

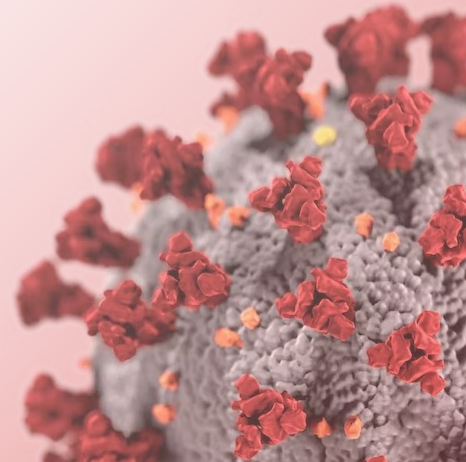


**EMERGING APPROACHES TO TREATING  
SPIKE PROTEIN-INDUCED DISEASES**

April 28-29, 2023 • Fort Worth, Texas

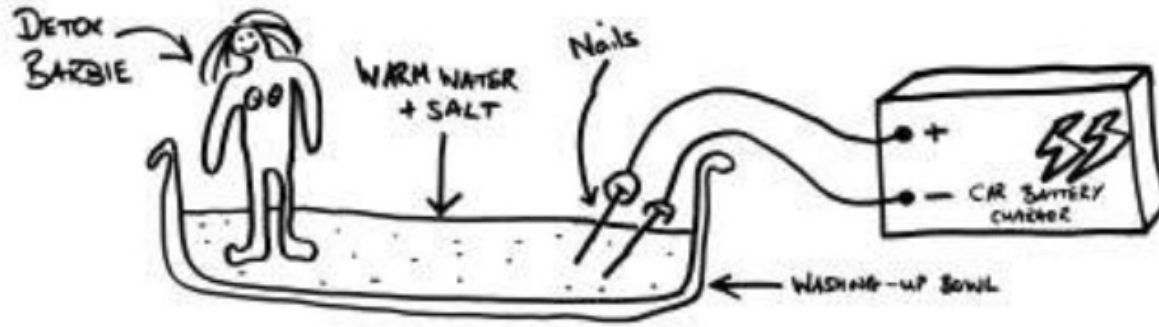
# Intermittent Fasting, Autophagy, and Spike-Related Disease

Presented By:  
**Paul Marik, MD**



# CONFLICT OF INTEREST



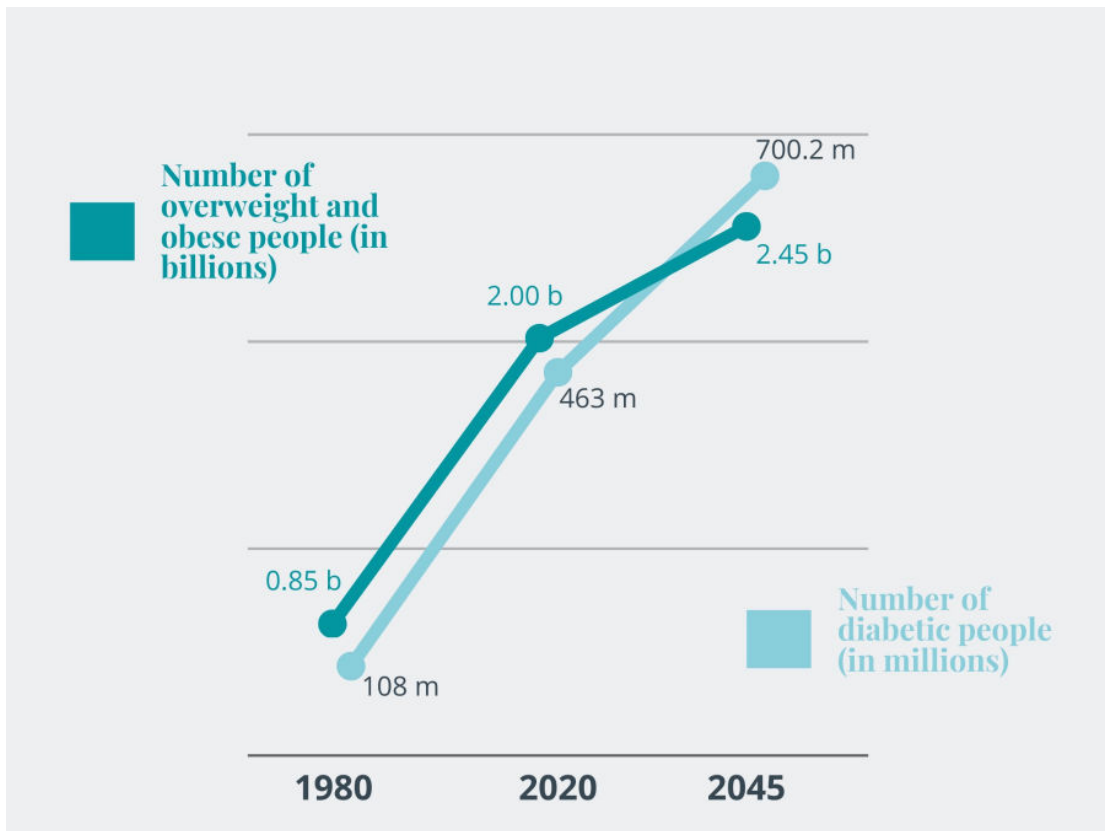


In terms of human biochemistry  
“detox” is a meaningless concept

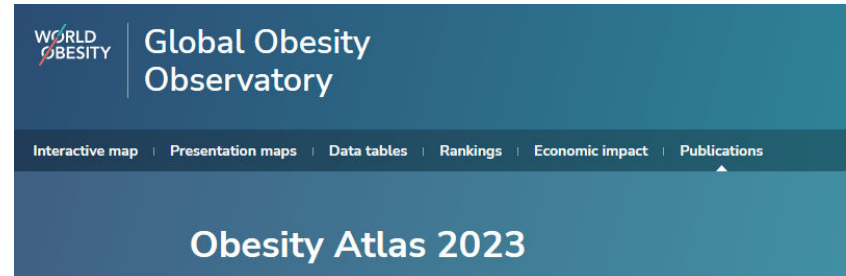
- Dr Ben Goldacre



# WORLDWIDE PREVALENCE OF DMT2 AND OBESITY

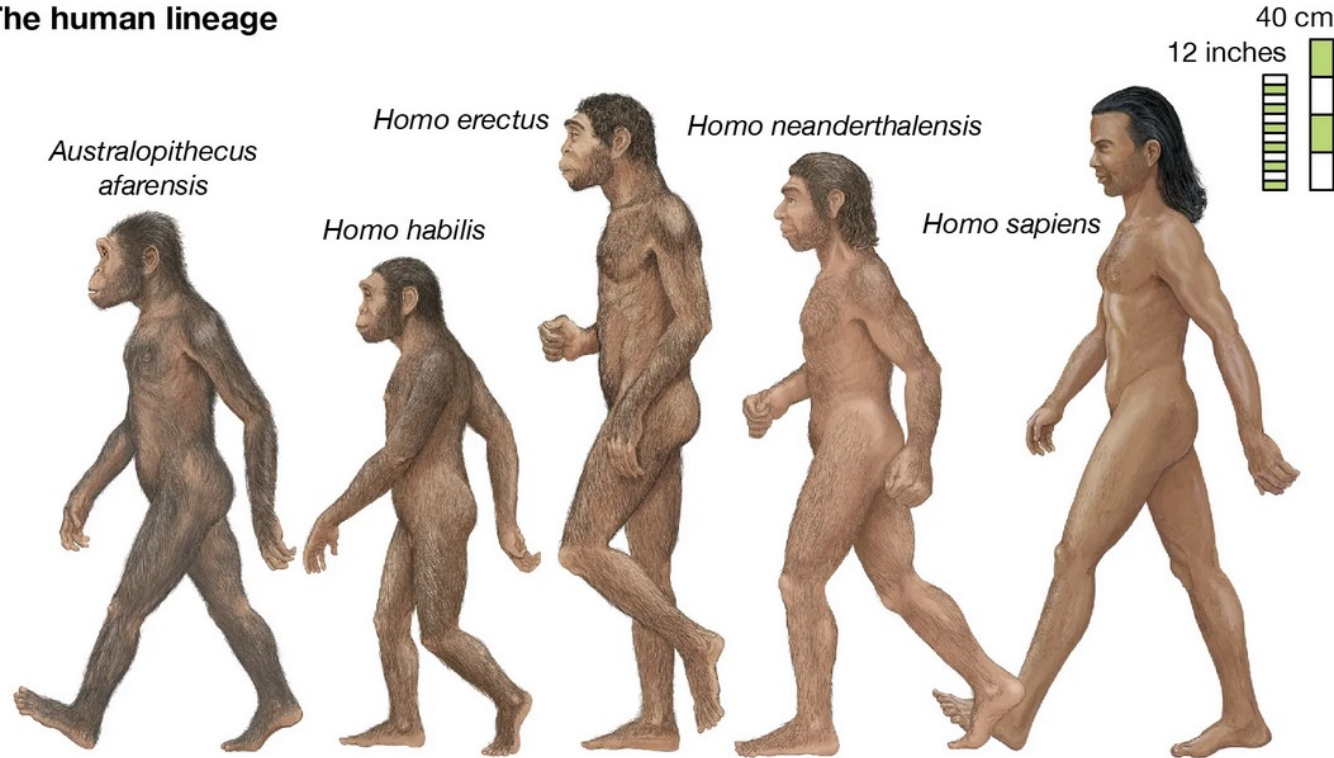


**A new World Obesity Atlas report from the World Obesity Federation, published on World Obesity Day, predicts that 51% of the global population will be living with overweight or obesity by 2035 based on current trends.**



# Human Evolution – Over Millions of Years

## The human lineage



© Encyclopædia Britannica, Inc.



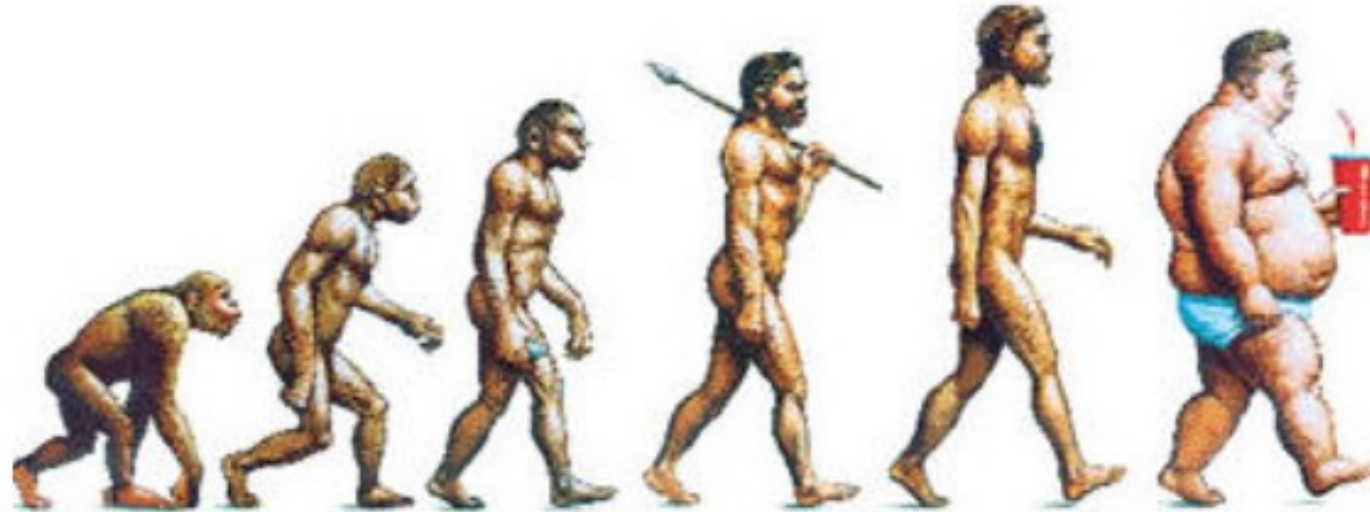


# Characteristics of Paleolithic-Neolithic Man

- Usually had one meal a day
- Carnivorous diet – saturated FAT
- Exposure to sunlight and fires: Infrared Light (switches on mitochondrial melatonin production)
- Daytime exposure to the blue sky (switches off Pineal Gland Melatonin production)



# Human evolution provides the best epidemiological studies on nutrition



Hunters and gatherers

Processed food  
consumers





Americans spend

10%



OF THEIR DISPOSABLE INCOME ON  
**fast food.**

Processed foods

MAKE UP  
CLOSE TO

70%



OF THE  
**U.S. diet.**

THE AVERAGE

**American**

CONSUMES

130 lbs

OF  
**sugar**  
PER YEAR.



MORE  
THAN



1  
3

OF  
**U.S.**  
ADULTS  
ARE  
**obese.**

In the  
early  
2000s,

60%

OF ALL  
MIDDLE  
SCHOOLS  
AND HIGH  
SCHOOLS

sold soft  
drinks in  
vending  
machines.



# REAL FOOD VS “PROCESSED FOOD”



*This is food.*



*This is not food.*



# Childhood obesity

Prevalence of obesity among children and adolescents in the United States aged 2–19 years from 1963 to 2018, by age\*



Sources  
CDC; NCHS  
© Statista 2022

Additional Information:  
United States; From 1963 to 2018; 2-19 years; Face-to-face interview



# Major toxins we're exposed to

Morbidity and deaths from sugar far exceed those from cigarettes



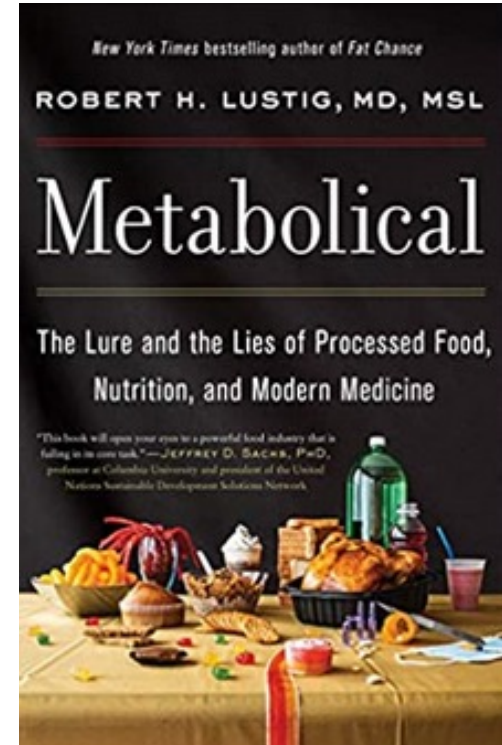
Processed Food



Sugar



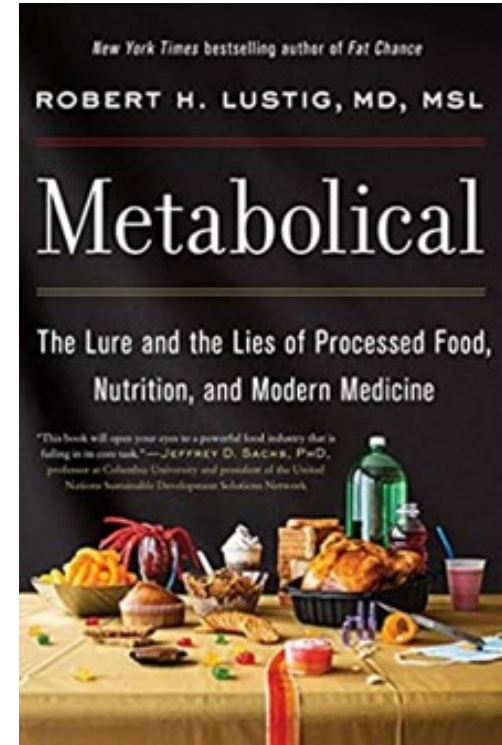
High Fructose Corn Syrup



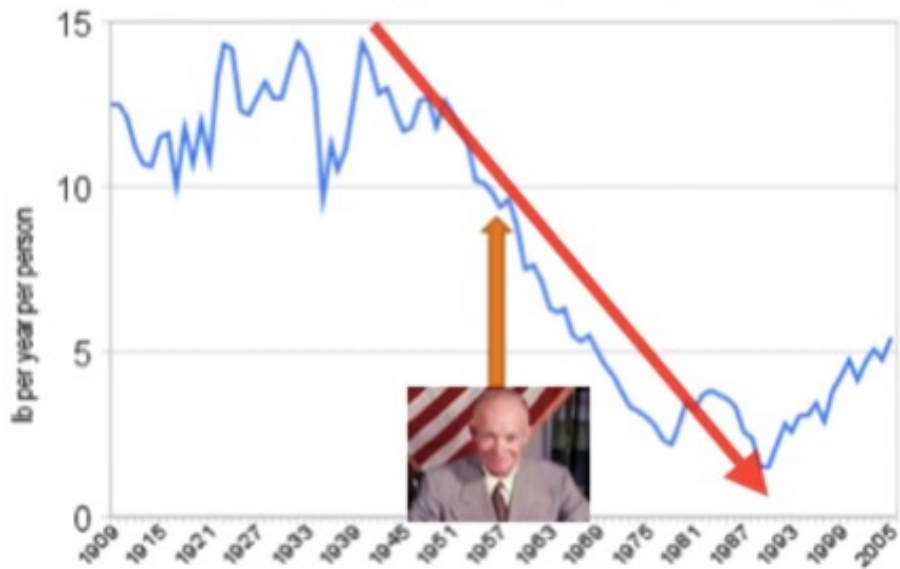


# Toxicity of Processed Foods

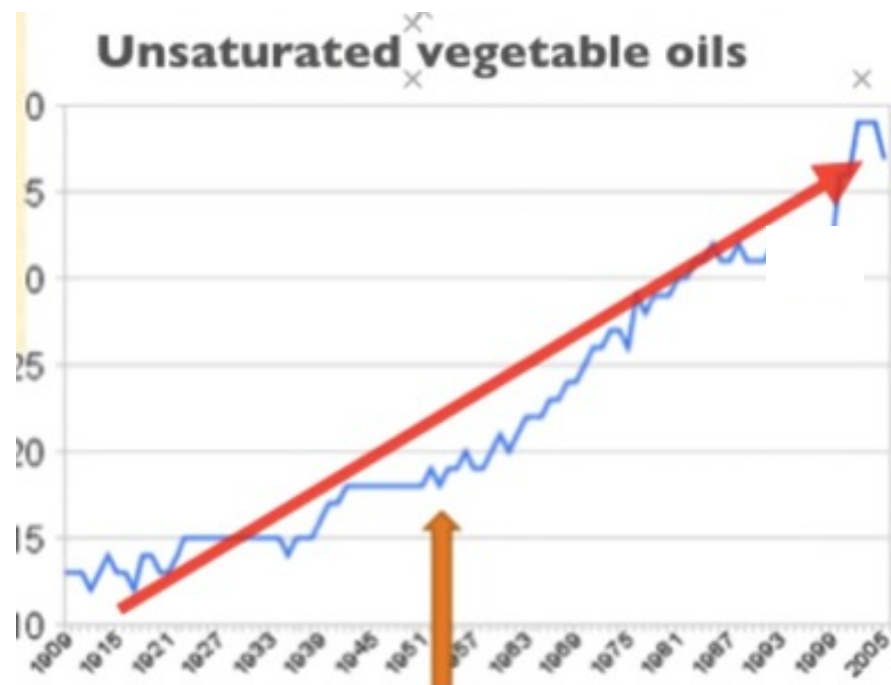
- Sugar as fructose
  - Fatty liver and insulin resistance
  - Damages mitochondria
  - Proinflammatory
- Excess omega-6 fatty acids (seed oils)
  - Proinflammatory, oxidant injury
- Lack of omega-3 fatty acids
  - Anti-inflammatory
- Lack of fiber



## Saturated fats (butter, lard, tallow)



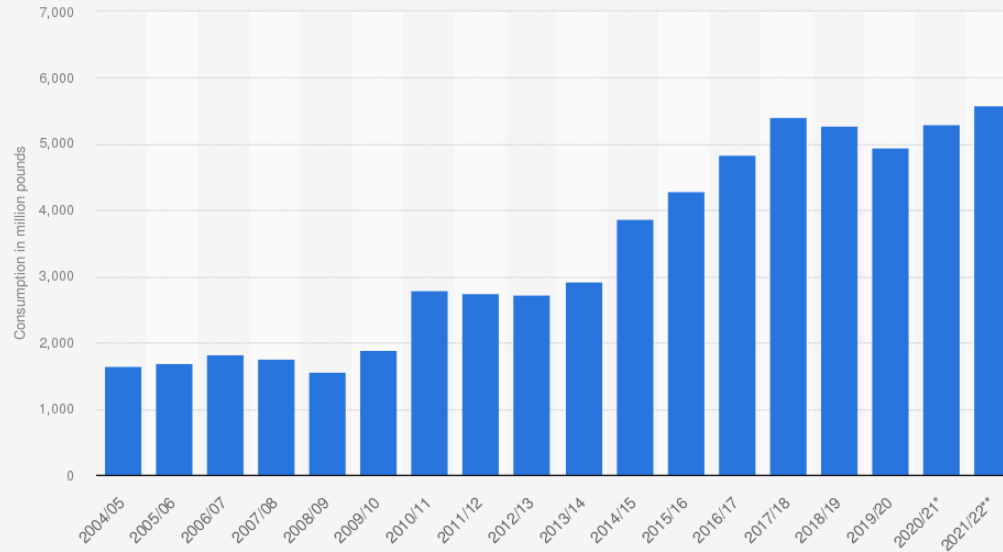
## Unsaturated vegetable oils





# Massive increase in Omega-6 oils in last 60 years

Domestic consumption of edible corn oil in the United States from 2004/05 to 2021/2022 (million pounds)



**Sources**

US Department of Agriculture; Economic Research Service  
© Statista 2022

**Additional Information:**

United States; US Department of Agriculture; Economic Research Service; 2004/2005 to 2021/22



# The “Low-Fat” Fraud



## Lowfat Vanilla Yogurt

### Nutrition Facts

Serving Size (150g)  
Servings Per Container 1

#### Amount Per Serving

**Calories** 130      Calories from Fat 20

% Daily Value\*

**Total Fat** 2g      **3%**

Saturated Fat 1.5g      **8%**

Trans Fat 0g

**Cholesterol** 10mg      **3%**

**Sodium** 90mg      **4%**

**Total Carbohydrate** 22g      **7%**

Dietary Fiber 0g      **0%**

Sugars 22g

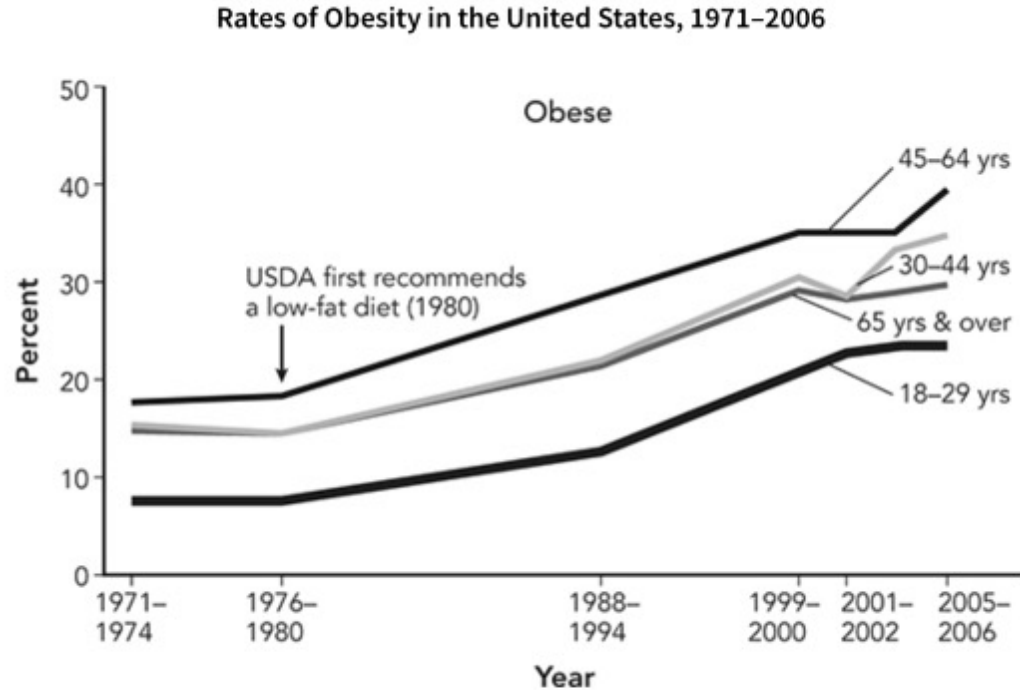
**Protein** 7g      **14%**

\*Percent Daily Values are based on a 2,000 calorie diet.

# HIGH-CARB, LOW-FAT DIET

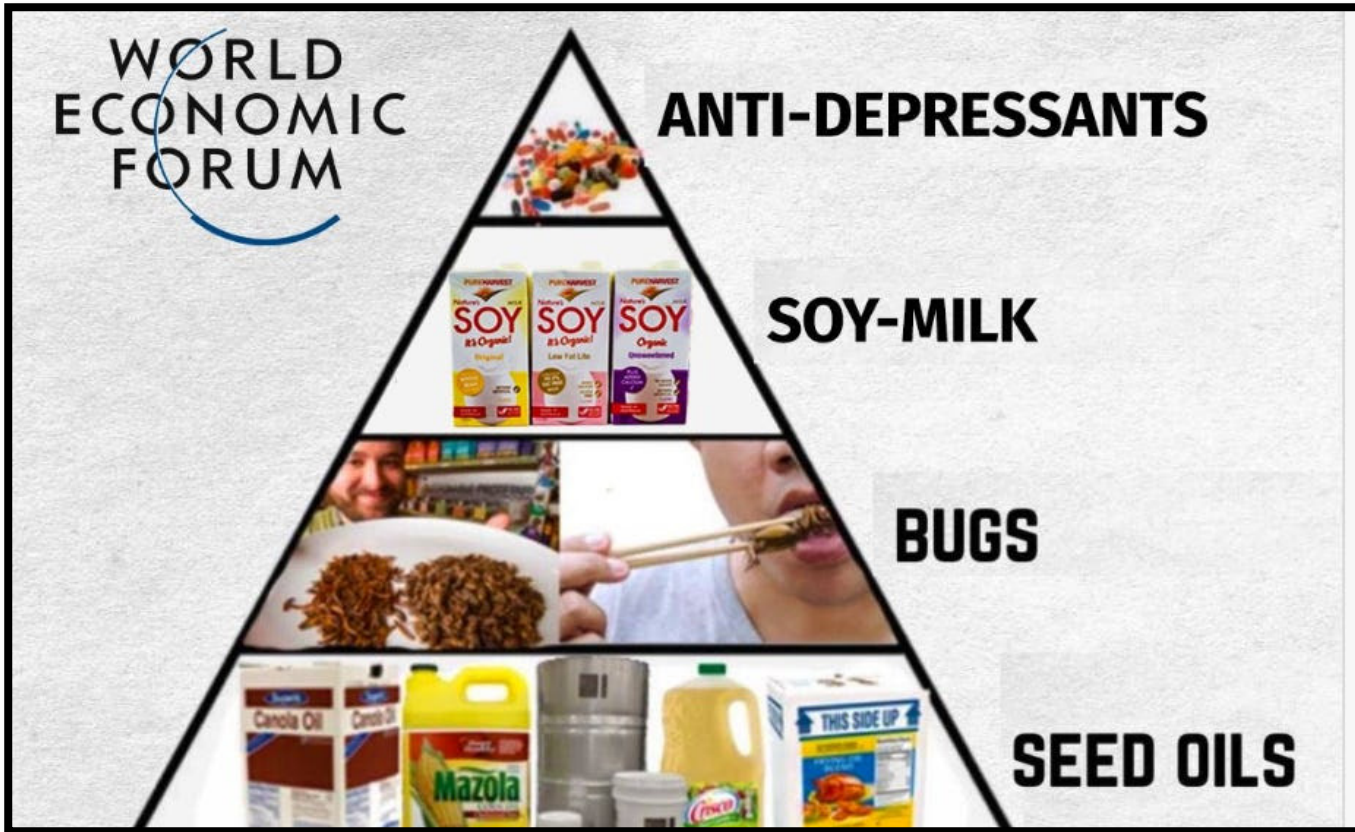


# Obesity linked to “low-fat” diets

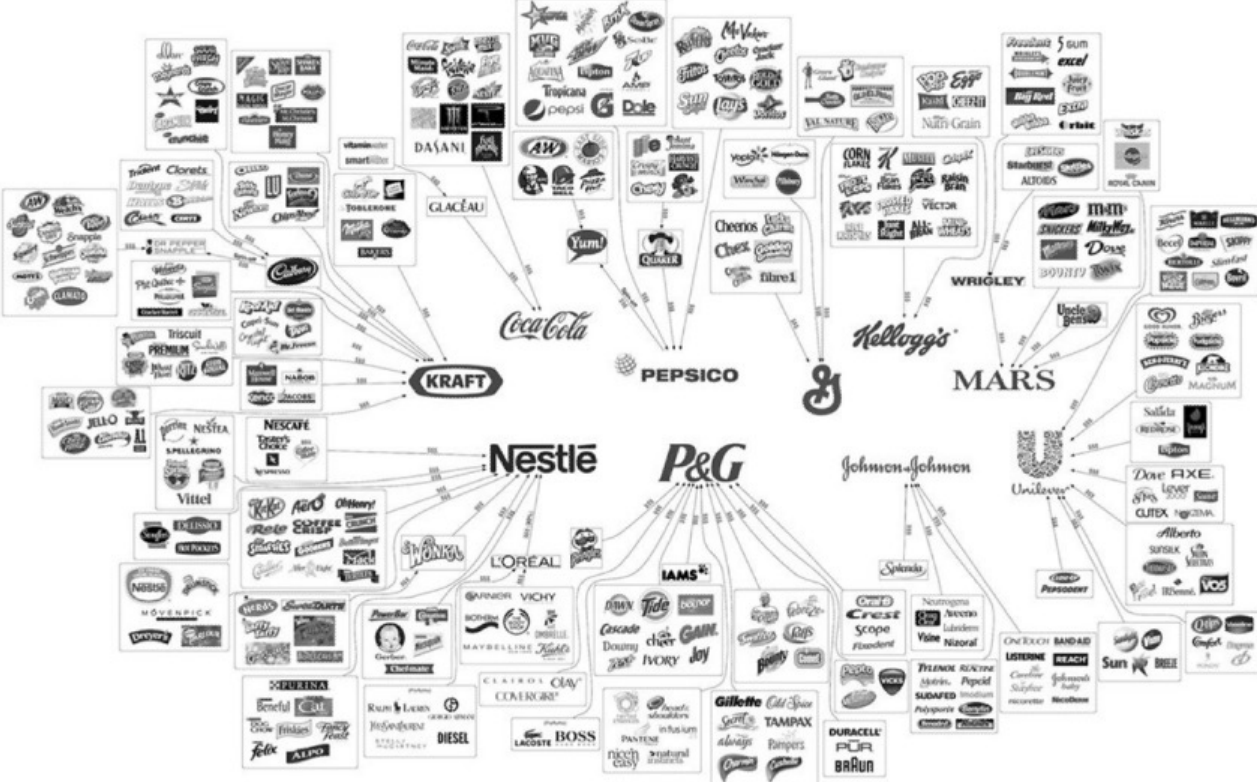


Source: CDC/NCHS, National Health and Nutrition Examination Survey; adapted from “Health, United States, 2008: With Special Feature on the Health of Young Adults,” National Center for Health Statistics.

# 2023 Food Pyramid?

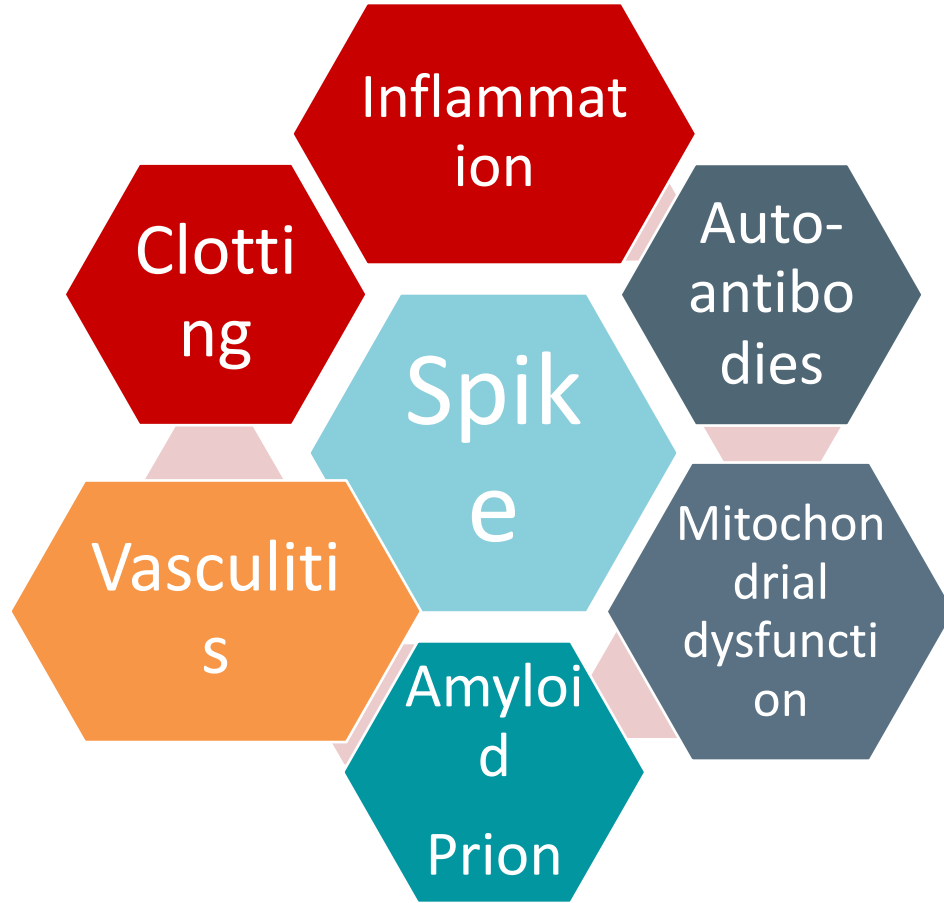


# Fraud/Corruption by “Big Food”

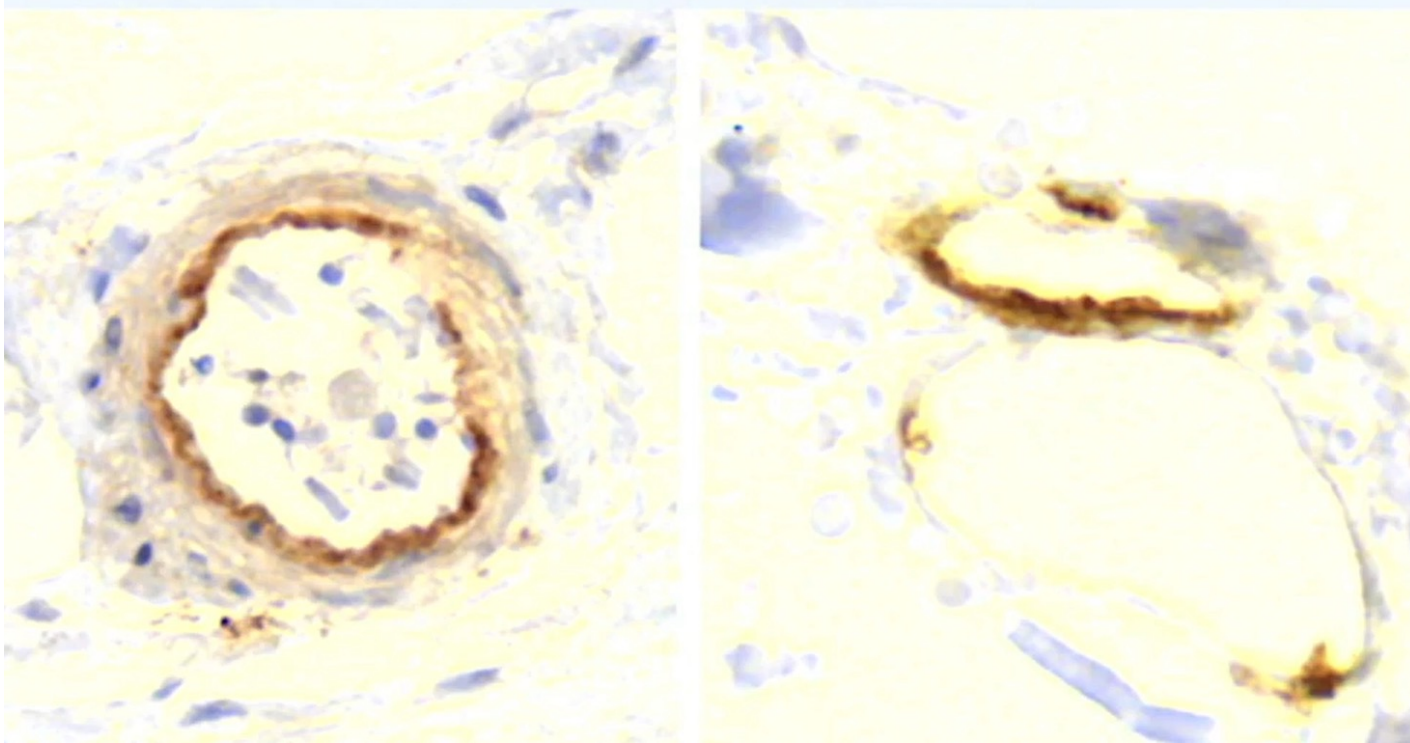




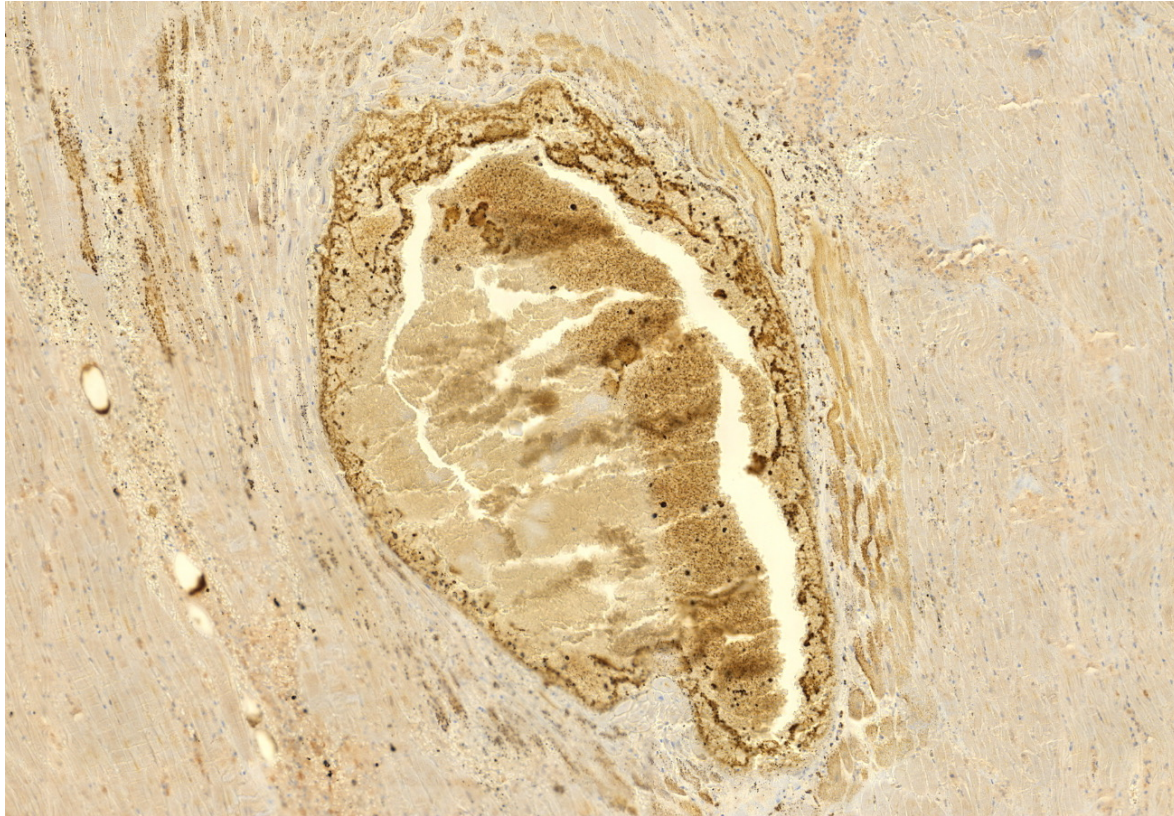
# “Spike” Induced Disease



# Spike endothelialitis



# Myocardium – Packed with Spike Protein



# Approach to Treatment of Spike Related Disease

## Eliminate Spike

- Promote Autophagy
- Nattokinase

## Limit Spike induced pathology

- Inflammation
- Clotting & microvascular injury
- Mitochondrial dysfunction

# I-RECOVER<sup>SM</sup>

## POST-VACCINE TREATMENT PROTOCOL

### FIRST LINE THERAPIES

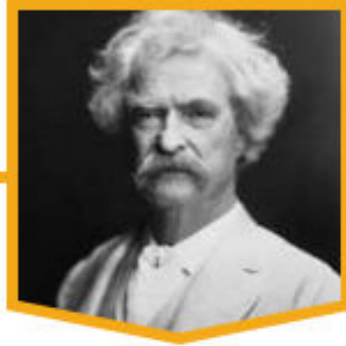
- **Intermittent daily fasting** or periodic daily fasts.

Fasting has a profound effect on promoting immune system homeostasis, partly by stimulating the removal of damaged cells (autophagy) and mitochondria (mitophagy) and clearing misfolded and foreign proteins. Intermittent fasting and autophagy likely have an important role in promoting the breakdown and elimination of the spike protein. Fasting is contraindicated in patients under 18 (impairs growth) and during pregnancy and breastfeeding. Patients with diabetes, as well as those with serious underlying medical conditions, should consult their primary care provider prior to fasting, as changes in their medications may be required and these patients require close monitoring. Hydroxychloroquine may limit the benefit of intermittent fasting. See page 3 for tips on fasting.





# Mark Twain (1835-1910)



“

“A little starvation can really do more for the average sick man than can the best medicines and the best doctors.”



the

Copyrighted Material

COMPLETE

GUIDE

to

FASTING

Heal Your Body Through  
*Intermittent, Alternate-Day, and Extended Fasting*



Jason Fung, MD

with Jimmy Moore  
Copyrighted Material

# INTERMITTENT FASTING FACTS



## BENEFITS OF FASTING:

- Triggers removal of damaged cells
- Triggers removal of damaged mitochondria
- Anti-oxidant
- Anti-inflammation
- Improves brain health



## TALK TO A SPECIALIST IF:

- You are pregnant
- You are under 18
- You are diabetic
- You take medications
- You have an eating disorder
- You are underweight



## TWO WAYS TO FAST:

- 5:2 (caloric fasting)
- 16:8 (timed fasting)



## FASTING TIPS:



## 5:2 FASTING

- Calorie based
- Eat normally 5 days
- Fast 2 days
- On fasting days
  - 500 kcal for women
  - 600 kcal for men

## 16:8 FASTING

- Time based
- 8 hour eating period
- 16 hour fasting period
- Adopt fasting as a healthy lifestyle choice
- Stay hydrated
- Limit refined sugars
- Eat protein rich foods
- Eat quality foods
- Start small and build into it to maintain success
- Maintain balance in daily activities



# ADOPTING 16:8 INTERMITTENT FASTING

Begin slowly: start with an 11-hour eating window 5 days a week and reduce monthly to an 8-hour eating window 7 days a week

## 16:8 – time restricted



Make changes one month at a time to increase success and allow your body to adapt to the fasting schedule

A later eating window allows for less disruption in family dinner time

Make quality food choices when planning meals

Always consult a trusted healthcare provider or nutrition specialist before adopting diet changes



# ADOPTING 5:2 INTERMITTENT FASTING

Begin slowly: Restrict caloric intake by reducing 1 day a week with maximum intake of 1000 kcal on that day

Make changes one month at a time, adding one additional fasting day with the same caloric restriction, then reducing caloric intake on fasting days

By the fourth month you will have reached the maximum fasting caloric intake on the fasting days

Make quality food choices when planning meals

Always consult a trusted healthcare provider or nutrition specialist before adopting diet changes

## 5:2 – calorie restricted



Check

[www.flccc.net](http://www.flccc.net)

for infographics, videos, guides and more!



# Intermittent Fasting

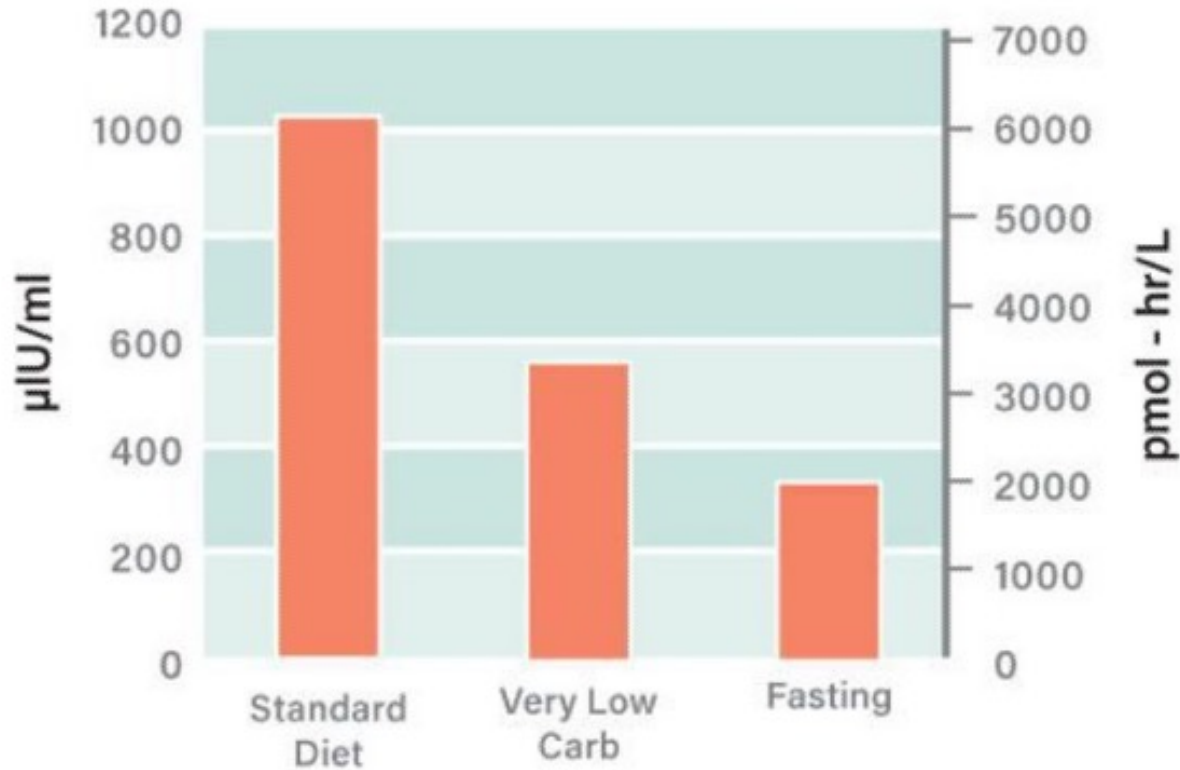


# Time Restricted Eating

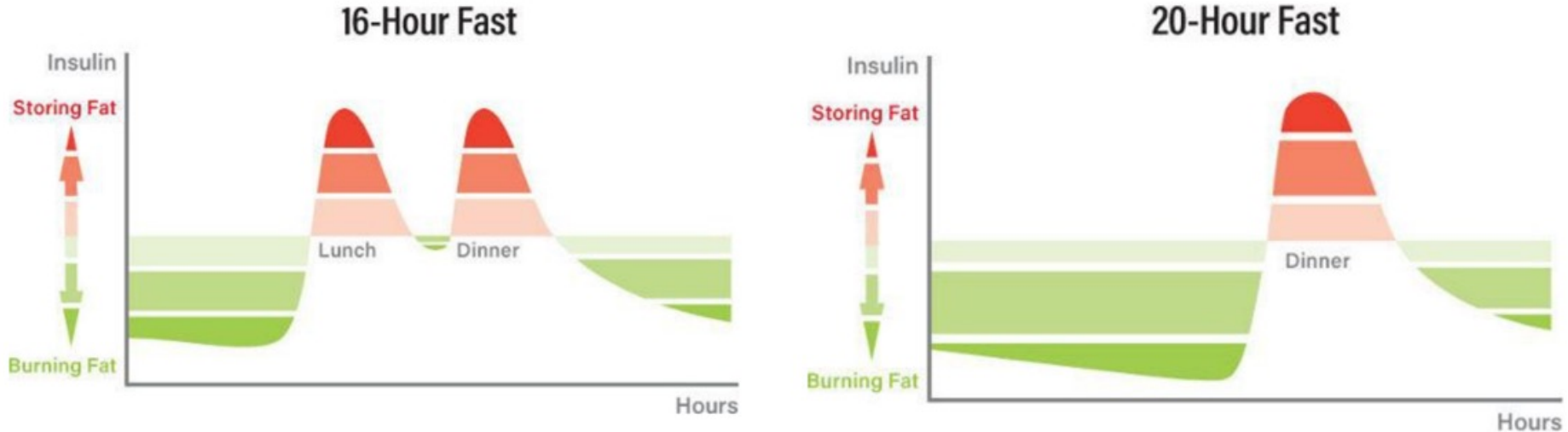
Simply the most  
efficient and  
effective way to  
lower insulin  
levels



# Insulin Levels



# Insulin Levels and Time Restricted Eating



The insulin response is 25-50% greater when the meal is given in the evening. The optimal strategy is, therefore, to eat the largest meal of the day between noon and 3 pm.



# It's Simple!

During fasting no eating:

Only water, tea, coffee, and  
bone broth.

No sugar, honey, fructose, or  
artificial sweeteners.



# BENEFITS OF INTERMITTENT FASTING

## Autophagy

### Burn Fat & Lose Weight

Research shows that weekly fasting can trigger weight loss up to 8 percent and waist shrinkage of up to 7%, meaning that fasting is especially useful for losing belly fat.

### Balances Insulin Levels

### Improves Sleep

### Increases HGH

(HGH) is a hormone made in the pituitary gland that leads to low levels of body fat and lean muscle mass. Initial research shows that fasting on a regular basis can boost the amounts your body makes, leading to improvements in your physique.

### Anti-Aging

### Reduces Inflammation

Chronic inflammation is a trigger for dozens of lifestyle diseases like strokes and heart problems, but intermittent fasting seems to keep inflammation in check by triggering your cells to break it down before it begins to build up.

### Balances Blood Sugar

### Enhances The Immune System

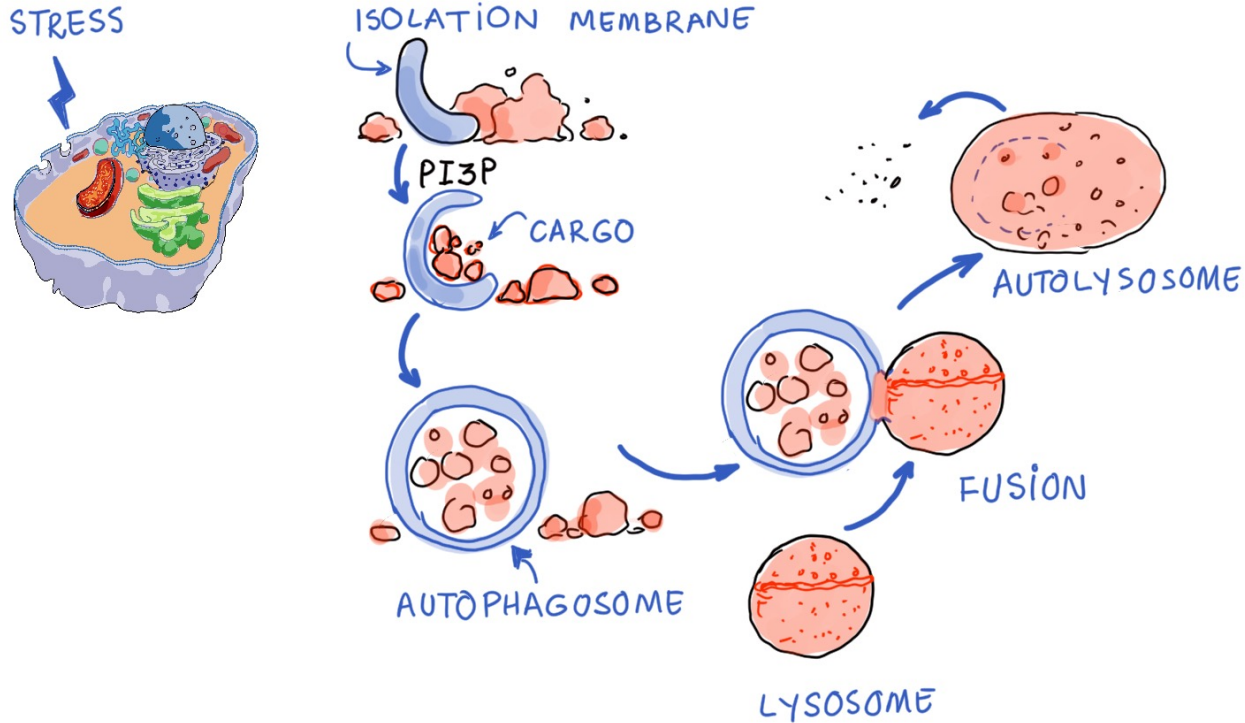
### Reduces Risk of Chronic Disease

Scientific evidence shows that cutting your daily caloric intake by a third can extend your lifespan by over a decade, and intermittent fasting is an easy way to start cutting calories.

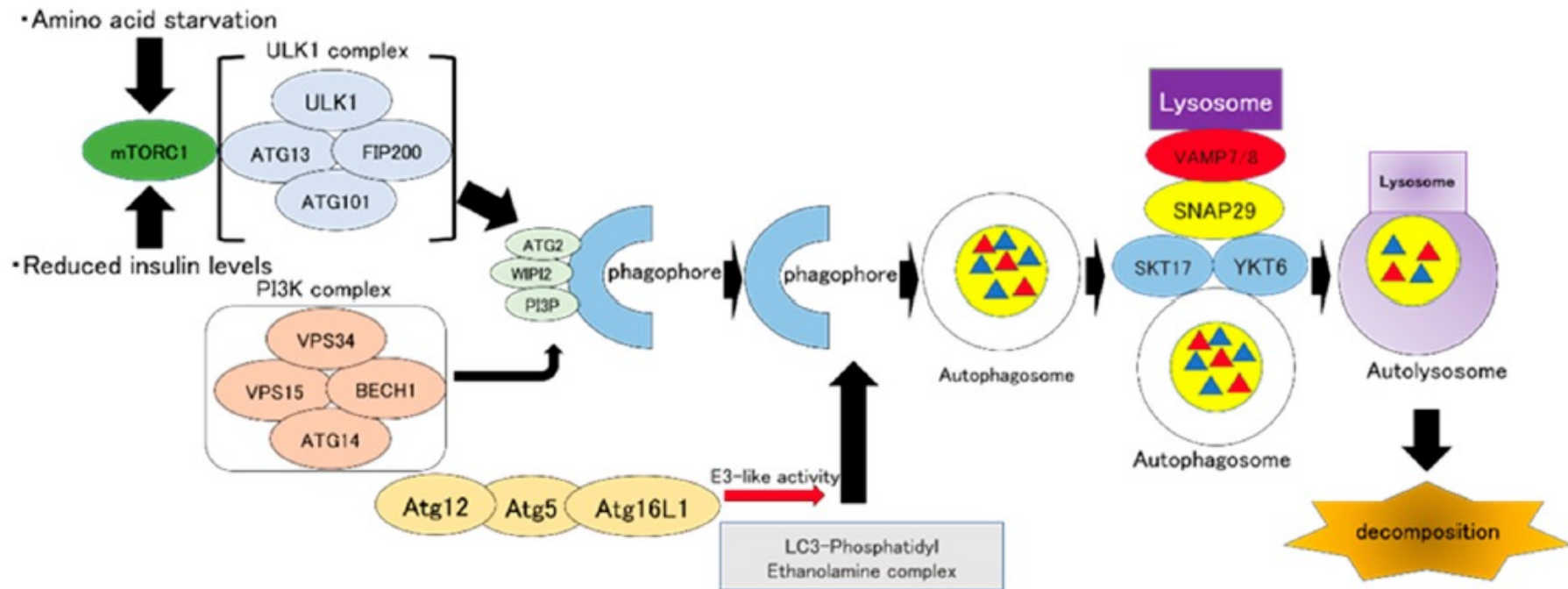
au·toph·a·gy



# Autophagy Pathway



# It's complicated...





# The mTOR Switch

Glucose (insulin)



Protein (leucine)



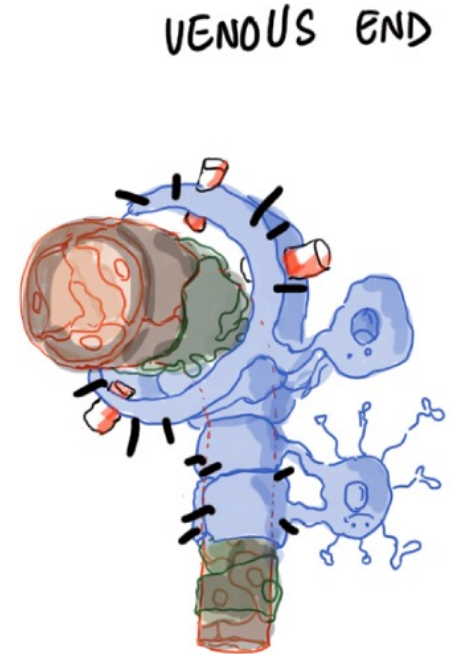
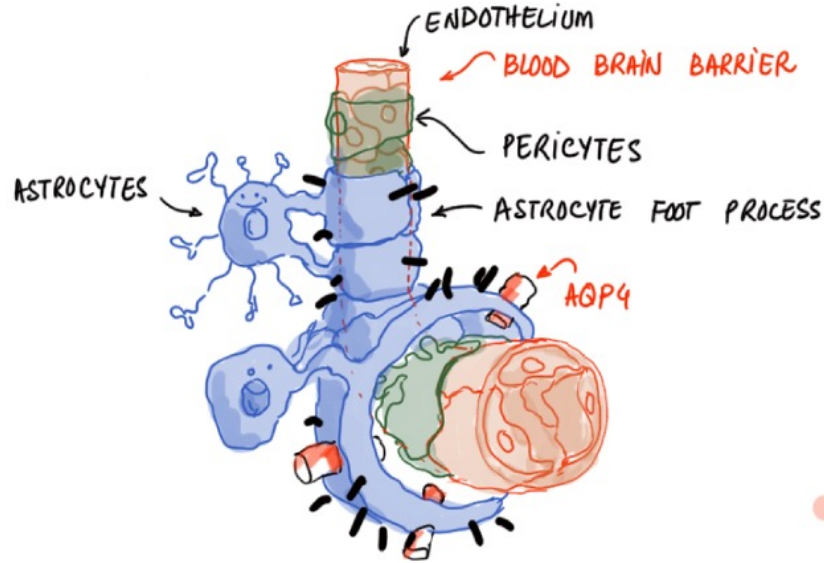
Autophagy off

# Benefits of Intermittent Fasting

- Improved mental clarity
- Induces weight and body fat loss
- Lowers blood sugar levels
- Improves insulin sensitivity
- Increases GH- maintains lean body mass
- BMR stable or increases
- Increases energy
- Improves fat burning
- Lowers blood cholesterol
- Prevents Alzheimer's disease
- Extends life
- Reverses the aging process
- Decreases inflammation



# The Glymphatic System



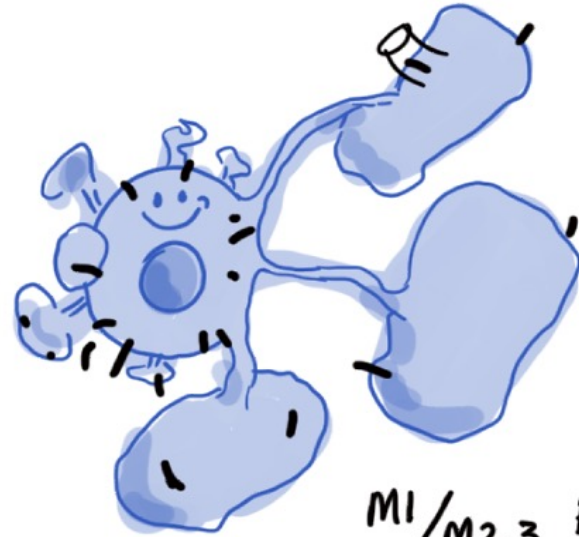
The glymphatic system is a “pseudo-lymphatic” perivascular network distributed throughout the brain, responsible for replenishing as well as cleansing the brain. Glymphatic clearance is the macroscopic process of convective fluid transport in which harmful interstitial metabolic waste products are removed from the brain

# The Glymphatic System



POLARIZED AQP4

GOOD

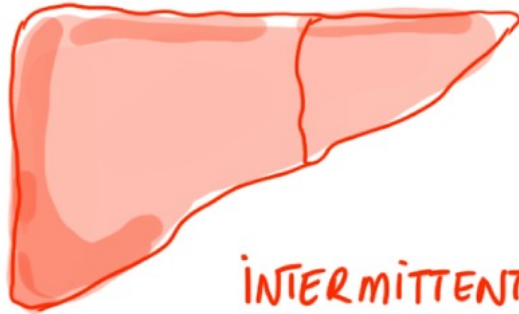
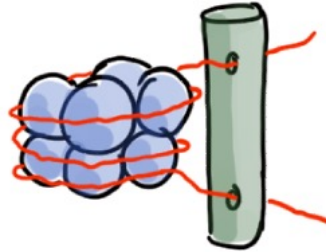


UNPOLARIZED AQP4.

BAD

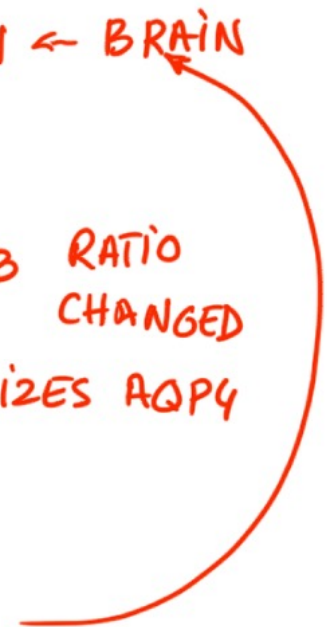
# The Glymphatic System

DNA ORGANIZED  
ON HISTONES



INTERMITTENT FASTING  
CAUSE FATTY ACID OXIDATION  
 $\beta$  HYDROXYBUTARATE PRODUCED

INHIBITS  
HISTONE DEACETYLASE 3 (HDAC)  
PREVENTS  
ACETYLATION ← BRAIN  
↓  
LESS  $M_1$   
=  $M_1/M_{23}$  RATIO  
CHANGED  
ALSO POLARIZES AQP4





*Review*

# The Sleeping Brain: Harnessing the Power of the Glymphatic System through Lifestyle Choices

- Glymphatic clearance plays a major role in Alzheimer's pathology
- Most of the waste clearance occurs during sleep
- Dementias are associated with sleep disruption, alongside an age-related decline in AQP4 polarization
- Lifestyle choices such as sleep deprivation, alcohol intake, *exercise, omega-3 consumption, intermittent fasting* alter glymphatic clearance

Reddy OC & van der Werf YD. Brain Sci 2020;10:868

# Modulators of Autophagy

## Activators

- **Intermittent daily fasting or periodic daily fasting**
- Resveratrol, a naturally occurring phytochemical
  - Grapes, berries, wines, pistachio, etc
- Spermidine, a naturally occurring polyamine
  - Wheat germ, mushrooms, grapefruit etc
- Ivermectin
- Melatonin

• Coffee

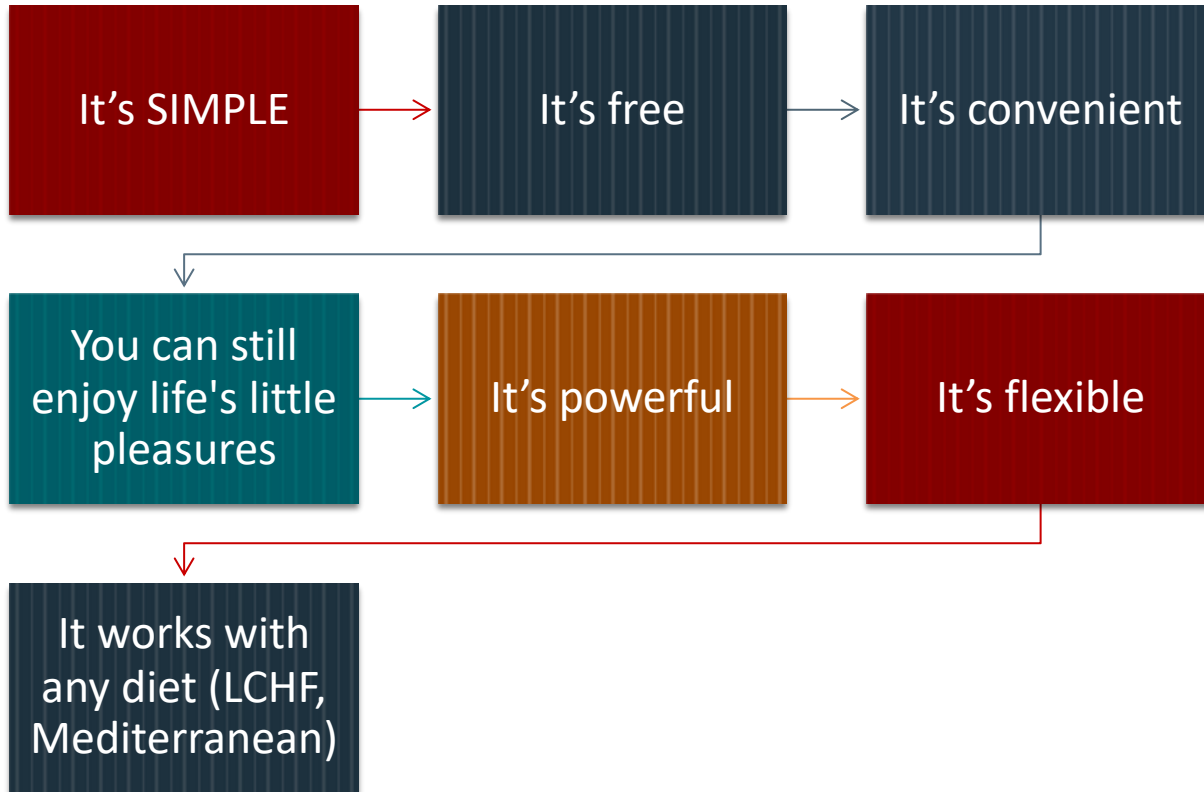
• Red/NIR radiation



## Inhibitors

- SARS-CoV-2; degradation of the autophagy initiating protein Beclin-1
- Proton pump inhibitors, Hydroxychloroquine

# Advantages of Intermittent Fasting



# Intermittent Fasting

---

Intermittent fasting does not mean starvation or caloric restriction

---

Keep your meals diverse and include leafy greens and cruciferous vegetables

---

Avoid processed food

---

Avoid fruit juices (pure sugar)

---

No snacking

---

Get aerobic exercise and resistance training

---

Don't count calories

---

Don't obsess

---

Listen to your body

---

Avoid pills and potions

---

Set achievable goals



# Dealing with hunger!

---

Fasting becomes easier the more you do it

---

Gets easier with time as insulin resistance improves - insulin causes leptin resistance

---

Ketosis reduces hunger; disappears with prolonged fasting

---

Remove yourself from all food stimuli

---

Break the habit of eating at certain times

---

If hungry drink tea, coffee or bone broth





# Who should not Fast?

- Contraindicated
  - Those who are malnourished or underweight (BMI < 20 kg/M<sup>2</sup>)
  - Those with anorexia nervosa
  - Children < 18 years of age
  - Pregnant women
  - Breastfeeding women
- Caution – under the supervision of a health care provider
  - Those with chronic disease taking multiple medications
  - Type 1 or 2 diabetes
  - Gout



# Intermittent fasting in Pre-menopausal Women

OPEN ACCESS Freely available online



## **Intermittent Fasting Dietary Restriction Regimen Negatively Influences Reproduction in Young Rats: A Study of Hypothalamo-Hypophysial-Gonadal Axis**

**Sex-Dependent Metabolic, Neuroendocrine, and Cognitive  
Responses to Dietary Energy Restriction and Excess**

**Glucose Tolerance and Skeletal Muscle Gene  
Expression in Response to Alternate Day  
Fasting**

# Intermittent fasting in Pre-menopausal Women

**START** : NON CONSECUTIVE 3 DAYS  
E.g., MON , WED, FRIDAY



**THEN** : NUMBER OF FASTING DAYS INCREASED



Low  
Carbohydrate,  
REAL FOOD

# Coffee activates autophagy

## Add Heavy Cream and liquid coconut oil

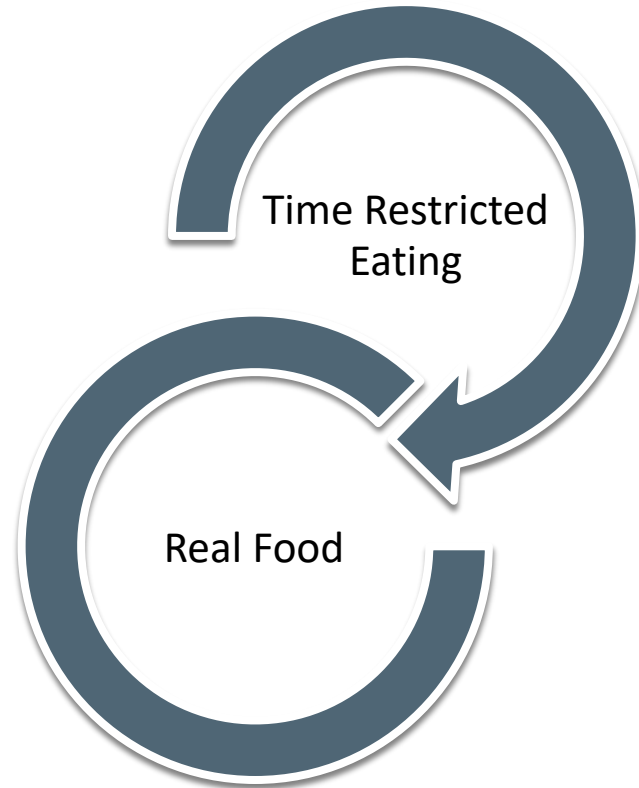


Nutrition Facts	
64.0 servings per container	
<b>Serving size</b>	<b>1.0 tbsp</b>
Amount per serving	
<b>Calories</b>	<b>50</b>
<b>% Daily value*</b>	
<b>Total Fat</b> 5g	7%
Saturated Fat 3.5g	17%
Trans Fat 0g	0%
<b>Cholesterol</b> 20mg	7%
<b>Sodium</b> 0mg	0%
<b>Total Carbohydrate</b> 1g	0%
Dietary Fiber 0g	0%
Sugar 0g	0%
<b>Protein</b> 0g	0%



Nutrition Facts	
servings per container	
<b>Serving size</b>	<b>1tbsp (14 g)</b>
Amount per serving	
<b>Calories</b>	<b>120</b>
<b>% Daily value*</b>	
<b>Total Fat</b> 13g	16.67%
Saturated Fat 13g	65%
Trans Fat 0g	
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 0mg	0%
<b>Total Carbohydrate</b> 0g	0%
Dietary Fiber 0g	0%
Sugar 0g	
<b>Protein</b> 0g	









# what to eat





# what not to eat



*\* ALSO no artificial sweeteners and no soda!*



*butter*



*avocado  
oil*



*coconut oil*

# *healthy oils & fats*



*olive oil*



*walnut &  
pecan oil  
(should be  
refrigerated)*



*flaxseed oil*





soybean  
oil



corn  
oil



cottonseed  
oil



sunflower  
oil

# unhealthy oils



grapeseed  
oil



sesame  
oil



safflower  
oil



rice bran  
oil



margarine

# Healthy eating habits

*Eat your meals at the table*



*Don't eat*

- at the computer
- in the car
- on the sofa
- in the lecture hall
- in bed
- in front of the TV



# Flatten the Curve

INTERNATIONAL BESTSELLER

STOP CRAVINGS,  
GET YOUR ENERGY BACK,  
FEEL AMAZING

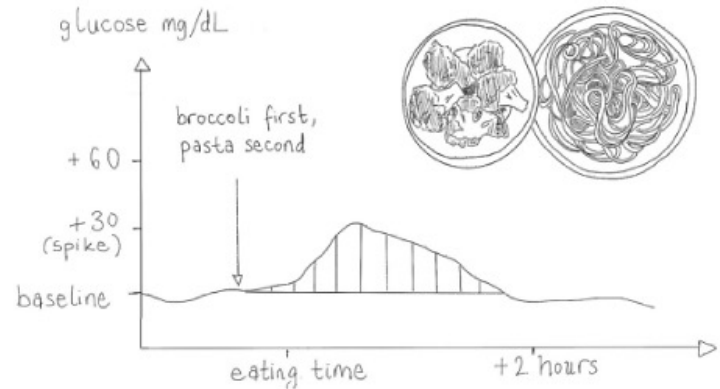
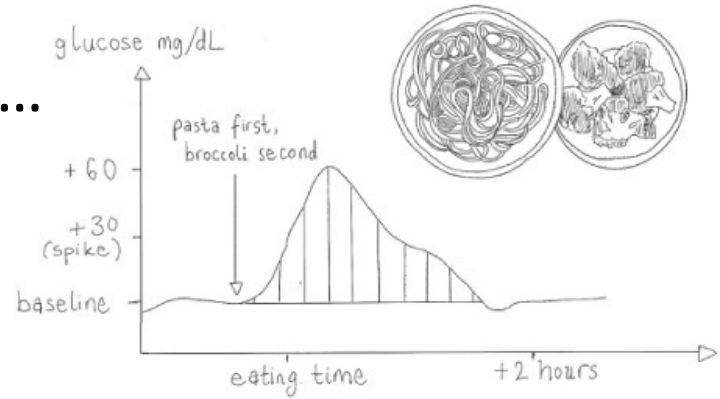
# GLUCOSE REVOLUTION

The life-changing  
power of balancing  
your blood sugar

JESSIE INCHAUSPÉ



Greens (fiber) ...  
then protein..  
then starch..







# FOOD AS MEDICINE EVERYDAY

Reclaim Your Health  
With Whole Foods







**THANK YOU**

