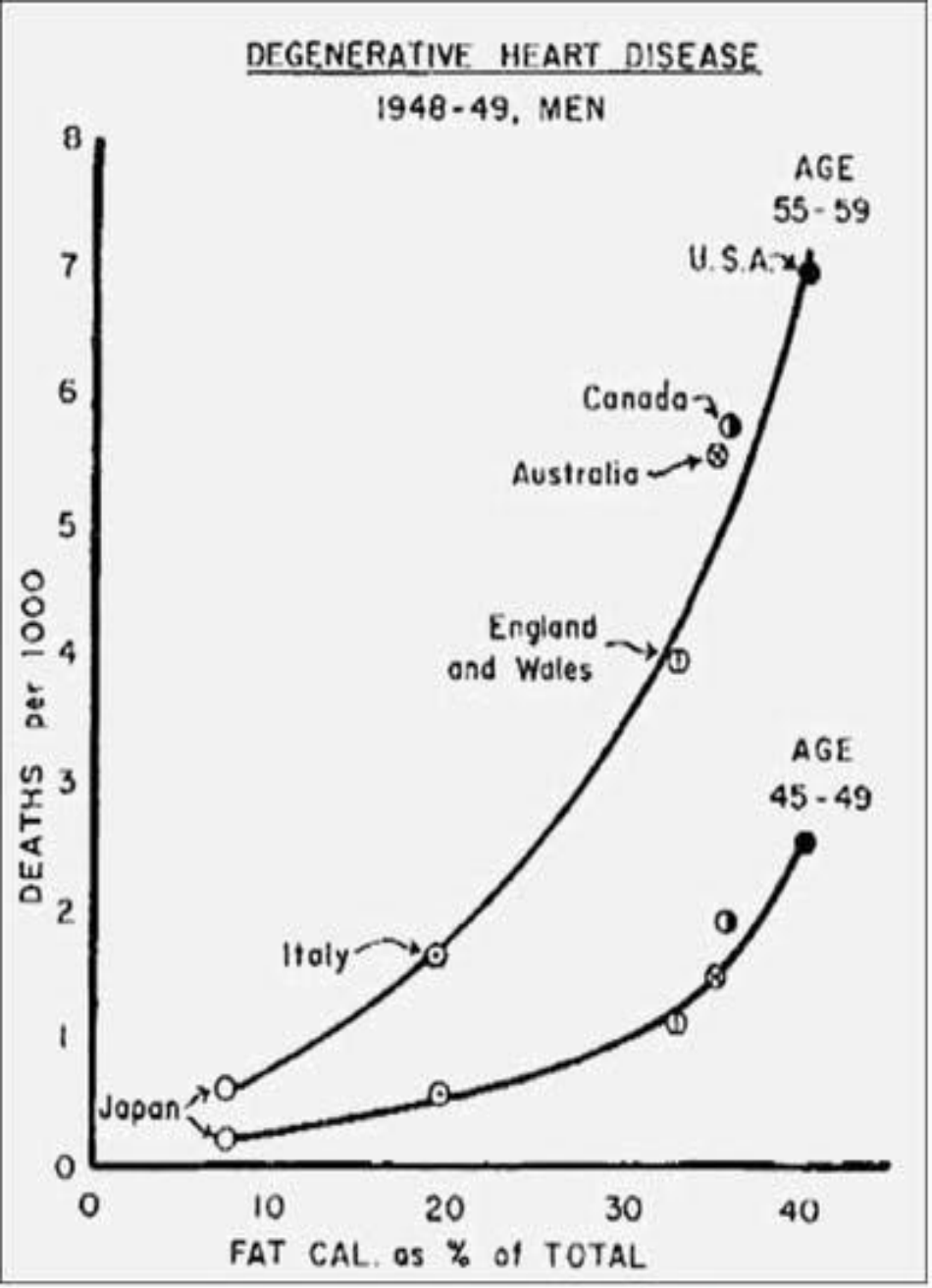
| Low glycemic index (<55) | Moderate glycemic index (56-69) | High glycemic index (>70) |
|---|---|---|
| Oatmeal | Sweet potato | White potato |
| Bran cereal (low sugar) | Corn | White rice |
| Most fruits/berries | Brown rice | White bread |
| Green vegetables | Bananas | Whole wheat bread |
| Legumes/beans | Raw pineapple | Bagels |
| Wild rice | Raisins | Most sweets |
| Flourless bread | Rye and multigrain bread | Most sweetened cereals (even Cheerios!) |
| Spaghetti | Ice cream | |
| Dairy | | |

# Avoidance/Limitation of this one “thing” can help prevent obesity?

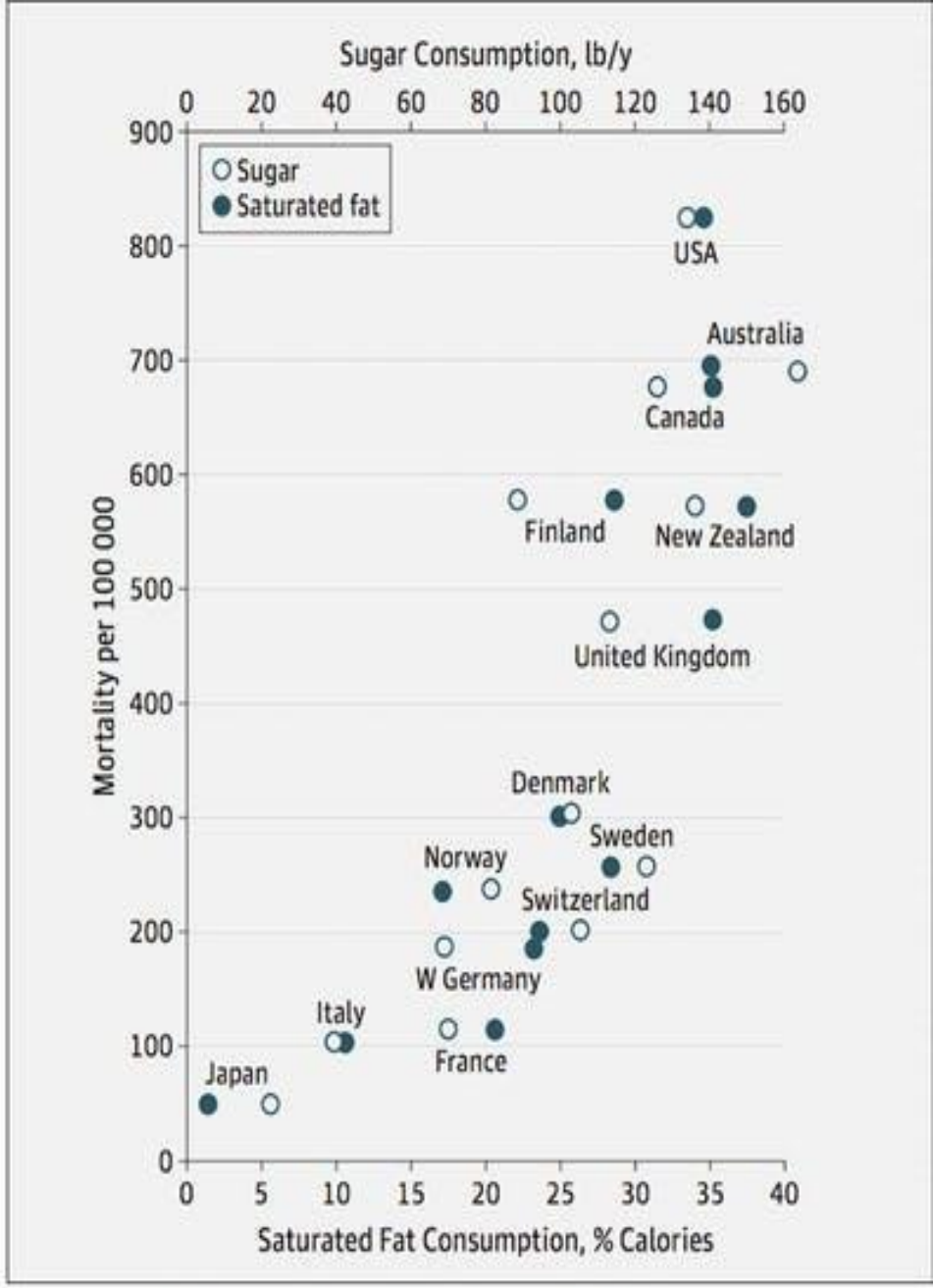
Obesity:
How did we get here?

Is it fat?





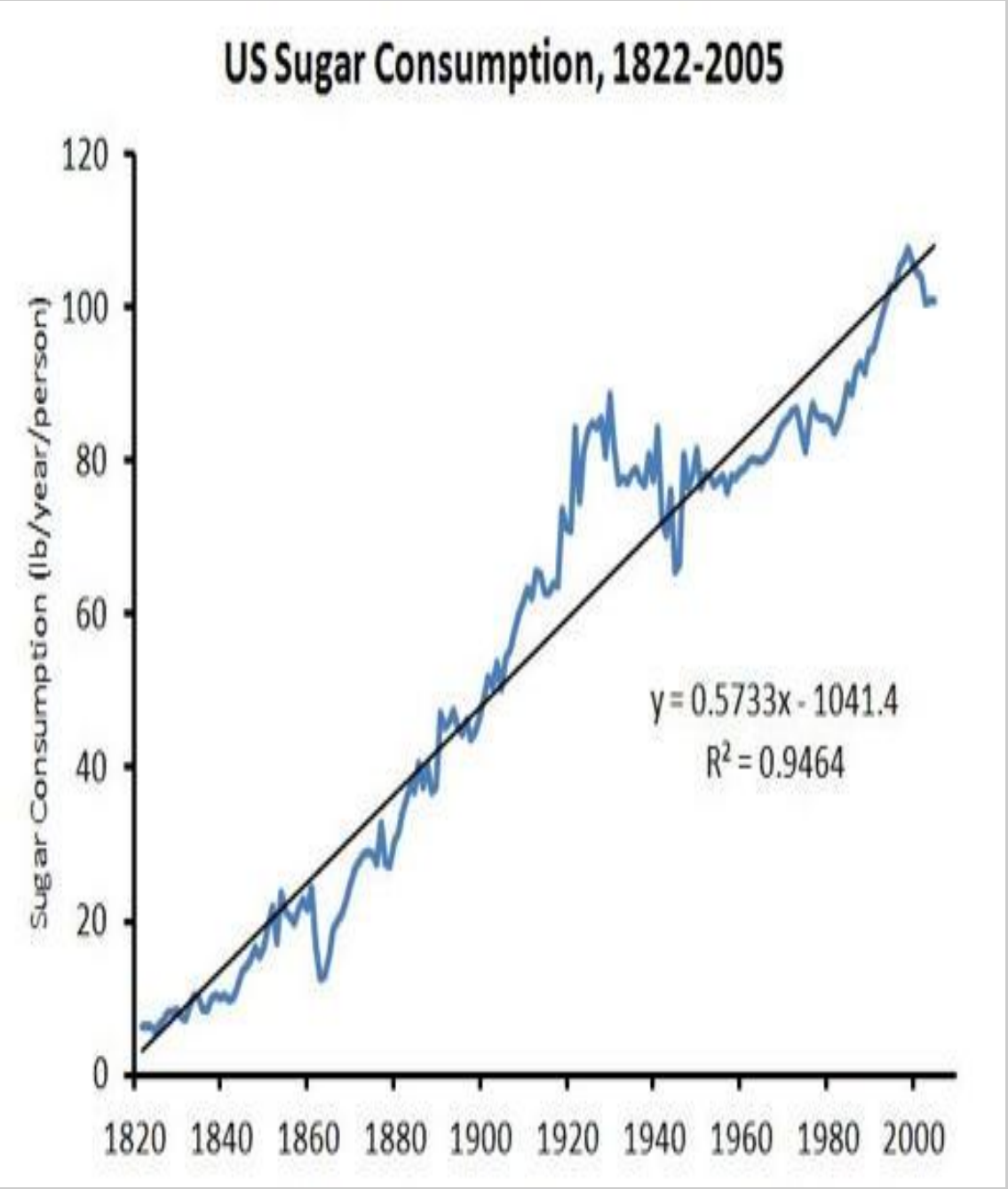

What Ancel Keys said.



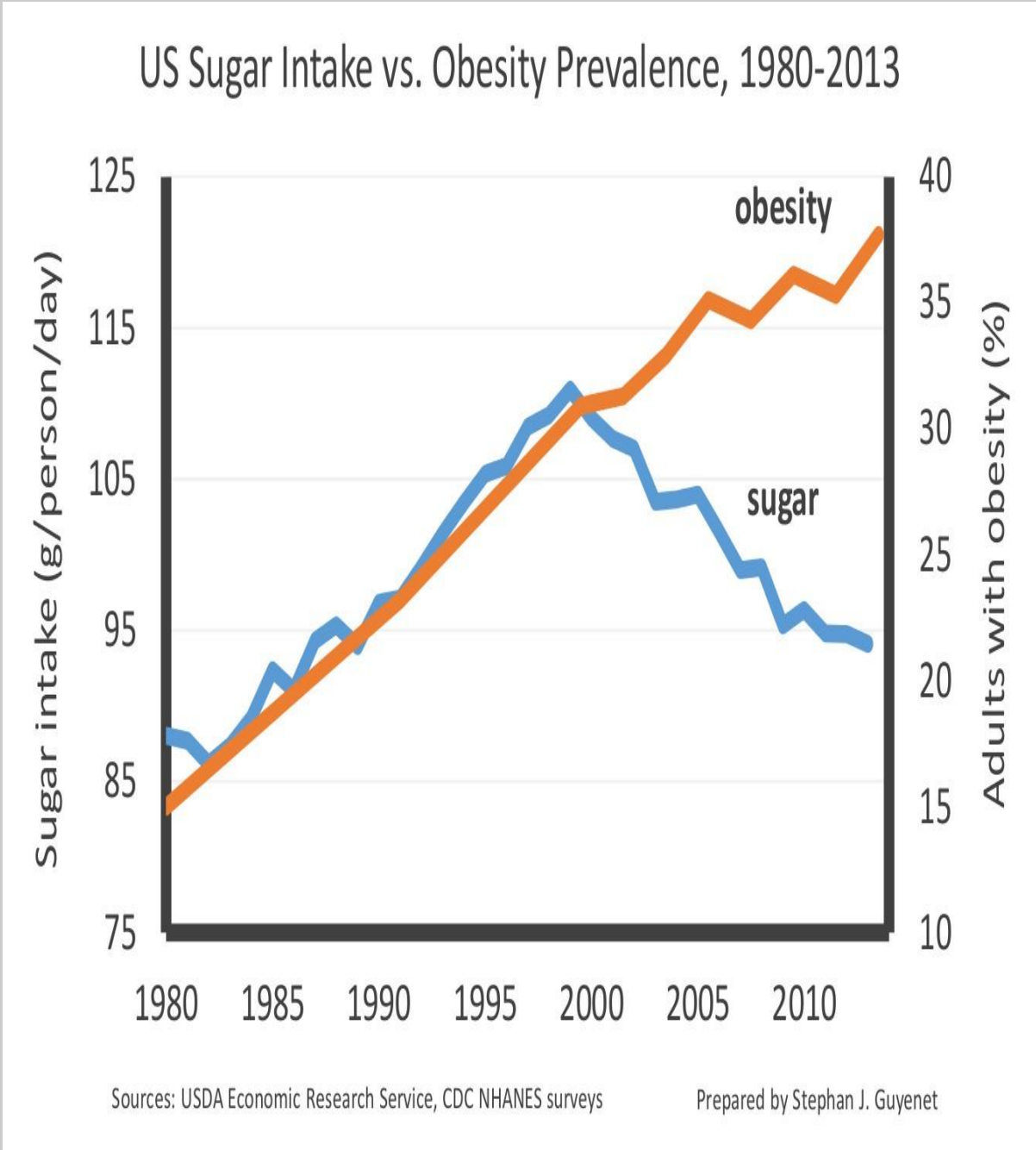

What Ancel Keys didn't say.

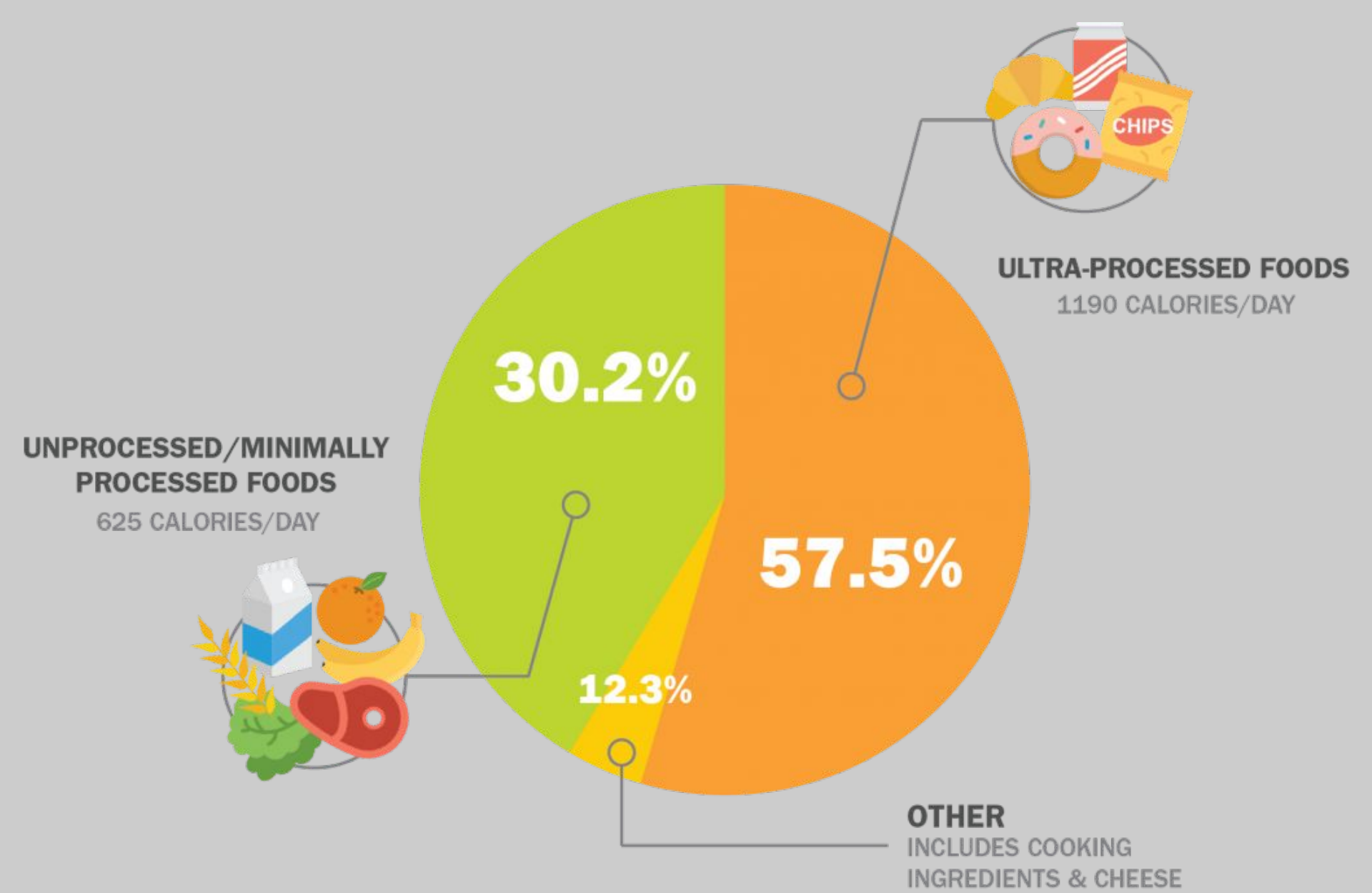
Obesity: How did we get here?

Or is it sugar?



**At the same time, we don't have all the answers.**






Data from 2017 US NHANES study

# What is Ultra-Processed Food?

| Minimally processed | Processed | Ultra-processed |
|---|---|---|
| Corn | Canned sweet corn | Corn chips, products with corn syrup |
| Potato | Mashed potatoes | French fries |
| Carrot | Carrot juice | Carrot cake with refined sugar, etc. |
| Whole wheat | Flour | Cookies, white bread? |

Altered from harvard.edu

# Ultra-Processed Diets Cause Excess Calorie Intake and Weight Gain: An Inpatient Randomized Controlled Trial of Ad Libitum Food Intake


## Abstract

We investigated whether ultra-processed foods affect energy intake in 20 weight-stable adults, aged (mean ± SE) 31.2 ± 1.6 years and BMI = 27 ± 1.5 kg/m2. Subjects were admitted to the NIH Clinical Center and randomized to receive either ultra-processed or unprocessed diets for 2 weeks immediately followed by the alternate diet for 2 weeks. Meals were designed to be matched for presented calories, energy density, macronutrients, sugar, sodium, and fiber. Subjects were instructed to consume as much or as little as desired. Energy intake was greater during the ultra-processed diet (508 ± 106 kcal/day; p = 0.0001), with increased consumption of carbohydrate (280 ± 54 kcal/day; p < 0.0001) and fat (230 ± 53 kcal/day; p = 0.0004), but not protein (-2 ± 12 kcal/day; p = 0.85). Weight changes were highly correlated with energy intake (r = 0.8, p < 0.0001), with participants gaining 0.9 ± 0.3 kg (p = 0.009) during the ultra-processed diet and losing 0.9 ± 0.3 kg (p = 0.007) during the unprocessed diet. Limiting consumption of ultra-processed foods may be an effective strategy for obesity prevention and treatment.



Hall, KD, et al. *Cell Metabolism.* 2019; 30(1):67-77.

# Two Main Theories for Development of Obesity

## Carbohydrate-Insulin Model

•Weight gain is the body's response to high insulin levels that occur as a result of the interplay between one's genes and eating too much of certain types of food.

•Essentially we misprogram our bodies to gain weight, and no amount of exercise or low fat dieting can undo this.

•Carbohydrates, especially high glycemic carbs, are considered to be the culprit

**•If you're going to store it, your body will find a way to eat it OR not burn it.**

## Passive Overconsumption Model

•If caloric intake exceeds the amount of calories burned, one gains weight.

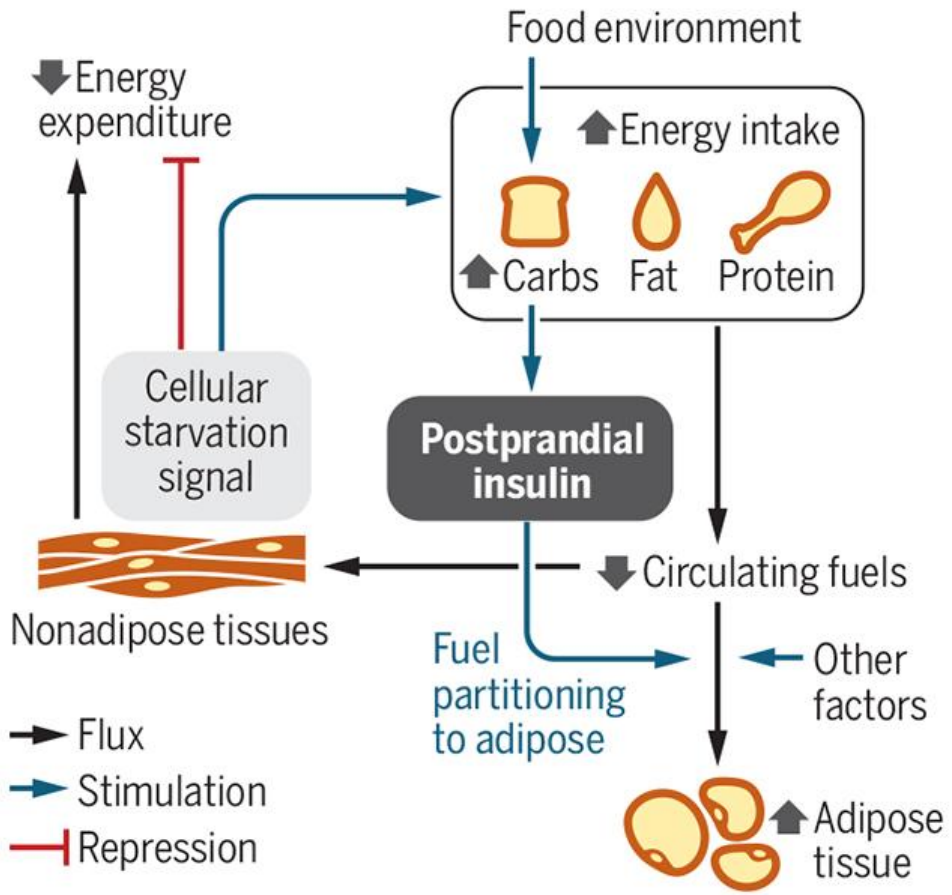
•All about caloric balance.

•This seems like an obvious application of the First Law of Thermodynamics, which insists on the conservation of energy. If energy is not utilized, it must be stored. And in the case of someone who develops obesity, it is stored as fat.

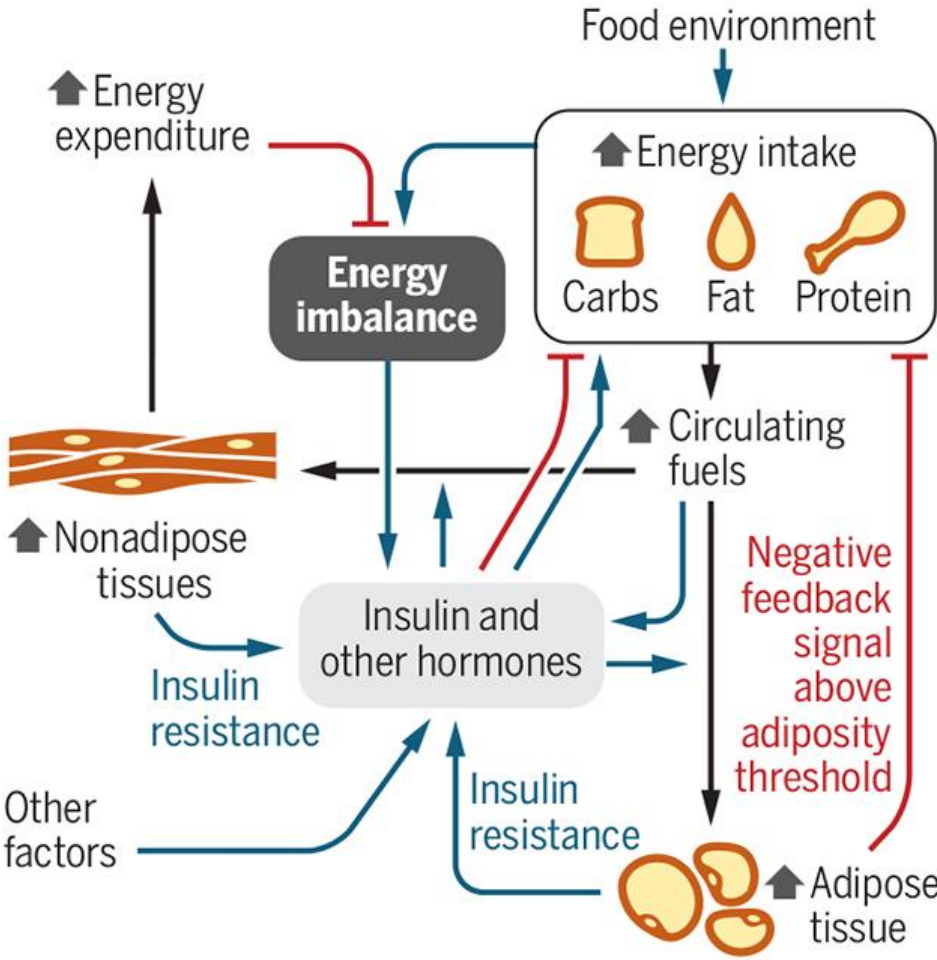
•Fat tends to be vilified because it is more energy dense (more calories per gram)

**•If you're going to eat it, you'd better burn it, or you're going to store it.**
**-Dr. Robert Lustig**

# Two models of body weight regulation




**Carbohydrate insulin model**
A food environment promoting increased carbohydrate intake stimulates postprandial insulin, which partitions circulating ingested fuels into adipose tissue. This reduces the flux of these fuels into nonadipose tissues, leading to a cellular starvation signal with two consequences: reduced energy expenditure and further stimulation of intake.



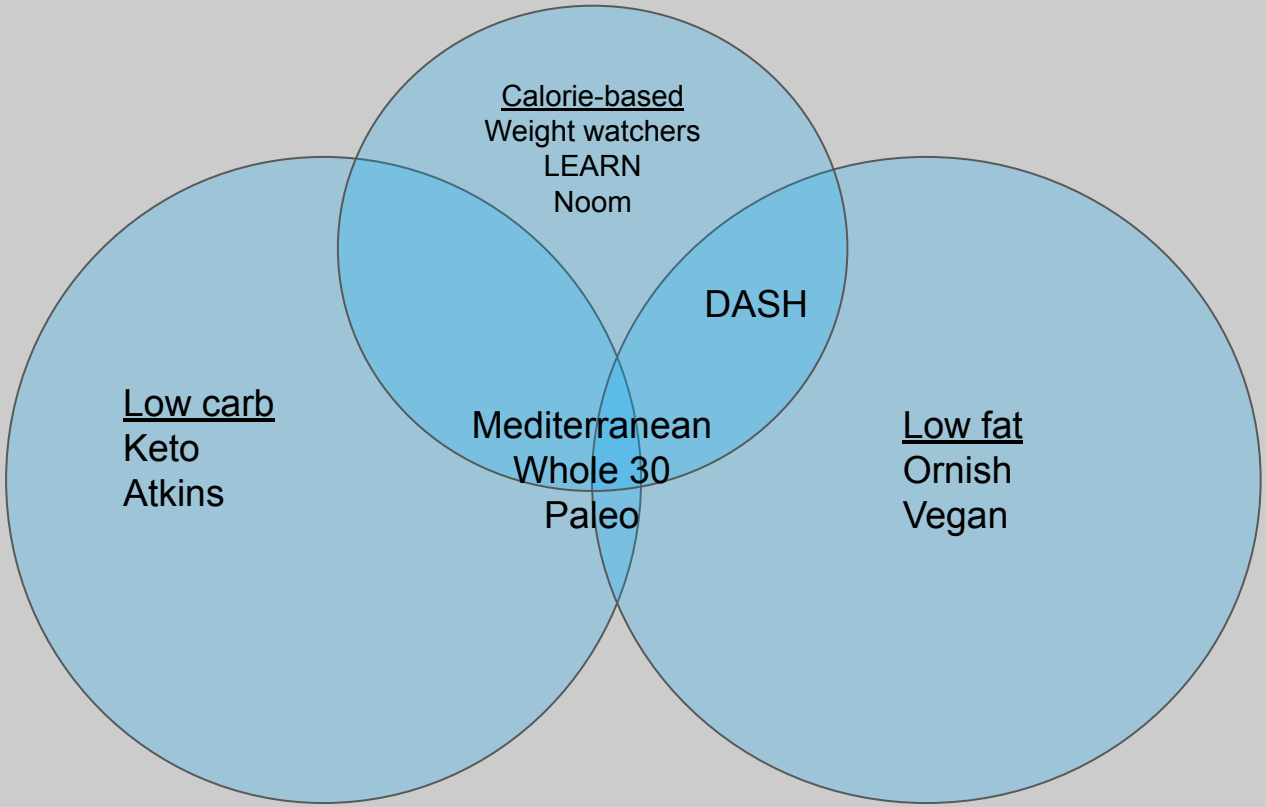

**Energy balance model**
Energy imbalance is driven by increased energy intake caused by the obesogenic food environment. Insulin facilitates the uptake of circulating fuels and provides a negative feedback signal to the brain, which regulates intake in combination with other hormones and signals from adipose tissue when adiposity rises above a critical level.

# Key Rules to Weight Maintenance

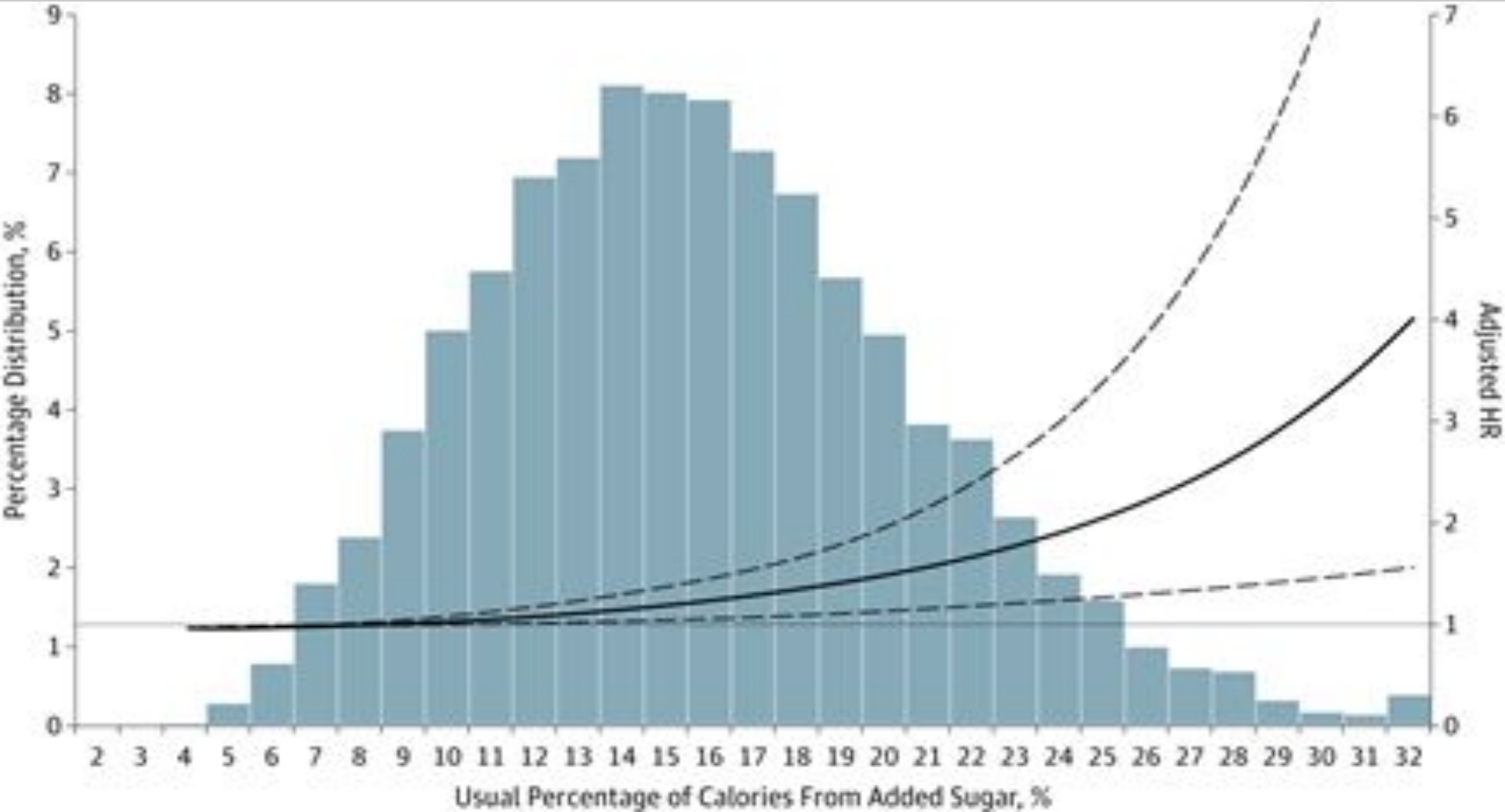

- Exercise!
- Limit processed foods
- Limit added sugar
- Limit red meat
- Eat lower glycemic index foods
  - Refined grains, starches, and simple sugars vs whole grains and whole foods
- Fiber is crucial
  - Lowers glycemic index/load of foods and renews a healthy gut microbiome

# To Treat Obesity, Which Diet is Best?

US News and World Reports identifies and rates >40 different dietary approach

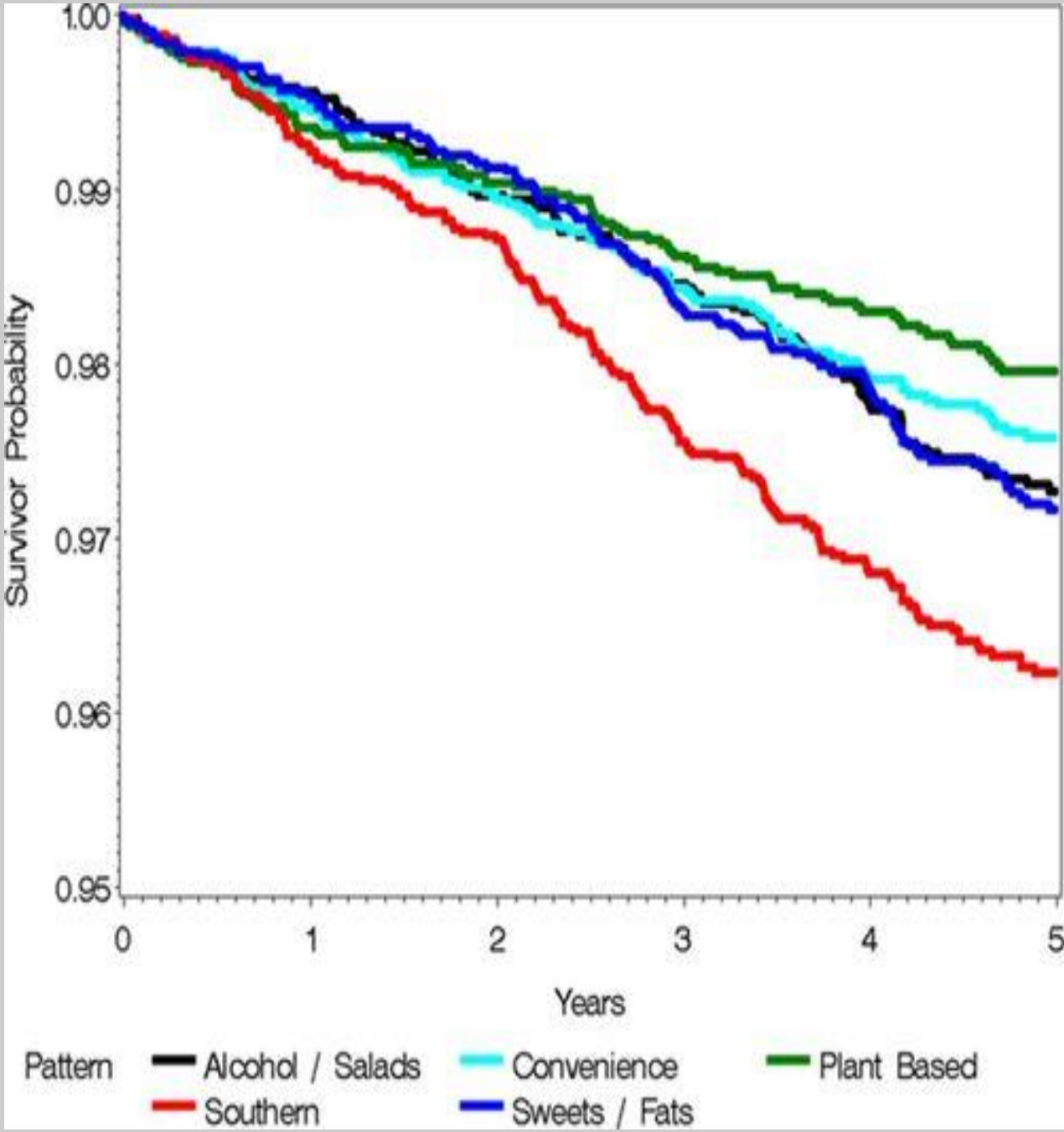


# Regardless, an increase in added sugar is clearly associated with an increase in mortality (solid line)

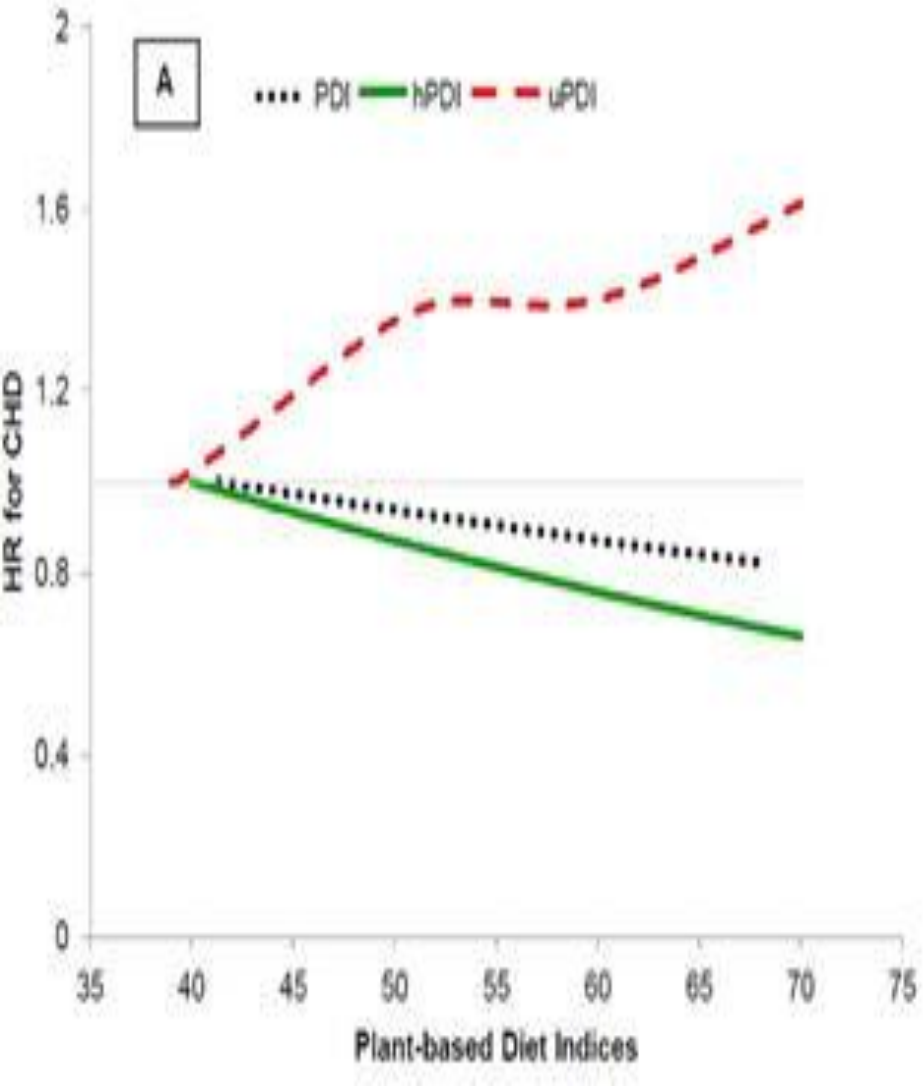


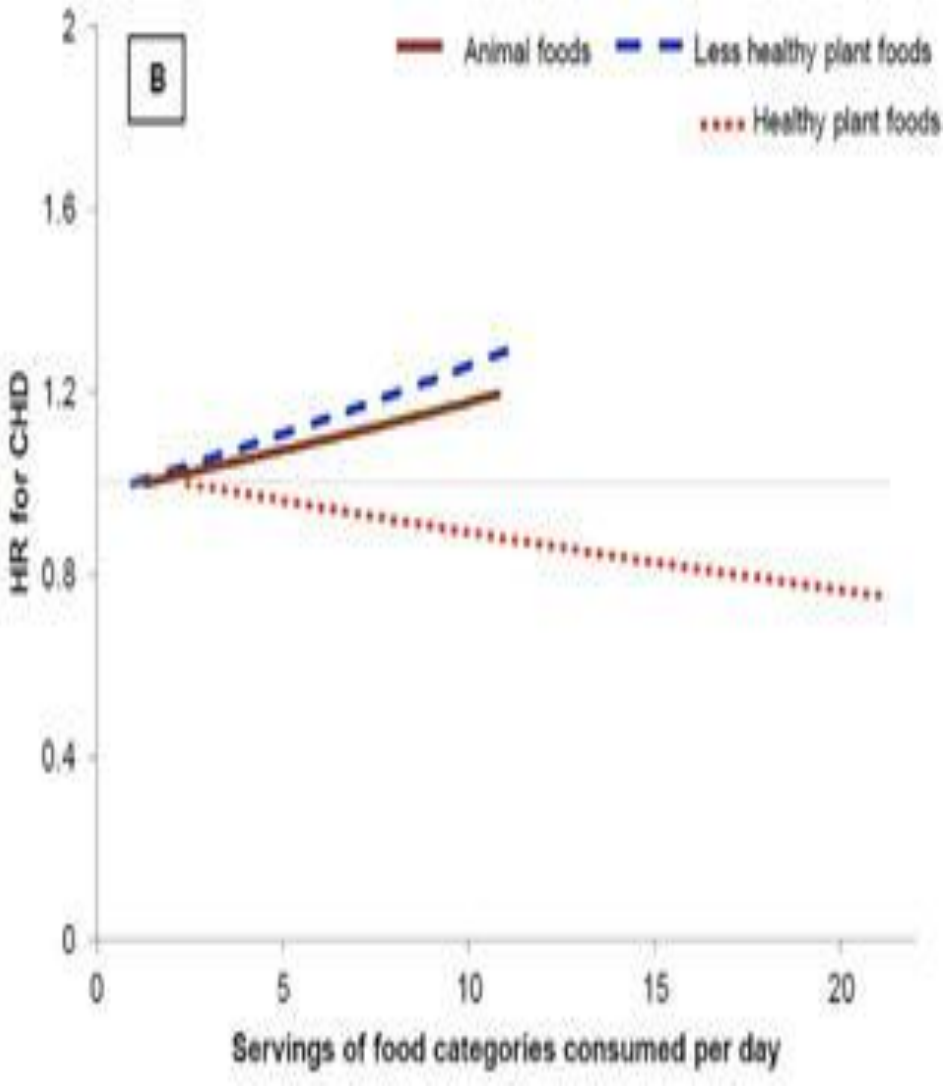
## REGARDS study in *Circulation*, 2015

"Southern diet," with high amounts of organ and processed meats, fried foods, added fat, eggs and sugar-sweetened beverages, is associated with 1.5 times higher risk for acute coronary heart disease. The plant-based dietary approach had the lowest risk but this was not statistically significant.

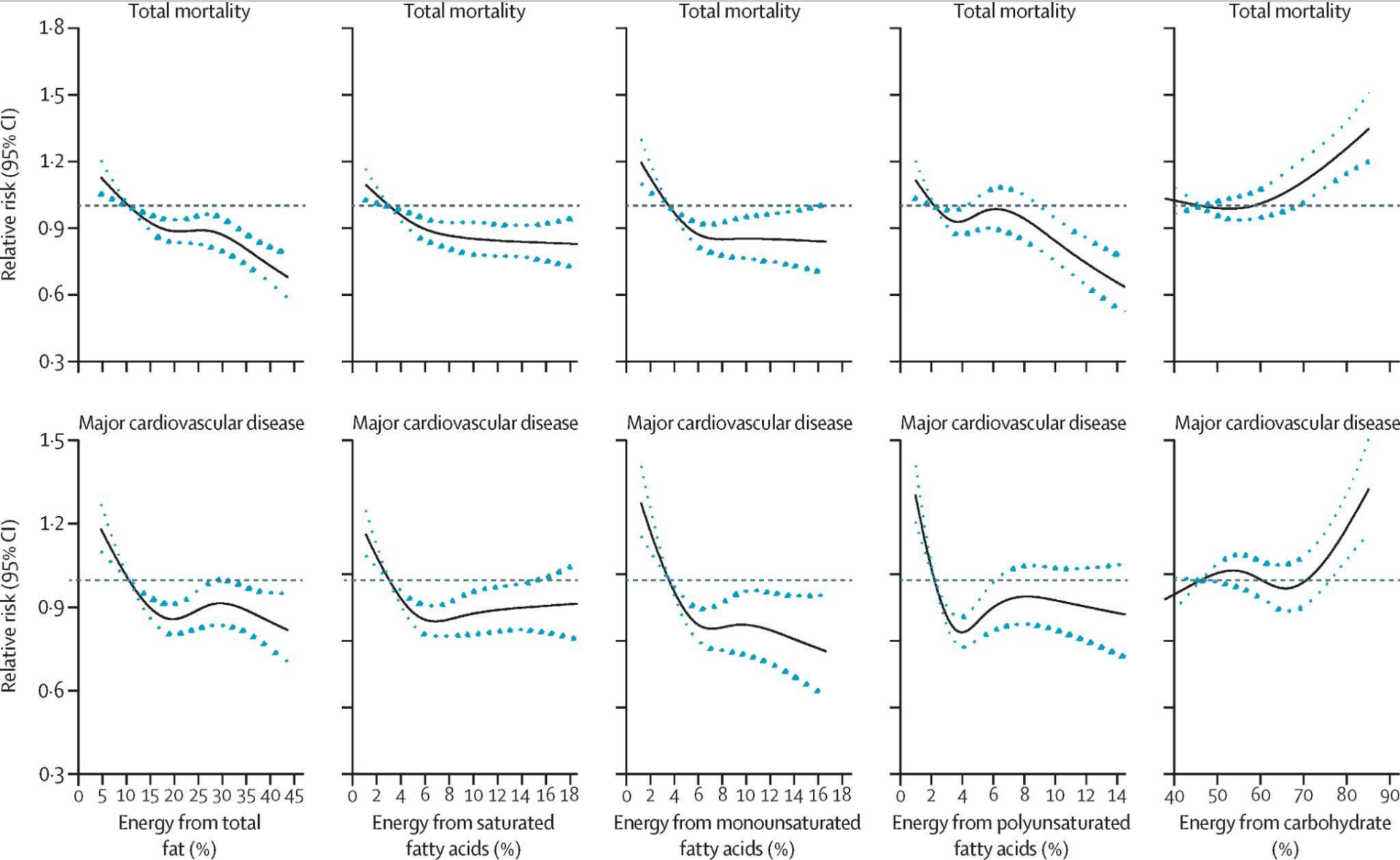


# Even a Vegan Diet can be Unhealthy Depending on the Types of Carbohydrates

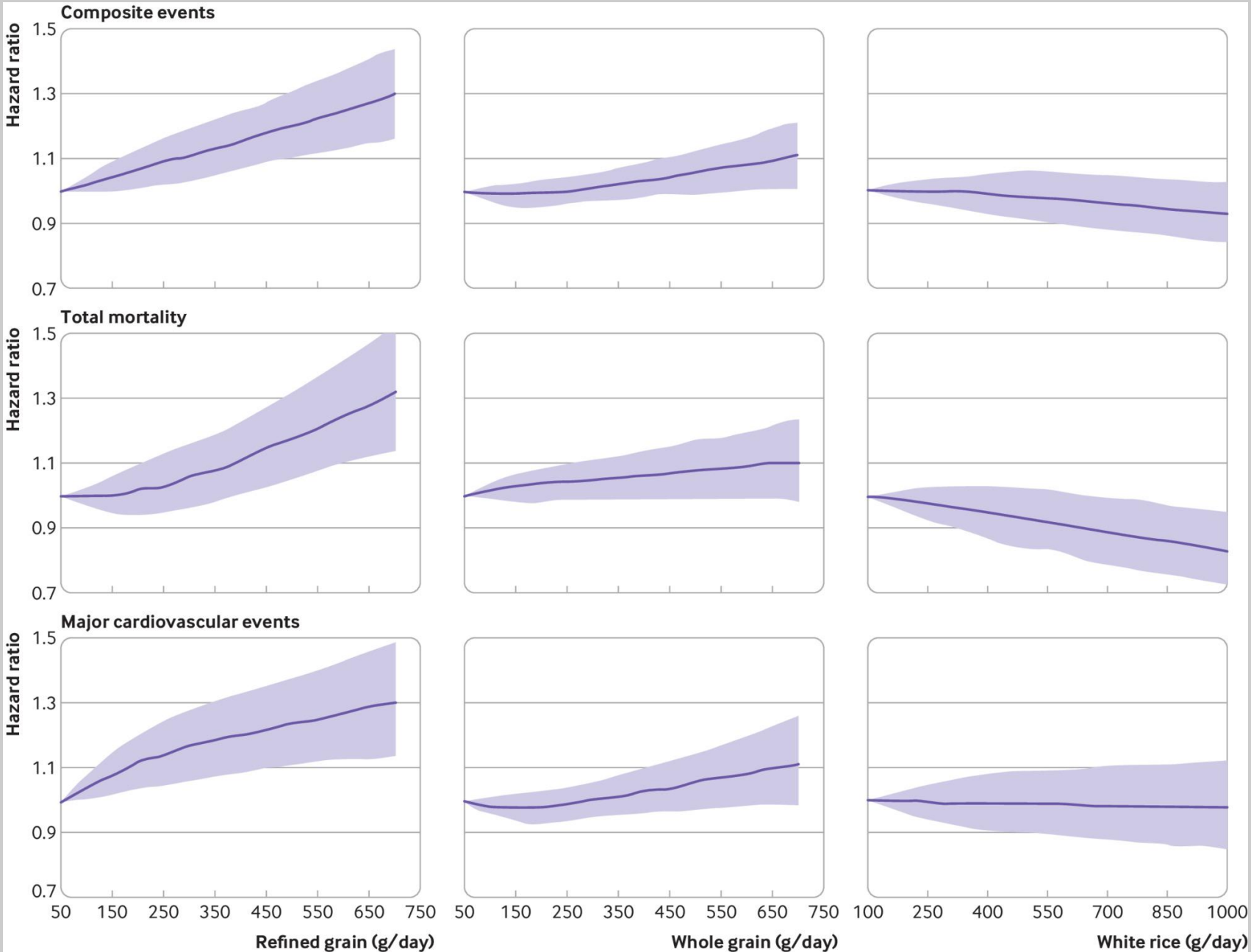


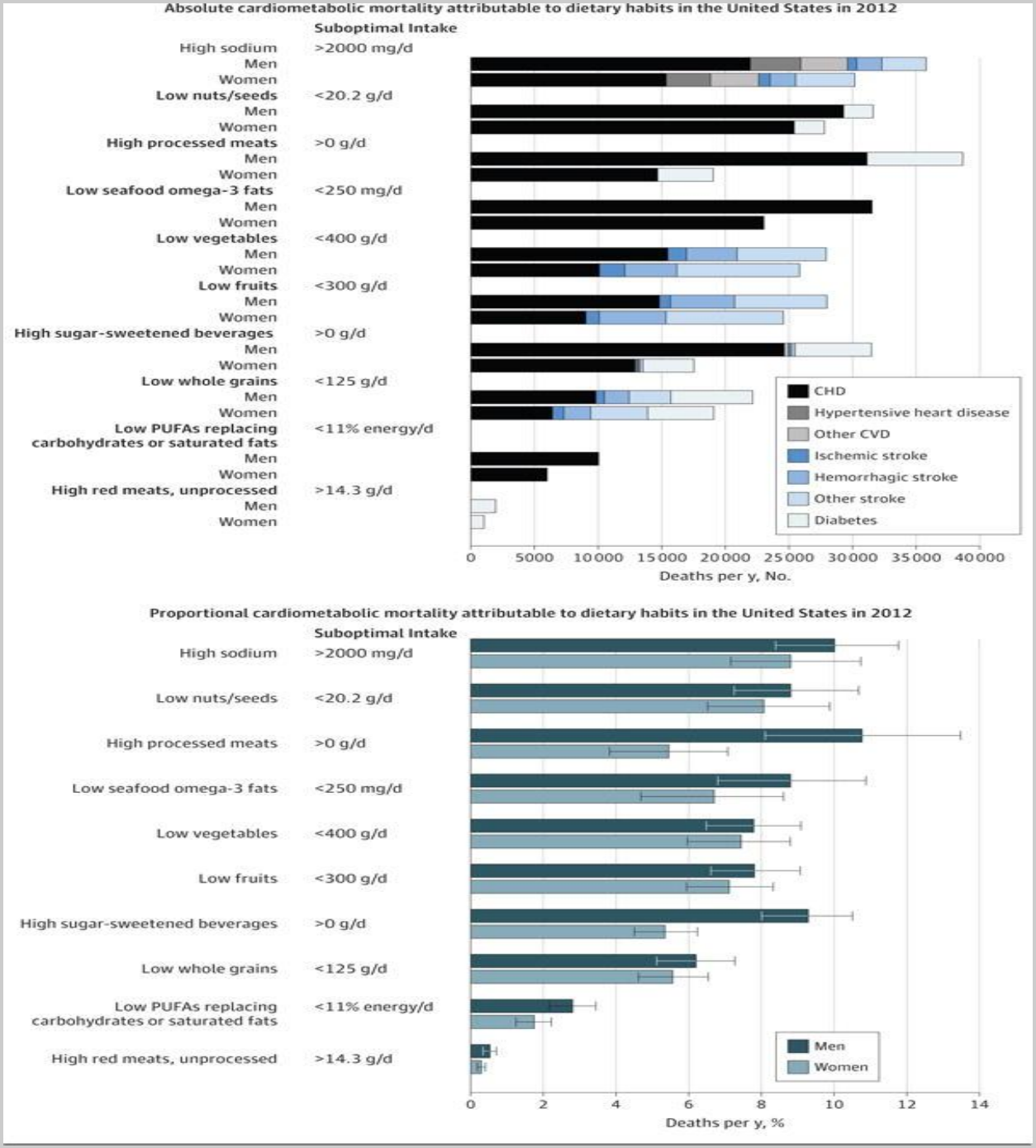
# PURE Study, 2017 in Lancet



# PURE study, 2021



# Association between Dietary Factors and Mortality from Heart Disease, Stroke, and Type II Diabetes in the United States. 2017 paper in JAMA

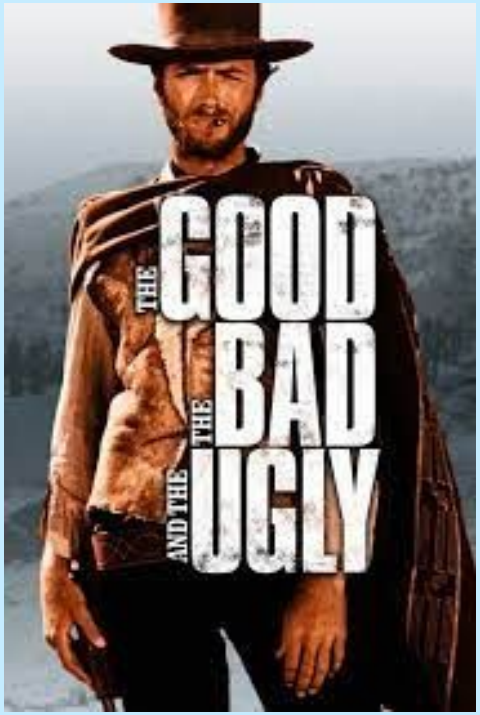


# Keys to Weight Loss

- Sustainability - most important
- Lower glycemic index carbs - at the very least
- ? lower fat
- The more plant-based, the better, as long as you are avoiding sugar!
- Intermittent fasting, generation of ketones
- Carb cycling / metabolic confusion
- Not mixing carbs & fat

# Alcohol Use

## The GOOD, the BAD, and the UGLY



# Alcohol Intake Definitions


- 14 grams of alcohol is the standard drink and is equivalent to the following:
- 1.5 oz of distilled spirits (40% alcohol) = 12 oz of beer (5% alcohol) = 5 oz of wine (12% alcohol
- Moderate use: 1 drink per day for women, max 7 drinks per week
- 2 drinks per day for men, max 14 drinks per week
- Heavy use for men: >14 drinks per week or 4 drinks per occasion
- Binge drinking for men: 5 drinks or more in one occasion

# The GOOD: Benefits of Moderate Alcohol Consumption

- Reduced risk for cardiovascular disease (heart attack, stroke, and heart failure)
- Improved insulin sensitivity and reduced risk for diabetes
- Perhaps lower risk for dementia (only benefit at < 1 drink per day)
- Some studies show lower all-cause mortality (caveat being that many of those studies showed the greatest benefit in those consuming only 6 g of alcohol per day = ½ of standard US alcoholic drink)
- Despite these benefits, the data are correlational and not based on RCTs

# The BAD: Drawbacks of Alcohol Consumption

- Data is inconsistent, with some studies showing overall harm even with small-modest drinking
- Cancer risk (especially breast, head and neck, esophageal, stomach, liver, and possibly colon cancer), even with moderate intake
- Liver disease (even moderate drinking is associated with risk, likely because of interactions with medications and/or other liver disease such as hepatitis C)
- Heavy drinking increases risk for above problems and for hypertension, metabolic syndrome and obesity, pancreatitis, peptic ulcer disease, cardiovascular disease, dementia, and mental illness

# Solitary Drinking

Several studies have shown that there is an association between drinking alone and drinking problems. This may be more correlation than causation.

# The UGLY: Alcohol Use Disorder

This term is all-encompassing and includes older terms such as alcohol abuse, alcohol dependence, alcohol addiction, and alcoholism.

**In the past year, have you:**

- Had times when you ended up drinking more, or longer, than you intended?
- More than once wanted to cut down or stop drinking, or tried to, but couldn't?
- Spent a lot of time drinking? Or being sick or getting over other after effects?
- Wanted a drink so badly you couldn't think of anything else?
- Found that drinking—or being sick from drinking—often interfered with taking care of your home or family? Or caused job troubles? Or school problems?
- Continued to drink even though it was causing trouble with your family or friends?

# Alcohol Use Disorder, Continued...

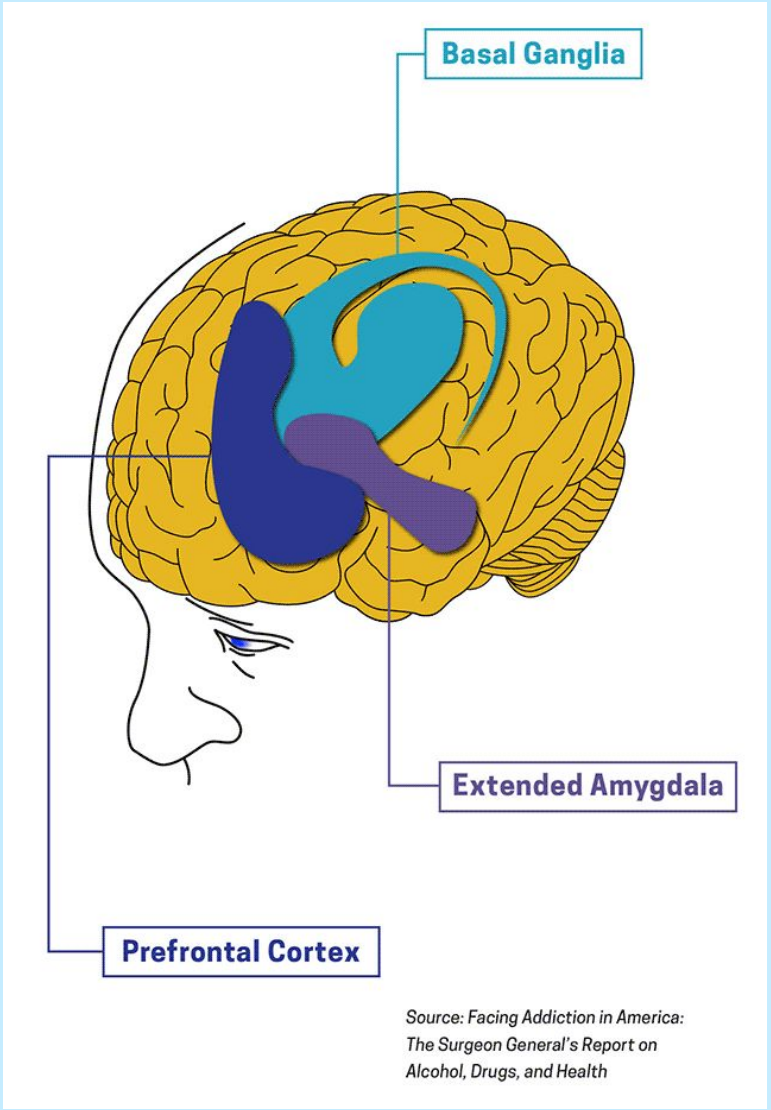
- Given up or cut back on activities that were important or interesting to you, or gave you pleasure, in order to drink?
- More than once gotten into situations while or after drinking that increased your chances of getting hurt (such as driving, swimming, using machinery, walking in a dangerous area, or having unprotected sex)?
- Continued to drink even though it was making you feel depressed or anxious or adding to another health problem? Or after having had a memory blackout?
- Had to drink much more than you once did to get the effect you want? Or found that your usual number of drinks had much less effect than before?
- Found that when the effects of alcohol were wearing off, you had withdrawal symptoms, such as trouble sleeping, shakiness, restlessness, nausea, sweating, a racing heart, or a seizure? Or sensed things that were not there?

# Neurobiology of Addiction

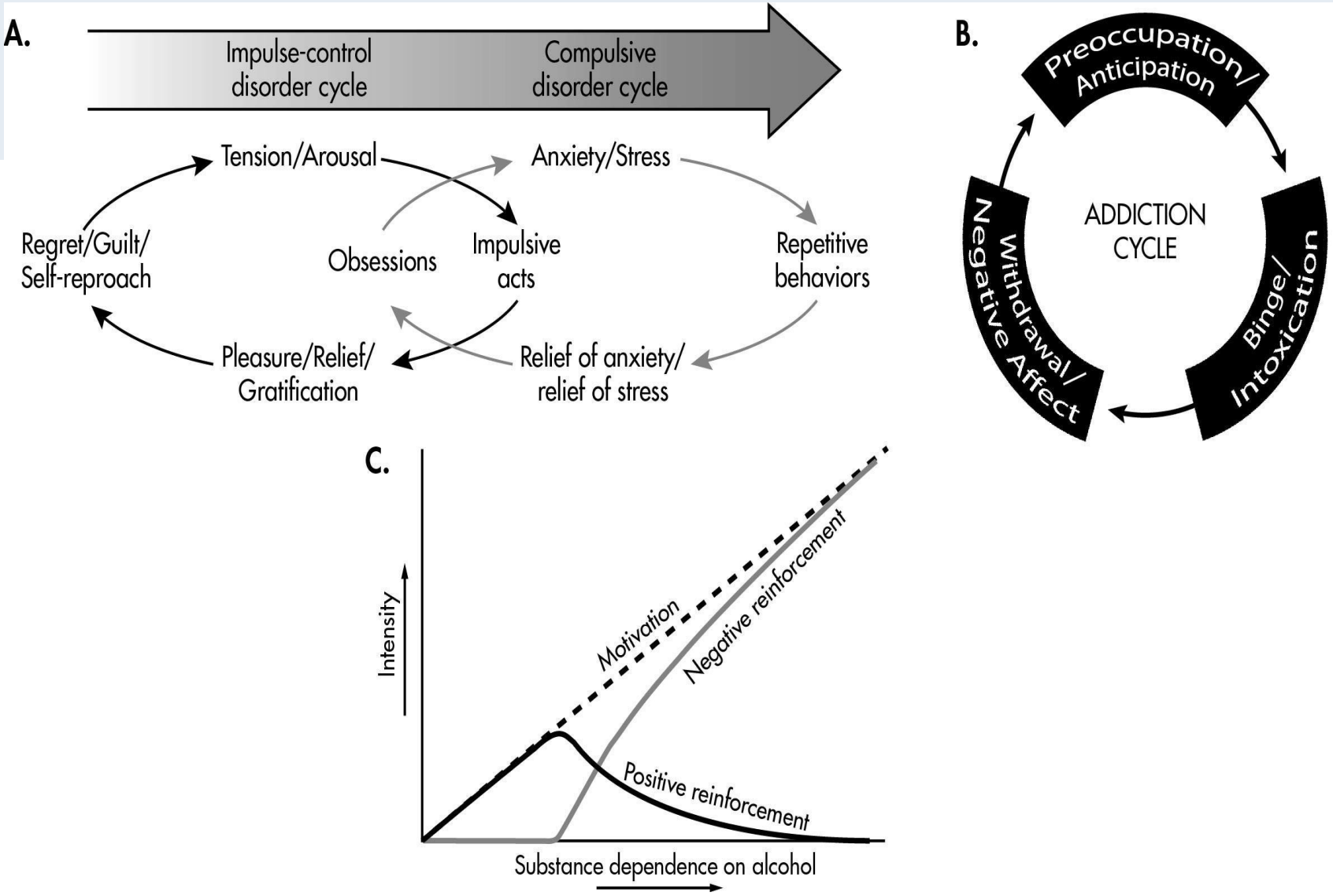
Alcohol / sugar / drug causes release of dopamine from the ventral striatum in the basal ganglia, and this release cause pleasure and creates an incentive for future use via its connection with the nucleus accumbens, also in the basal ganglia.

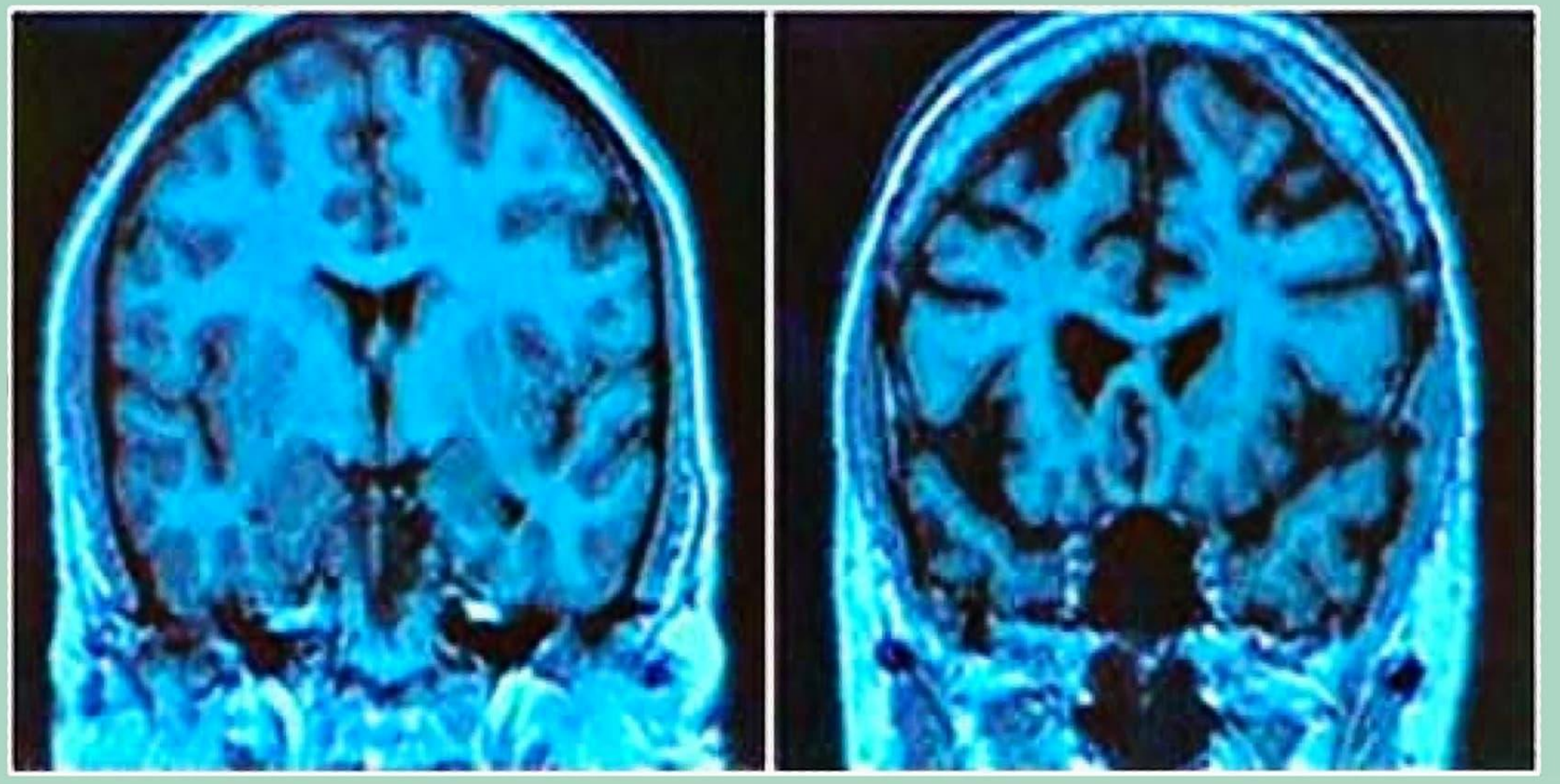
The amygdala contributes to a negative sense of anxiety after the high has ended. This can lead to negative reinforcement of continued substance use. Those with addictions suffer from increased activity in this area of the brain.

The prefrontal cortex helps regulate behavior and control impulses, but those struggling with addiction have reduced size and activity of the prefrontal cortex



**From: Neurobiology of Addiction**





Normal
43-year-old

Alcoholic
43-year-old

# Conclusions


- Eat more whole foods, especially fruits and veges
- All foods in moderation
- Minimize processed food intake
- Reduce/eliminate sugar
- Limit alcohol
- If struggling, get help!
- Words of advice from St. Paul, First letter to the Corinthians: 6:12

**“‘Everything is lawful for me,’ but not everything is beneficial. ‘Everything is lawful for me,’ but I will not let myself be dominated by anything.”**

# Thanks for participating!

**QUESTIONS?**

May the God of *health* be with you, bringing you to wholeness and holiness; healing you and hollowing you, filling you with the fullness of love, gentleness, and care. May this God be near you all your days and bring you to embrace the broken places of the world that are in need of healing. May the blessing of *health* be on you. Amen.

--Maxine Shonk, OP

## Closing Blessing and Announcements

**Next Webinar:**

Weight Loss Regimens, Dr. Chris Weber, MD 11/18/2021 at 1:30 pm.