



PROTEIN SPARING MODIFIED FASTS

What are PSMF and why are they so powerful for fat loss?



A NEW LIFE

- At age 16 I went to the doctor:
 - Told I had PCOS
 - I was 80 pounds over-weight (even though I was a top athlete)
 - Given an anti-depressant
 - Acid Blocker
 - Suffered with IBS
- That SAME week, I took my dog to the Vet
 - Vet asked “What are you Feeding her?”
 - Cutting Alcohol vs. Cutting Carbs?????

CRAIG'S TESTIMONY



I lost over 50 pounds eating Maria's recipes!

Sadly, Lyme disease took over my body.





WHAT IS FOOD?

On the most basic level, what is food we eat made of and how do we get energy from it?

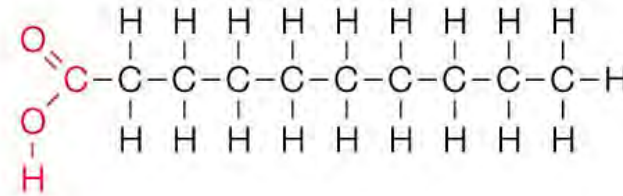
OUR ASSERTION

We are all electrical/chemical energy
machines run by solar power

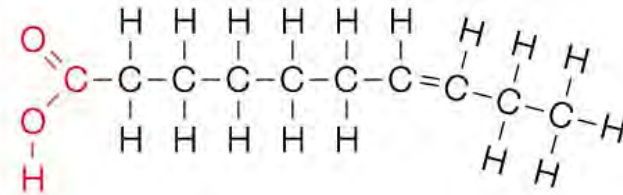
FATS, CARBS AND PROTEINS

- Fats and Glucose are both chains of carbon with hydrogen attached.
- Proteins are different
 - Have nitrogen and Sulfur in the chain
- Protein is a building block
- Fats and Carbs are energy

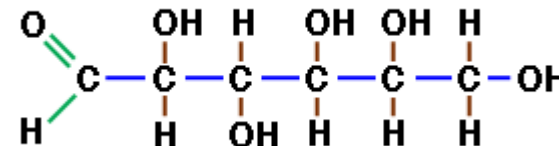
Saturated



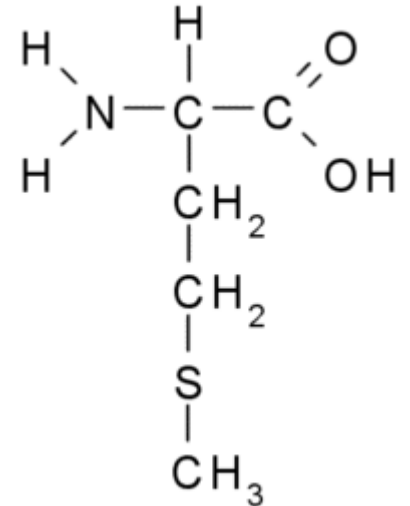
Unsaturated



Glucose



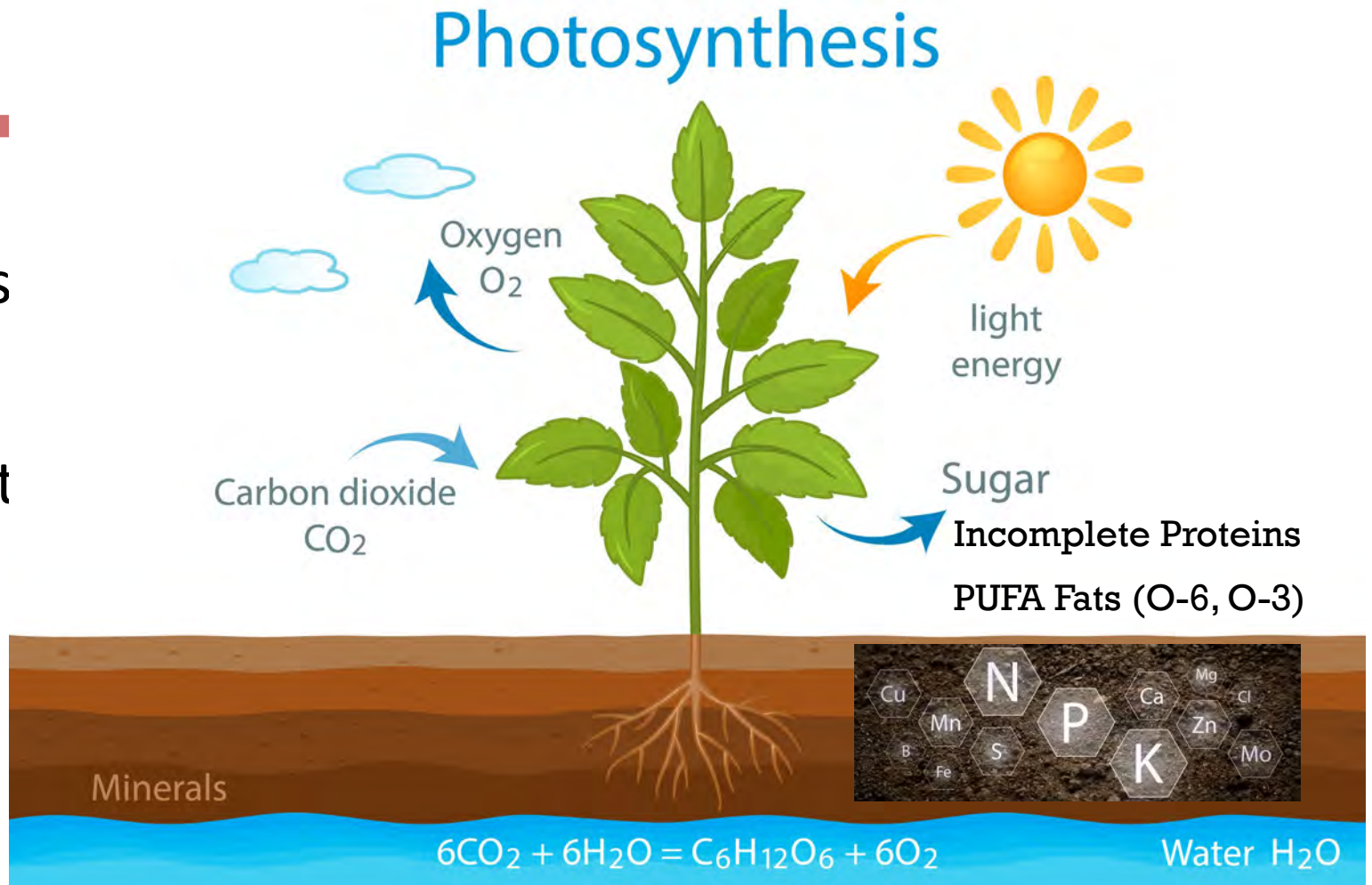
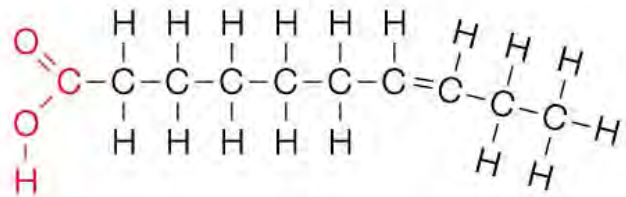
Protein



PLANT RESPIRATION

- Take in Carbon Dioxide and Water (plus lots of minerals)
- Create Sugar and Oxygen
- Also create some incomplete proteins and PUFA fats

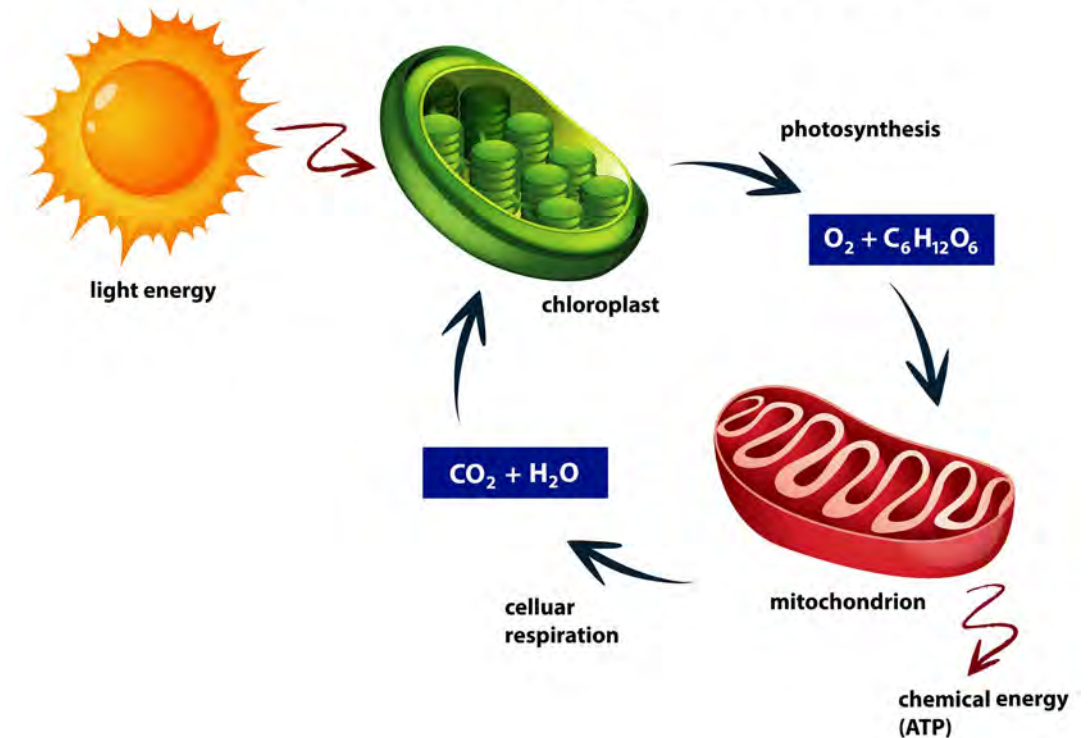
Unsaturated PUFA Fats (O-6, O-3)



PLANT BASED CYCLE OF ENERGY

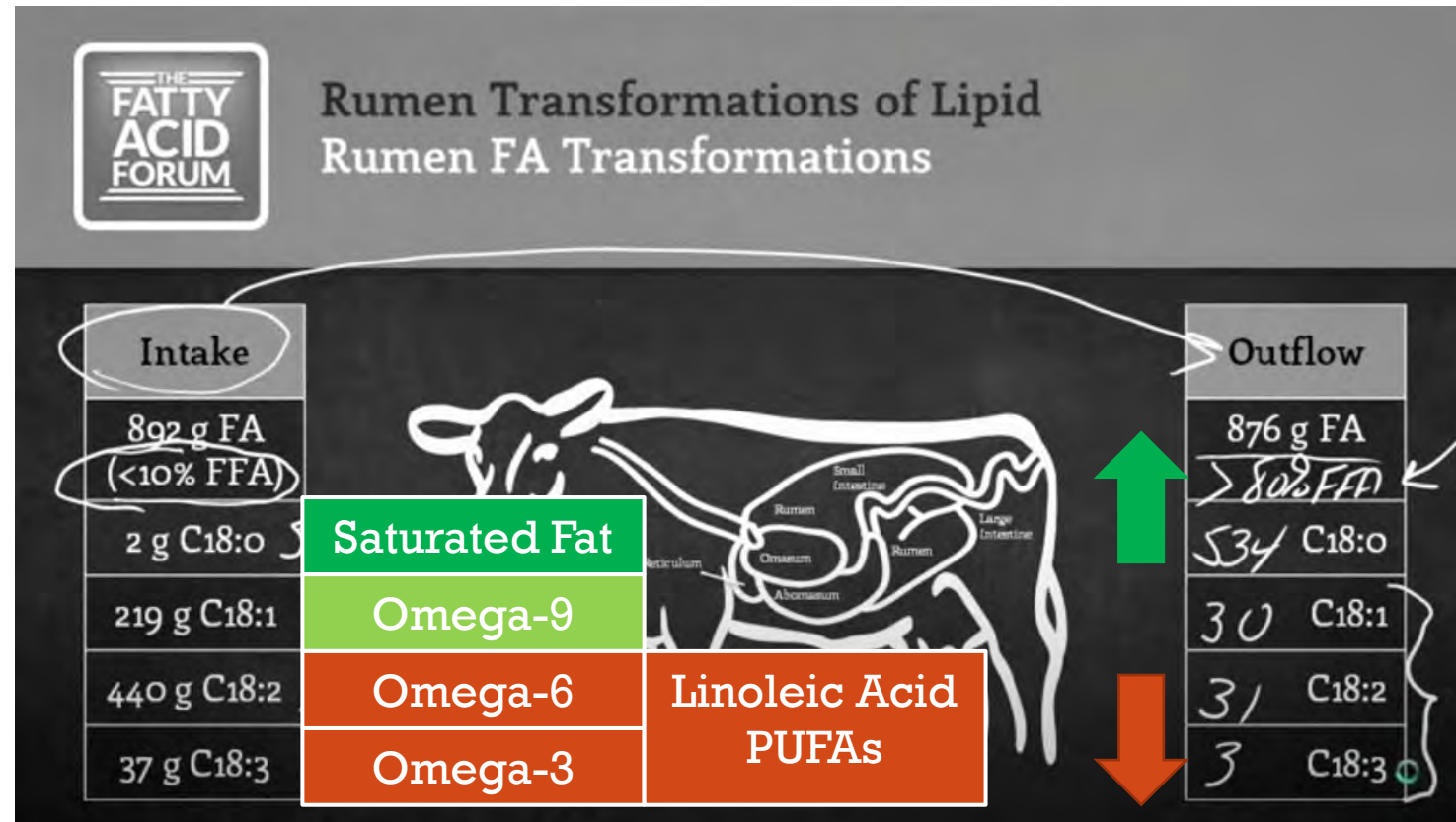
- Diet is high in carbs
- Low in Fat
- Low in complete proteins
- Lots of waste (fiber)
- Low in Bioavailable nutrients

Cellular Respiration



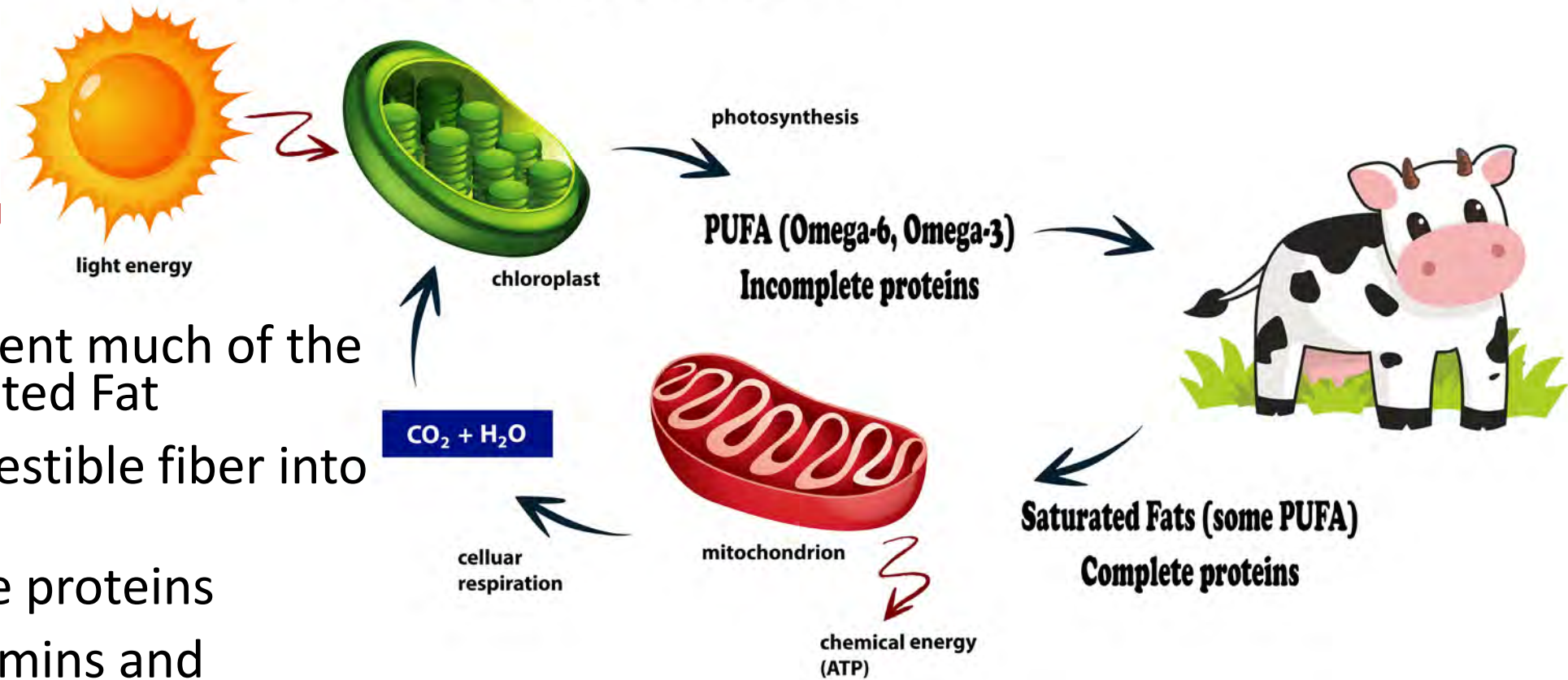
RUMINANTS

- Ruminants convert Fiber into fatty acids as microbes in their rumen ferment the fiber.
- They are making something we can use (saturated fats) from something we can't (Fiber).
- Much of the fat in the diet is also converted to saturated fatty acids
- Make Complete Proteins from incomplete
- Greatly increase bioavailable nutrient density



IDEAL CYCLE OF ENERGY

Cellular Respiration

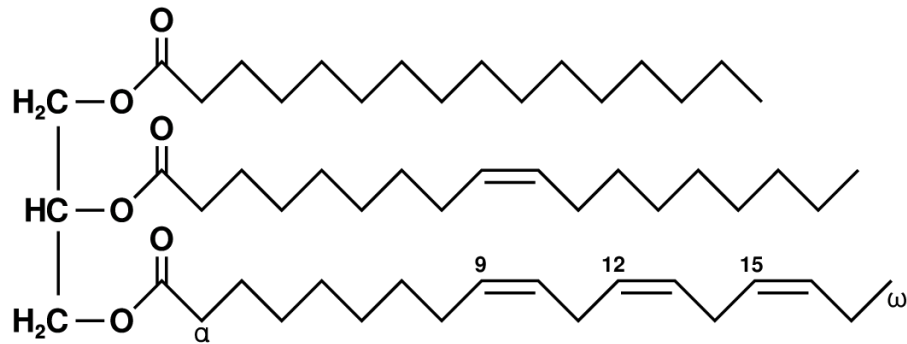


- Ruminant's ferment much of the PUFA into Saturated Fat
- Also make undigestible fiber into saturated fats
- High in Complete proteins
- Concentrate vitamins and minerals (much more nutrient dense) that are much more Bioavailable
- Same output as eating plants with far less waste and better nutrition

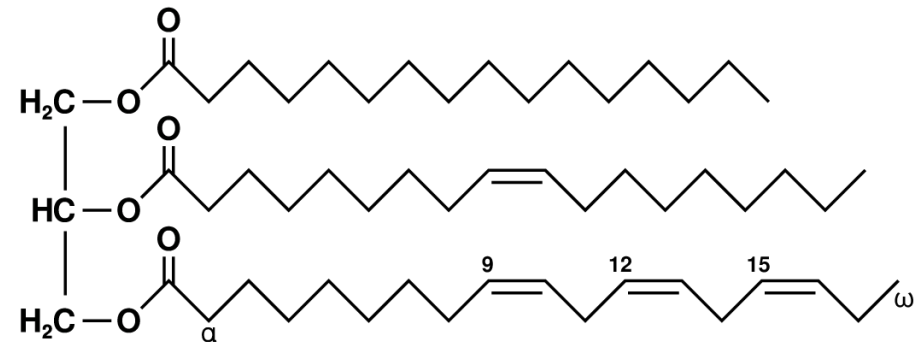
FAT IN DIET VS. FAT ON THE BODY

- Can you tell the difference?
- Neither can the body.

Fat (triglyceride) from Foods



Fat (triglyceride) from Adipose (your fat cells)



WHAT HEALS YOU?

- Protein heals
- Fats are helpful too
 - But if you have lots of fat on the body, you don't need lots of fat in the diet
 - You don't need lots of fat in the diet to heal, like some carnivores and keto people promote
- Reduce carbs
 - Which reduces energy and inflammation
 - Reduce insulin spikes which helps control hunger

Focus on protein for weight loss AND for healing

HUMAN METABOLISM

- All our energy originates from the sun
- We all process energy and protein the same
- Protein is fundamentally different than fat or carbs
 - Used to build muscle and only made into energy (glucose) when more glucose is needed
- Unless you have a genetic disorder (like Pompe disease, unable to metabolize glucose) you process fat, protein and carbs the same
- The carbs and fat end up in the same place for everyone
- The protein is prioritized to build muscle for everyone
- Hormone balance, nutrient status, etc. can vary by person

Fat, Protein and Carbs all get dealt with the same for everyone

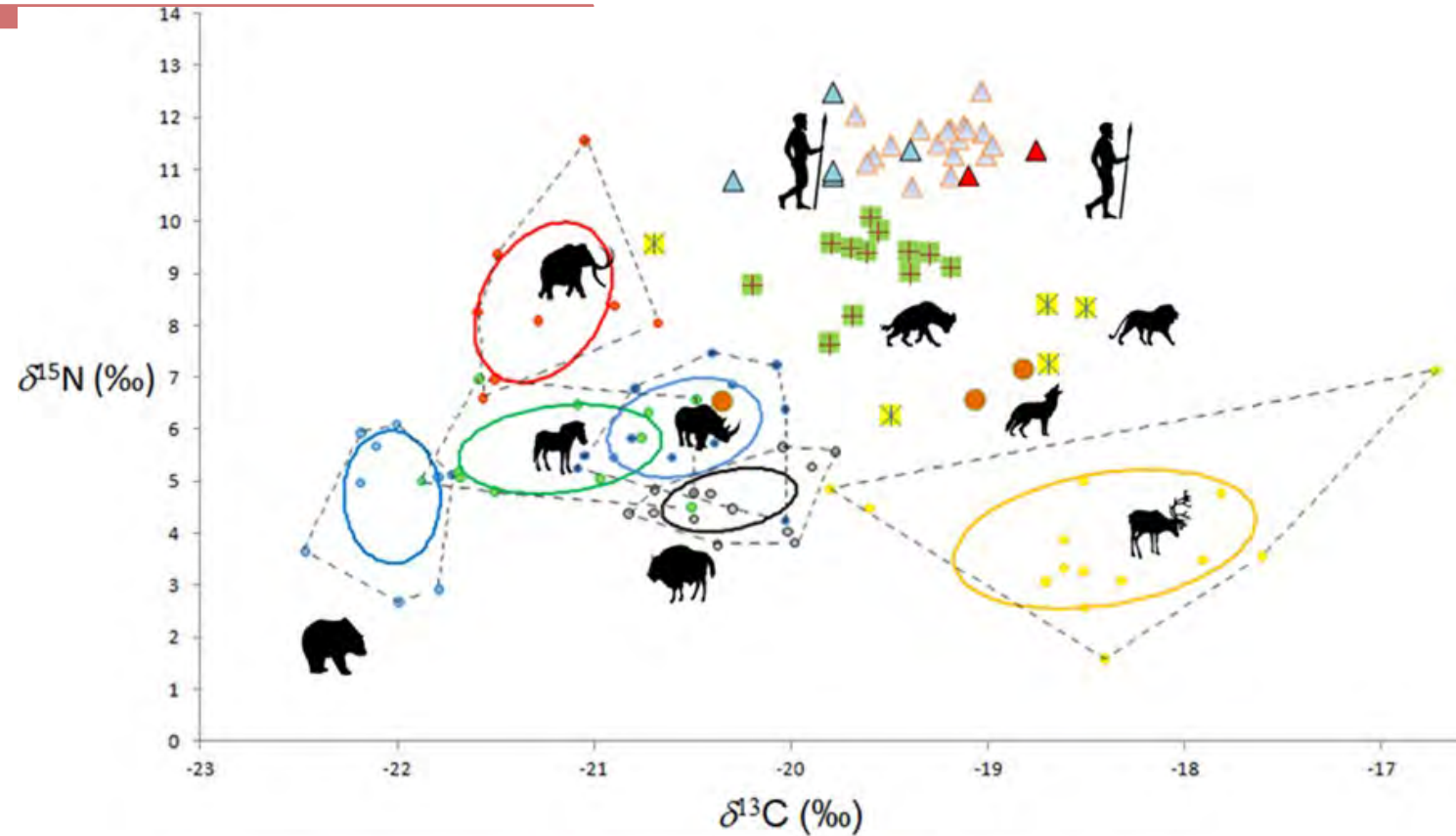


HUMAN DESIGN

What are we designed to eat?

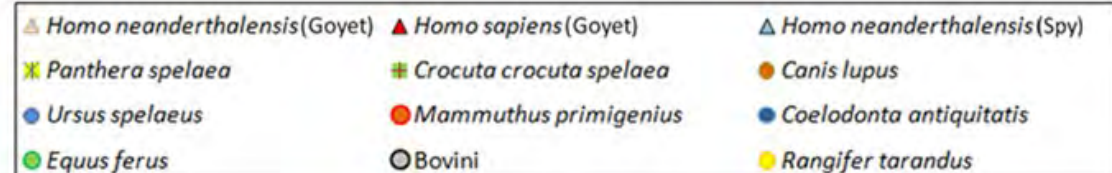
WHAT DID OUR ANCESTORS EAT?

- Isotopic values of bone collagen
- Early Humans were higher carnivores than Hyenas, Lions and Wolves



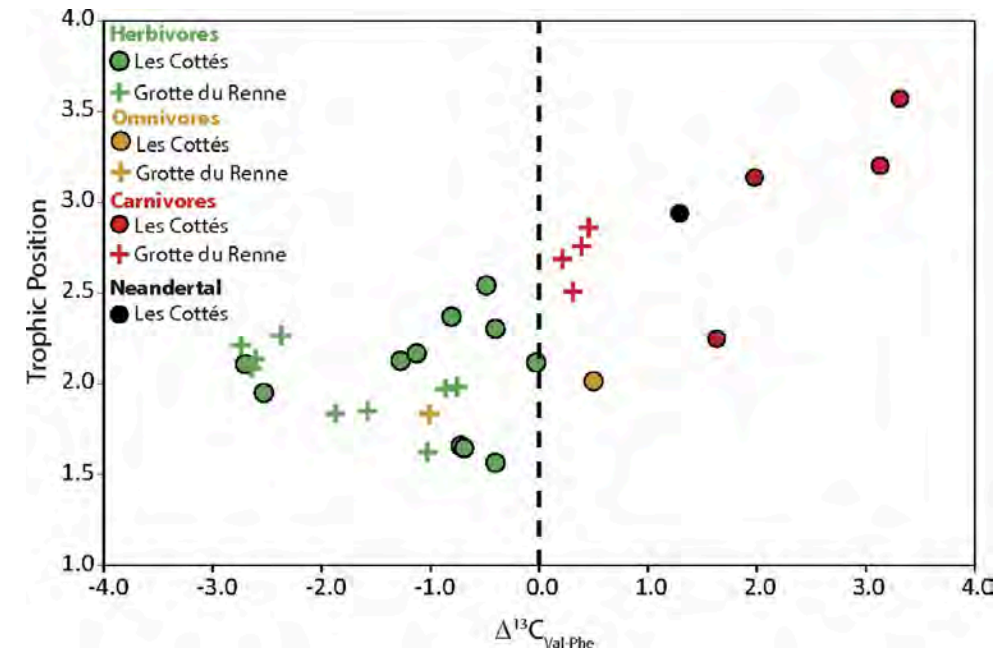
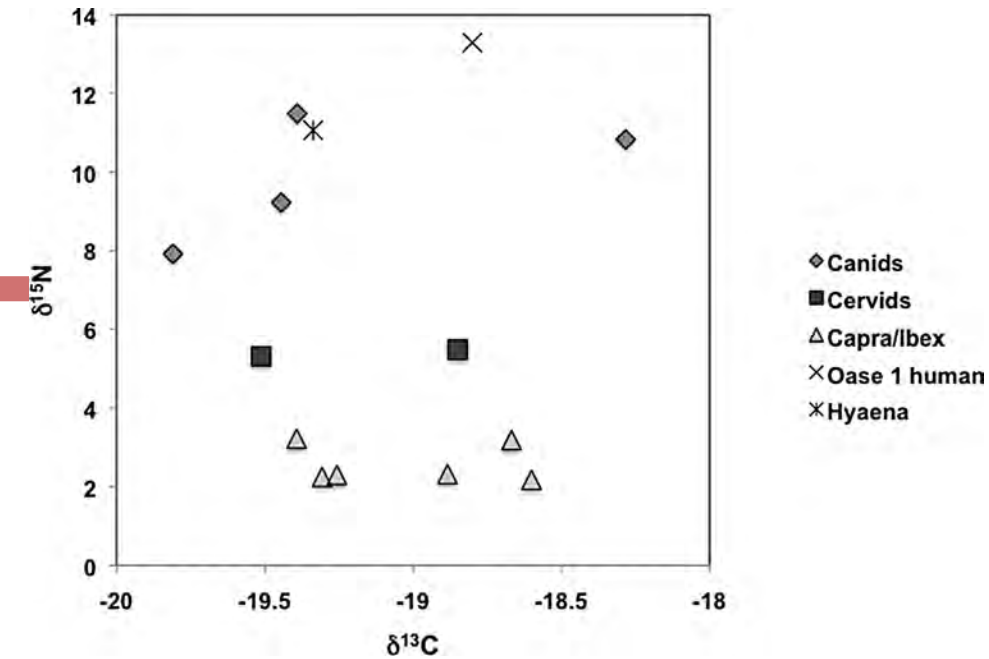
Source: <https://www.nature.com/articles/s41598-019-41033-3>

Source: <https://www.pnas.org/content/106/38/16034>



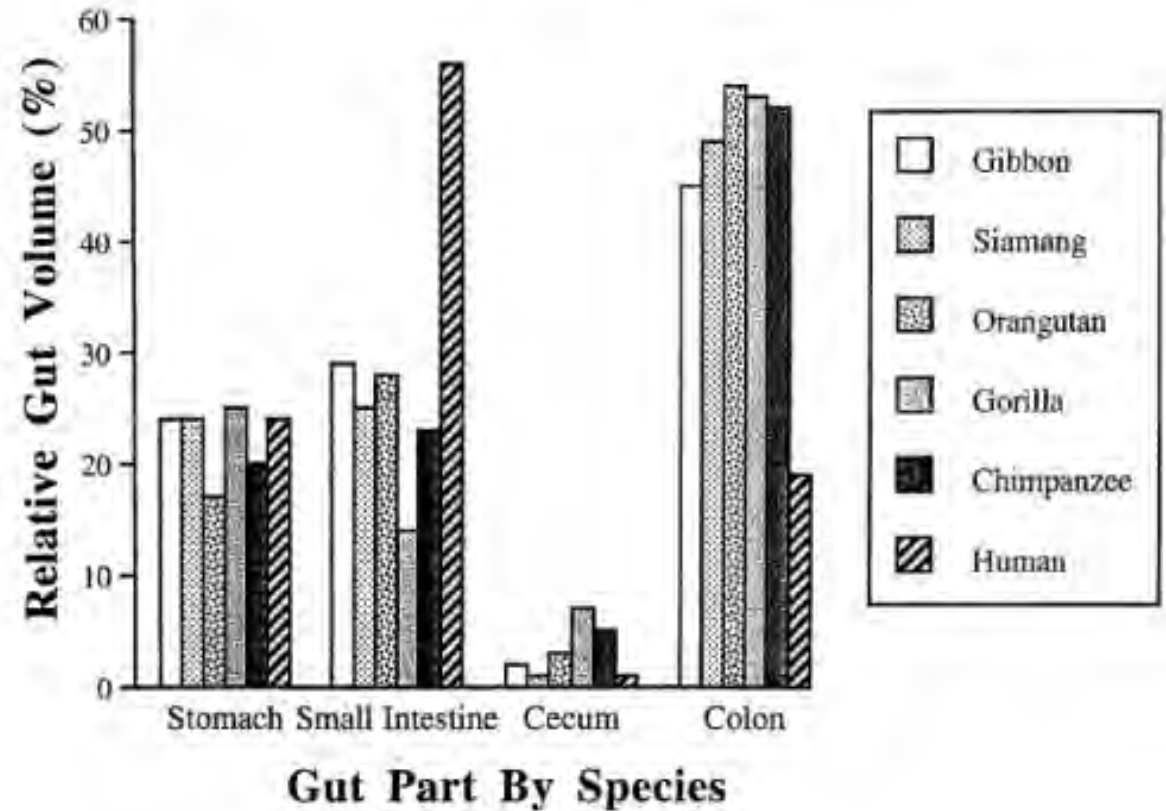
MORE STUDIES:

- Study: “Isotopic dietary analysis of a Neanderthal and associated fauna from the site of Jonzac (Charente-Maritime), France”
 - Findings, “We found that the Jonzac Neanderthal had isotopic values consistent with a diet in which the main protein sources were large herbivores, particularly bovids and horses.”
- Study: “Neanderthal Dietary Habits: Review of the Isotopic Evidence”
 - Findings: “...show that Neanderthals obtained much of their dietary proteins from very large herbivores in open environments by hunting.”
- Study: “Neanderthal behavior, diet, and disease inferred from ancient DNA in dental calculus”
 - Findings: “Neanderthal diet was heavily meat based and included woolly rhinoceros and wild sheep”



EVOLUTIONARY CHANGES IN OUR GUT

- Human has much smaller Colon and much larger Small Intestine
- Small Intestine, great for digesting animal foods, cooked plants, etc.
- Colon good for digesting low quality foods like leaves, stems and stalks
- We traded a big gut for a big brain
- This required more nutrient dense foods



Source: "Nutritional Characteristics of Wild Primate Foods" by Katharine Milton, Journal of Nutrition, 1999

STOMACH PH

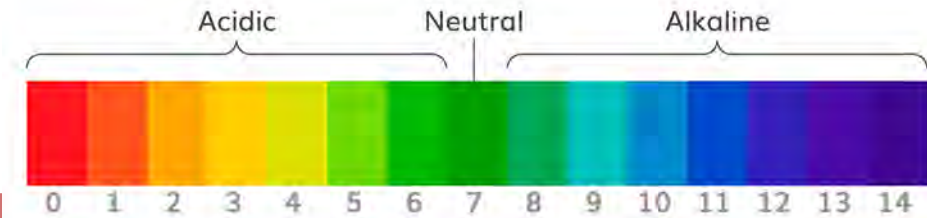
- One last point of interest is about stomach acid pH. In general, herbivores have a stomach acidity of 5-6.
 - Omnivores have a stomach pH or 3-4.
 - Carnivores have a stomach pH of 2-3.
 - CAN YOU GUESS WHAT HUMAN STOMACH pH is???

<source:

<https://gut.bmj.com/content/gutjnl/30/5/573.full.pdf> >

Ph Scale

vector eps 10



Human Stomach pH
is only 1.5 (in a healthy human)
Scavengers!





TRUE OR FALSE?

You need Fiber to eliminate daily?

You need fiber for a healthy gut flora?



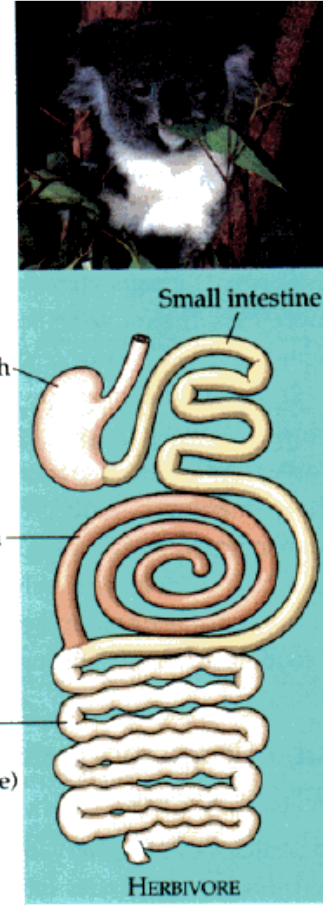
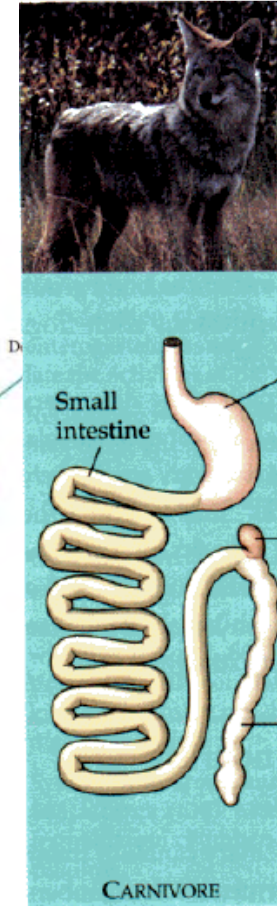
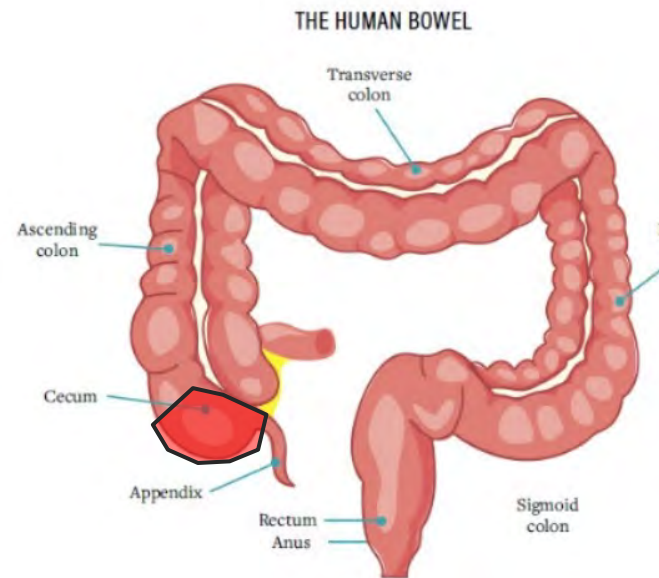
WHAT ABOUT FIBER?

Babies do not get any fiber, but they poo all the time!

Babies do not have poor gut bacteria because they do not eat fiber!

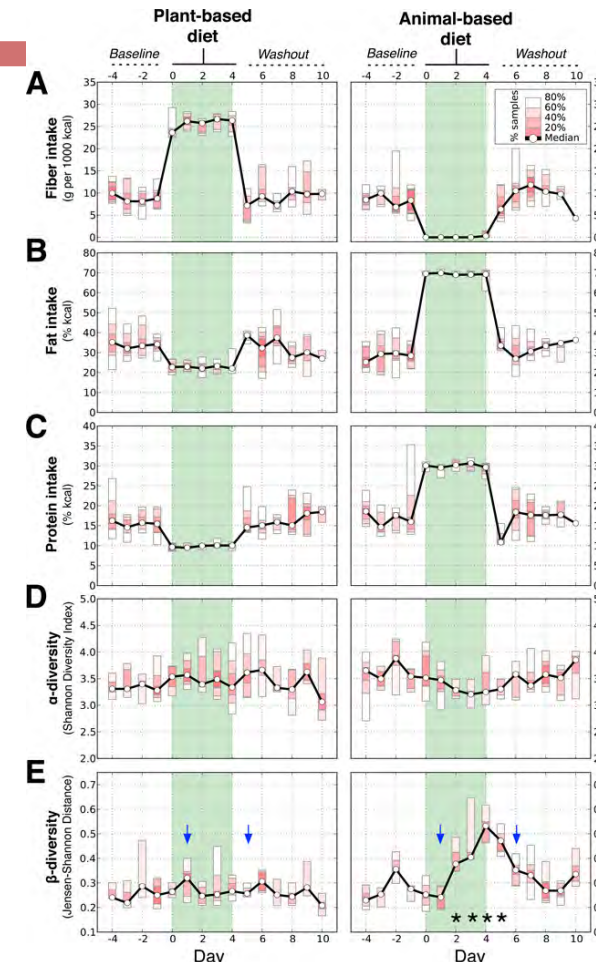
WHAT ABOUT FIBER?

- Cecum is a pouch that ferments plants to turn indigestible fiber into energy (fatty acids).
- Human Cecum is tiny and thus we can't really digest any fiber
- Omnivores have much larger cecum. Herbivores have huge cecum



WHAT ABOUT FEEDING GUT FLORA?

- Our microbiome shifts rapidly
 - 24 hours of eating only meat, large shifts occur
 - Increase areas needed
 - 2 days after going back to original diet, **microbiome returns**
 - Our microbiome is very flexible and adaptable
- Over time, can bacteria diminish if not fed?
 - Do I care if bacteria for processing gluten are diminished or gone?



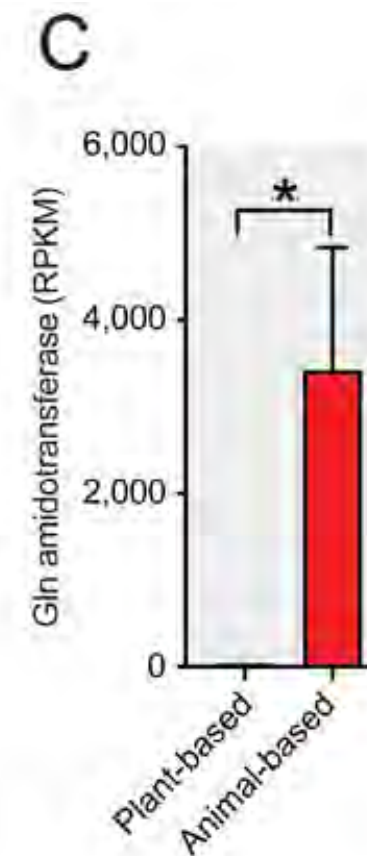
FOODS WITH THE HIGHEST PREBIOTIC CONTENT

| Substrate | Total SCFA |
|-------------------------|------------|
| Casein | 7.42 |
| Cellulose | 1.53 |
| Chicken cartilage | 5.50 |
| Collagen | 7.96 |
| Fructooligosaccharides | 10.37 |
| Glucosamine | 7.11 |
| Glucosamine chondroitin | 5.36 |

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3957428/>

OTHER CHANGES WHEN PRIORITIZING PROTEIN

- Carnivore Diet resulted in large increase in gene expression for genes vital for vitamin biosynthesis
- Why such a large shift? Where are all these bioavailable nutrients coming from?
- The Nutrient Dense Animal Proteins



Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3957428/>



MICRONUTRIENTS IN FOODS

What foods are highest in micronutrients?

NUTRIENTS IN "SUPERFOODS" COMPARED TO ANIMAL PROTEIN

| Per Serving | Apples | Blueberries | Kale | Beef | Beef Liver |
|-------------------|--------|-------------|---------|-------|------------|
| Calcium (mg) | 9.1 | 4.5 | 63.4 | 9.7 | 9.7 |
| Magnesium (mg) | 7.3 | 4.5 | 15.0 | 16.7 | 15.8 |
| Phosphorus (mg) | 20.0 | 9.0 | 24.6 | 154.0 | 340.6 |
| Potassium (mg) | 163.8 | 57.8 | 200.6 | 325.6 | 334.4 |
| Iron (mg) | 0.2 | 0.2 | 0.8 | 2.9 | 7.7 |
| Zinc (mg) | 0.2 | 0.2 | 0.2 | 4.0 | 3.5 |
| Selenium (mcg) | 0.0 | 0.1 | 0.4 | 12.5 | 34.9 |
| Vitamin A (IU) | 69.2 | 40.5 | 13530.9 | 35.2 | 46992.0 |
| Vitamin B6 (mg) | 0.0 | 0.1 | 0.1 | 0.4 | 1.0 |
| Vitamin B12 (mcg) | 0.0 | 0.0 | 0.0 | 1.8 | 97.7 |
| Vitamin C (mg) | 7.3 | 7.3 | 36.1 | 1.8 | 23.8 |
| Vitamin D (IU) | 0.0 | 0.0 | 0.0 | 6.2 | 16.7 |
| Vitamin E (mg) | 0.2 | 0.5 | 0.8 | 1.5 | 0.6 |
| Niacin (mg) | 0.2 | 0.3 | 0.4 | 4.2 | 15.0 |
| Folate (mcg) | 0.0 | 4.5 | 11.4 | 5.3 | 127.6 |

MICRONUTRIENTS

- Across a wide range of micronutrients, steak is more nutrient dense
- Organ meat like Beef Liver is the real SUPERFOOD!



JUST BEEF!

- Don't want to eat liver, beef wins out all by itself.
- #1 or 2 in 13 out of 15 vitamins and minerals

| (per 100g) | Apples | Blueberries | Kale | Beef |
|-------------------|--------|-------------|------|------|
| Calcium (mg) | 5 | 6 | 72 | 11 |
| Magnesium (mg) | 4 | 6 | 17 | 19 |
| Phosphorus (mg) | 11 | 12 | 28 | 175 |
| Potassium (mg) | 90 | 77 | 228 | 370 |
| Iron (mg) | 0.1 | 0.3 | 0.9 | 3.3 |
| Zinc (mg) | 0.1 | 0.2 | 0.2 | 4.5 |
| Selenium (mcg) | 0 | 0.1 | 0.5 | 14.2 |
| Vitamin A (IU) | 38 | 54 | 769 | 40 |
| Vitamin B6 (mg) | 0 | 0.1 | 0.1 | 0.4 |
| Vitamin B12 (mcg) | 0 | 0 | 0 | 2 |
| Vitamin C (mg) | 4 | 9.7 | 41 | 2 |
| Vitamin D (IU) | 0 | 0 | 0 | 7 |
| Vitamin E (mg) | 0.1 | 0.6 | 0.9 | 1.7 |
| Niacin (mg) | 0.1 | 0.4 | 0.5 | 4.8 |
| Folate (mcg) | 0 | 6 | 13 | 6 |



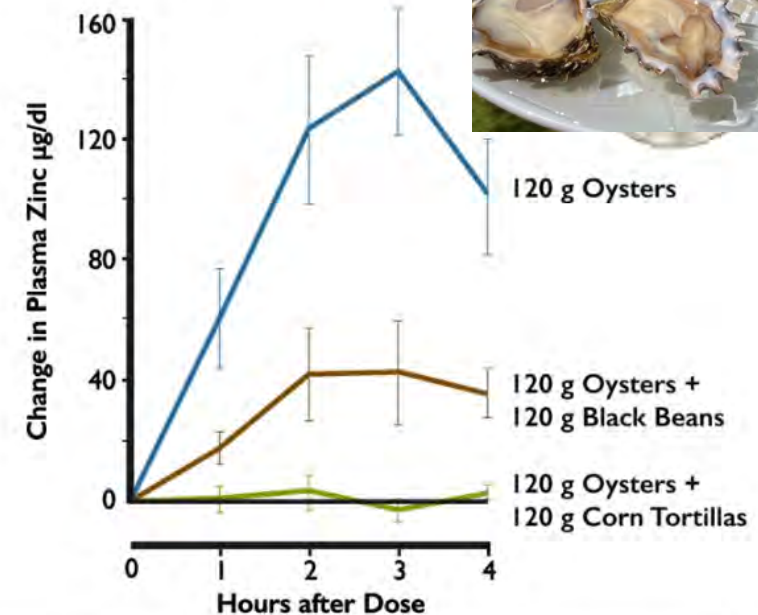
HOW TO HIDE ORGAN MEATS

- Hide ground liver in my chili or spaghetti
- Make burgers with 4:1 ratio ground beef to ground liver

BIOAVAILABILITY

- Zinc absorption
 - Eaten alone, much of the zinc in Oysters is absorbed
 - Eaten with black beans, **only 30% absorbed.**
 - Eaten with corn tortilla, **almost 0% absorbed.**
- Other examples:
 - Spinach is high in calcium, but almost all is tied up in oxalates
 - Meat iron absorption – 85%
 - Legumes – 0.84%

Zinc Absorption



Solomons NW et al. Studies on the bioavailability of zinc in man. II. Absorption of zinc from organic and inorganic sources. J Lab Clin Med. 1979, 94(2):335-343.



PROTEIN

- Eating primarily protein is natural for our bodies
- Animal proteins are some of the most nutrient dense foods
- Our digestive tracts are made to process primarily animal protein
- PSMF means lots of animal proteins, but that's OK because our bodies are made for that.



FASTING GLUCOSE AND INSULIN

Why both are important.



STOP CHASING KETONES AND INSULIN

Insulin is not the devil and higher ketones do not mean better fat burning!

INSULIN

- Large Insulin spikes are a problem
- But you can't store fat you didn't eat!
- Any fat you eat gets stored, regardless of insulin spike or not.
- Fat still ends up in the same place if the insulin spike was large or small.
- But a very large insulin spike from sugar results in insulin so high it overcompensates and gives you a low glucose which makes you hungry.

KETONES ARE NOT THE GOAL



- Blood ketones are just the difference in fuel generated minus fuel used
- Higher is not better
 - No study has ever shown that higher blood ketones means better results
 - You can gain weight with high blood ketones
- The longer you are keto the lower blood ketones will be
 - Your body gets more efficient at using them
- Chasing high ketone levels makes about as much sense as chasing high blood glucose
 - High levels of fuel in the blood is not desired
- URINE STRIPS only tell you if you are hydrated

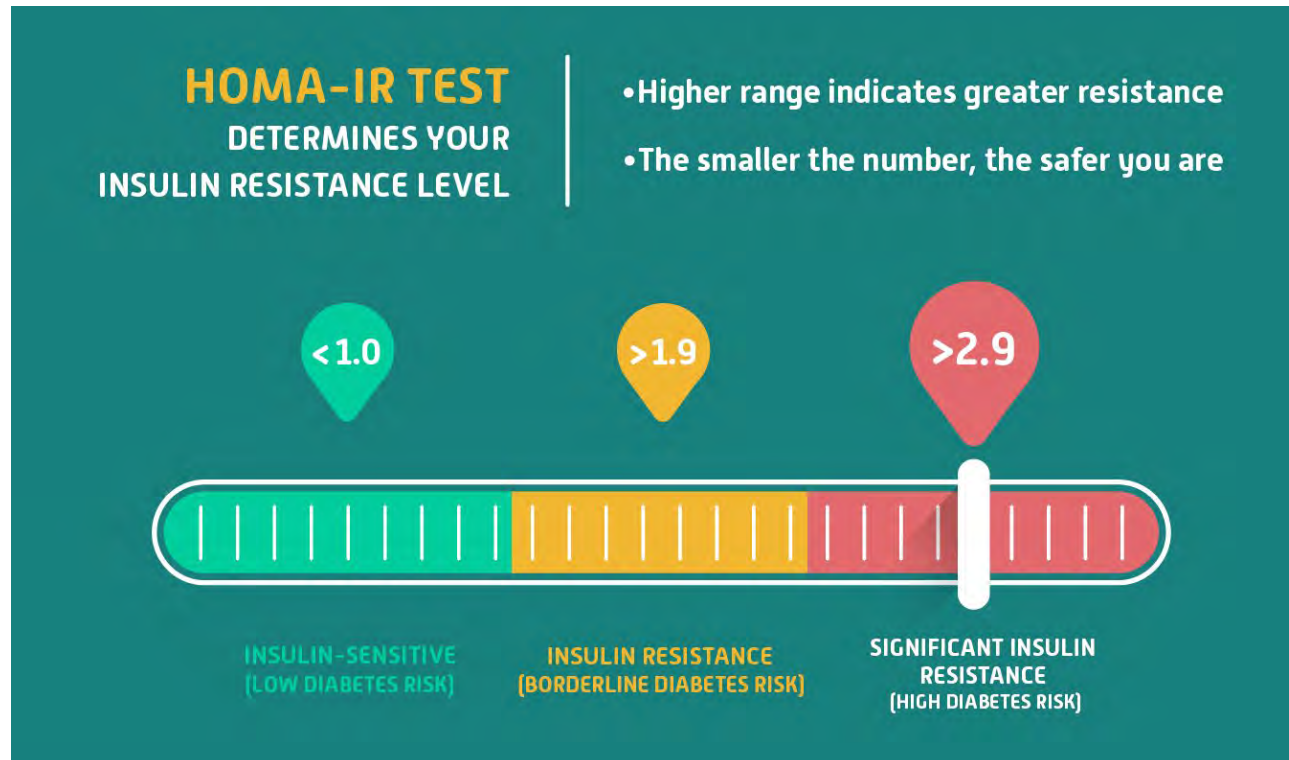
INSULIN IS NOT THE DEVIL



- The body tightly regulates fuels in the blood at all times.
- It tries to keep supply at slightly more than demand at any given time
 - High levels of glucose, fats (triglycerides), alcohol or ketones can be dangerous
- Transient Spikes in insulin to process protein and fuel shouldn't be feared
- Fearing an insulin "spike" due to a zero-calorie sweetener is meaningless
- High levels of fasting insulin is the real issue.

FASTING INSULIN

- Glucose alone doesn't tell you the whole story
- Like a car speed versus RPM



$$\text{HOMA-IR} = \frac{\text{Glucose} \times \text{Insulin}}{405}$$

FASTING INSULIN

Glucose



Fasting Glucose Normal

85 mg/dl

$$\text{HOMA-IR} = \frac{85 \times 20}{405} = 4.5$$

Insulin



BUT Pancreas working really hard to keep glucose normal

20 mIU/L

FASTING INSULIN

Glucose



Fasting Glucose Normal

105 mg/dl

$$\text{HOMA-IR} = \frac{105 \times 2}{405} = 0.4$$

Insulin



BUT Pancreas is in cruise control.

2 mIU/L



BEST WAY TO REVERSE INSULIN RESISTANCE (HIGH HOMA-IR)

- Shrink Fat Cells
 - Reduce the overstuffed fat cells (lose body fat)
 - Maintain or Grow muscle
 - Give glucose more places to go
- Best way to do this is prioritize protein and limit dietary fat
 - Protein Sparing Days

INSULIN

- Insulin is not the enemy
 - You need it to utilize fuels and protein to build muscle
- Transient insulin isn't a problem
- Chronically elevated insulin is a big problem
- Insulin acts as much as a damn holding back energy as it is a storage hormone
 - Think of it as a “net” holding back fat from flooding your blood
 - That is why someone obese will have a high fasting insulin, you need to hold back a lot more fat so a bigger “net” is needed.

FASTING GLUCOSE

- Fasting glucose can drift up some while going keto/carnivore (called physiological insulin resistance)
- Muscle prefer burning fat for fuel so reject glucose.
- Fat is now being used as primary fuel which leaves more glucose around
- Typically, the effect reduces with time
- And if insulin is low and going lower, not something we really worry about
- If effect is worse in morning (added dawn phenomena), you can add a meal or protein in morning to bring it down if you like



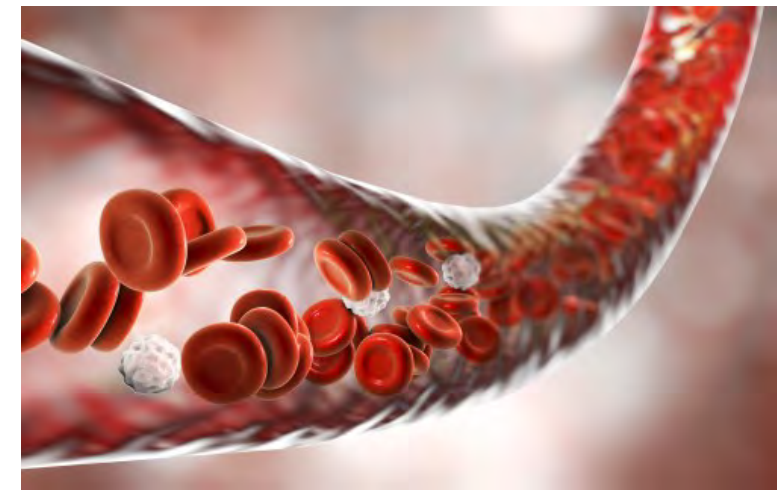
HOW OUR BODIES PROCESS FUELS

Oxidative Priority and Macro Processing

BLOOD VESSELS ARE LIKE FUEL LINES

- You want to control how much fuel gets to the engine
 - Too much fuel can blow the engine
- The body tightly controls how much fuel is in the blood
- Too much of any fuel can kill you:
 - Too high alcohol = Alcohol poisoning
 - Too high ketones = Ketoacidosis
 - Too high glucose = Hyperglycemia
 - Too high fat = Hypertriglyceridemia

At rest, the total of all fuels in the blood (Ketones, glucose, fatty acids) is about 30 calories.



DIETARY ALCOHOL OR EXOGENOUS KETONES

- Little to no storage (alcohol none, ketones blood)
- When elevated all other fuels are stored (carbs and fat)
- Immediately shuts off lipolysis (burning fat from fat stores)
- Also drives glucose into storage (if storage is full, converts to fat)
- **Both will put the brakes on lipolysis (burning fat for fuel)**
- **In fact, the effect is so strong with alcohol that glucose will drop when drinking and an alcoholic will have very low A1c (4s or lower)**



DIETARY PROTEIN

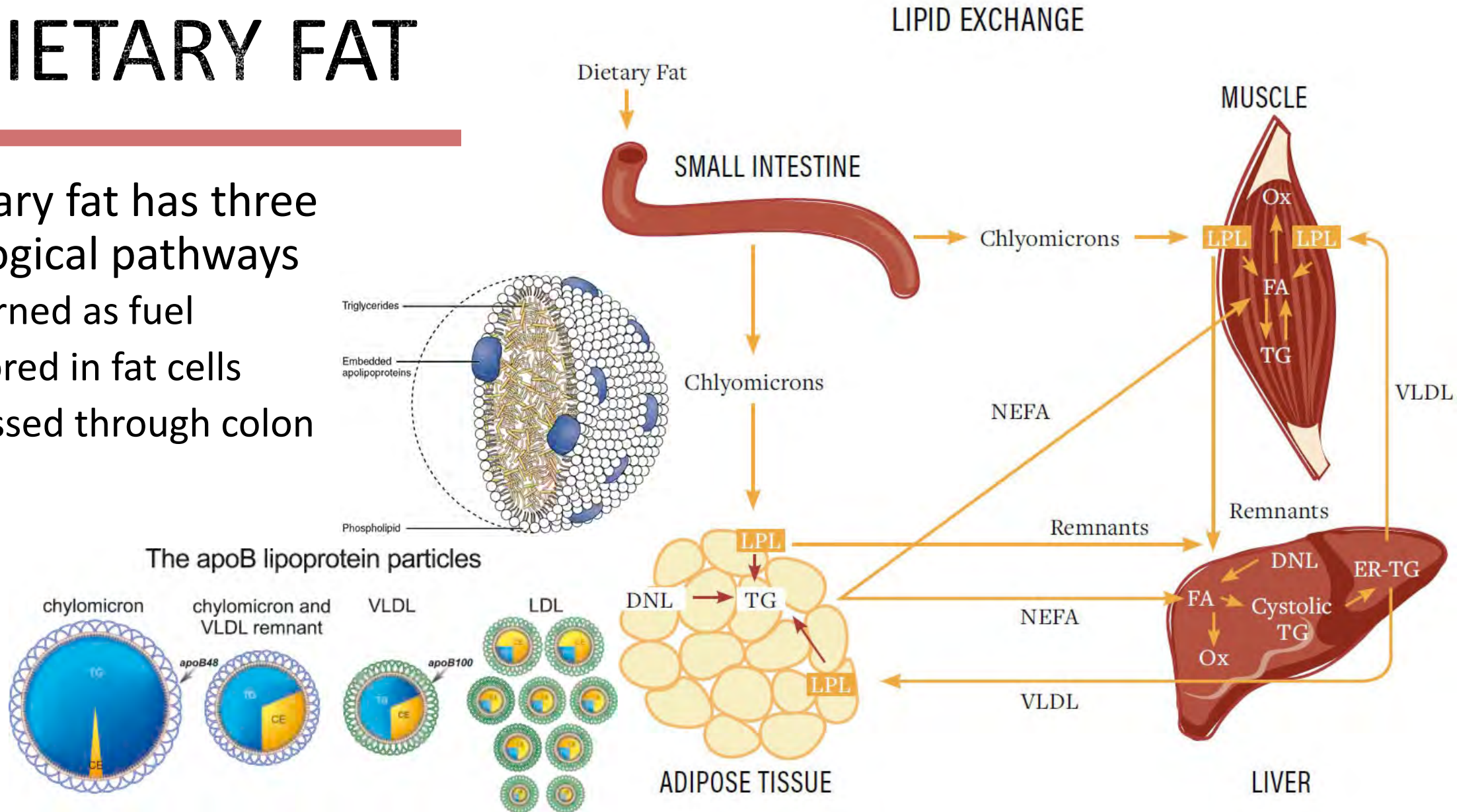
- Preferentially used to build muscle
 - It is estimated that our daily BMR (basal metabolic rate or how many calories we burn each day to live) is up to 20% due to autophagy (breakdown and rebuilding of cells).
 - Skin turnover alone requires lots of protein
 - Maintaining muscle and lean mass
- Turning it into glucose (Gluconeogenesis) is done only when needed
 - Glucose is needed and not enough glucose is around or in diet

DIETARY CARBOHYDRATES

- Sugar and starch (basically all digestible carbs end up as glucose)
- Two Biological pathways:
 - Burned as fuel
 - Stored in liver and muscle glycogen
- But muscle glycogen is locked in muscle and only used for intense exercise
 - Think sprints or long runs. Brisk walk, etc. will not touch muscle glycogen
- Excess beyond storage capacity or fuel needs, turned into fat and stored
 - But most of the fat on your body is from stored dietary fat

DIETARY FAT

- Dietary fat has three biological pathways
 - Burned as fuel
 - Stored in fat cells
 - Passed through colon



DIETARY FAT THROUGH COLON?

- Does it pass through the colon?
- Studies show that only about 3-5% of dietary fat intake (< 10g total per day) ends up in the stool. [Study Link](#).
- Olestra resulted in “anal leakage” due to an extra 10-20g fat a day. [Study Link](#).
- A large amount of fat in stool is not normal and would be very uncomfortable (think “anal leakage”).

“The two diets had total calorie contents of 2463 and 2823, respectively. Annegers et al.,⁶ studying 40 normal students, used diets with **fat content varying between 93 and 168 g per day and with total calorie intake remaining constant, but the results showed no significant differences in the total fat excretion.**”

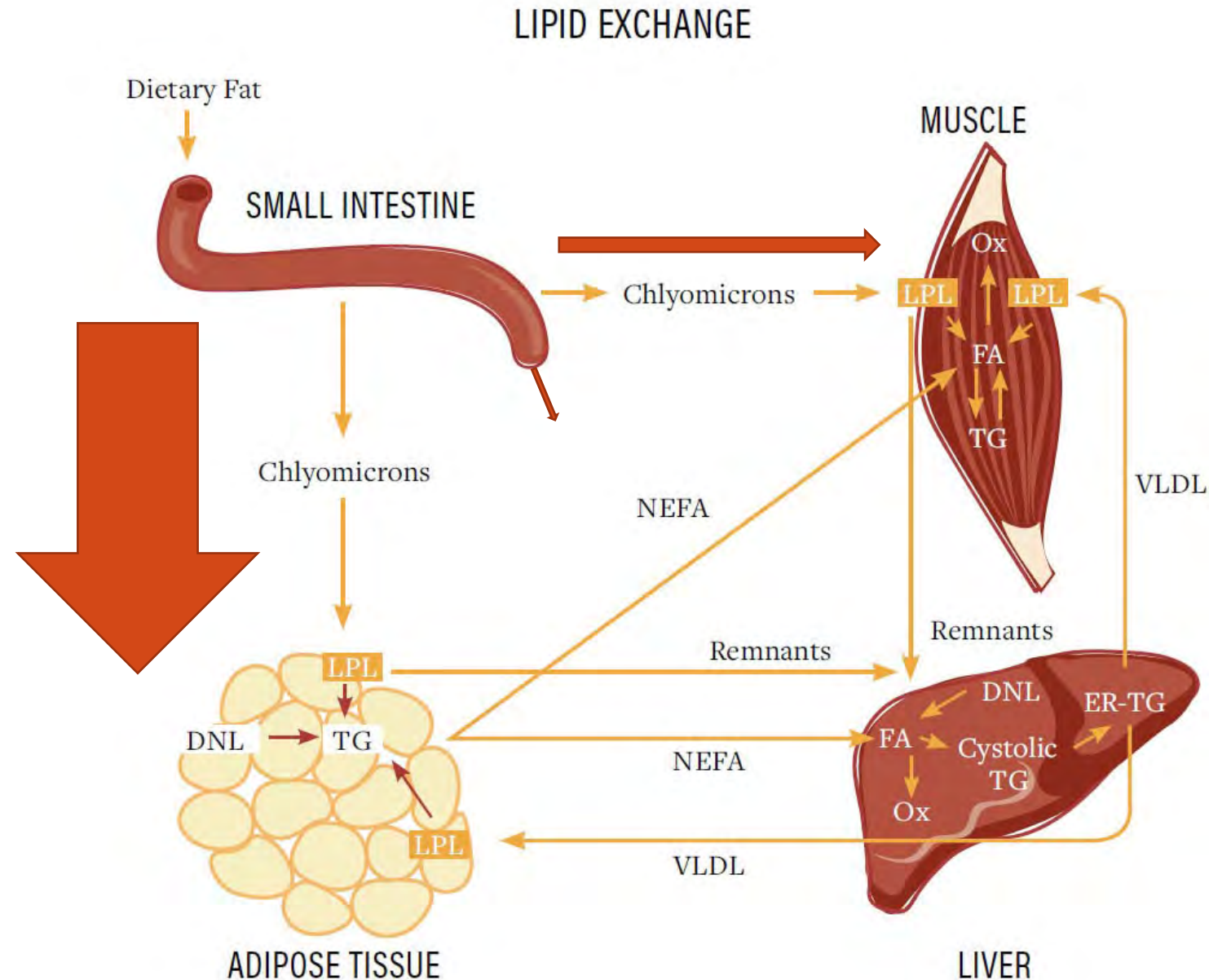


“Anal leakage” due to an extra 10-20g fat Going through GI.

This Product Contains Olestra. Olestra may cause abdominal cramping and loose stools. Olestra inhibits the absorption of some vitamins and other nutrients. Vitamins A, D, E, and K have been added.

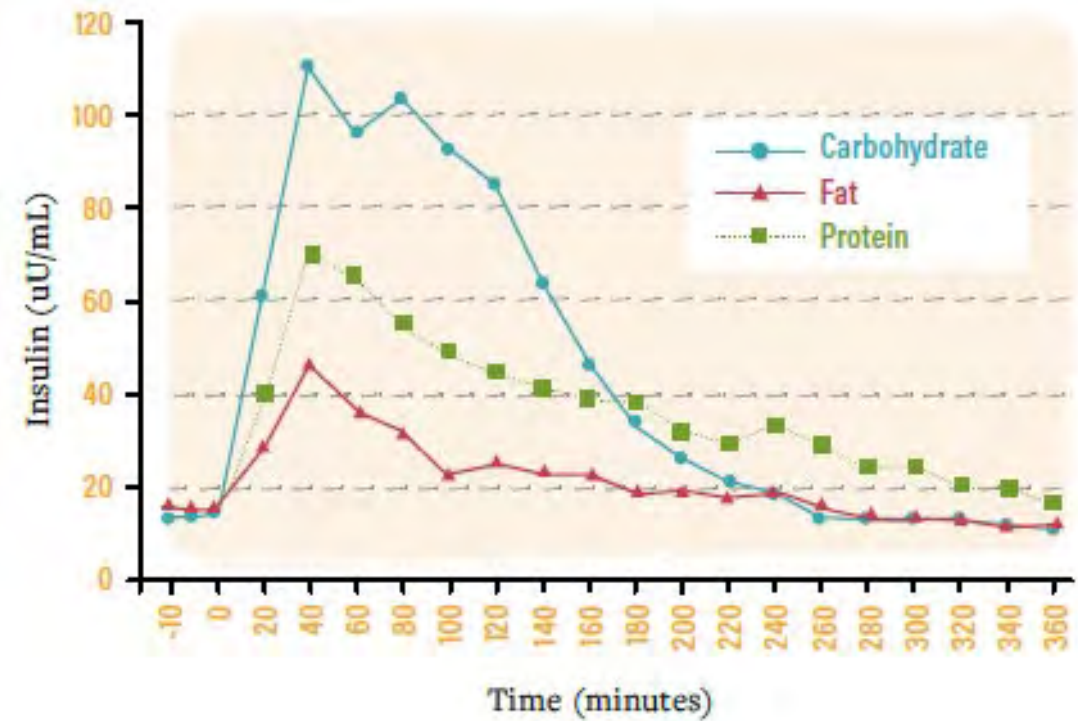
DIETARY FAT

- The vast majority of fat goes through two pathways:
 - Burned as fuel
 - Stored in fat cells (Adipose)
- In reality, almost all goes to storage












WHAT HAPPENS WHEN WE EAT

- Huge increase in fuel coming into the blood
- Body must shut down endogenous production of fuel (fat from adipose, glucose from liver) so you don't have oversupply and die
- Then it prioritizes fuels to store (oxidative priority) in reverse order of storage capacity
- Once back to tight fuel control (and excess carbs are limited), fat flux can resume



OXIDATIVE PRIORITY

| Meal Input | Alcohol | Exogenous Ketones | Carbohydrate | Protein | Fat |
|---|---|---|---|---|---|
| Oxidative Priority | 1 | 2 | 3 | 4 | 5 |
| Storage System | — | — | Blood [glucose], glycogen | Limited [plasma AA]/tissue | Adipose (fat) |
| Storage Capacity | Zero | Zero | 1,200–2,000 calories | 360–480 calories | Unlimited |
| Postprandial [Blood] |  |  |  |  |  |
| DIT [Thermogenesis] (4–6 hours after meal) |  | |  |  |  |
| | 15% | | 8% | 25% | 3% |

- How our bodies prioritize Macro nutrients

Source: “Keto.” by Maria and Craig Emmerich

Original source: Oxidative Priority, Meal Frequency, and the Energy Economy of Food and Activity: Implications for Longevity, Obesity, and Cardiometabolic Disease, Sinclair, Bremer, et al, February 2017

ALCOHOL

- #1 Oxidative Priority
- No Storage Capacity
- 15% Thermogenesis (TEF)
- Alcohol also messes with your hormones
 - Stimulates Appetite
 - Decreases Testosterone
 - Increases Estrogen
 - BEER Belly = estrogen belly
- Not Biologically Needed



*Alcohol
&
Ketosis*

EXOGENOUS KETONES

- #2 Oxidative Priority
- Little to no storage capacity
- Not Biologically Needed
 - Your body can make all the ketones it needs when keto adapted
 - Higher ketones don't mean better results.
 - You can add a bunch of MCT oil to bowl of rice and show higher ketones.



CARBOHYDRATES

- #3 Oxidative Priority
- Moderate storage capacity (1200-2000 calories)
- Highest amount of Insulin needed to utilize
- Not very Satiating and can cause hunger in excess
- Not Biologically Needed
 - Your body can make all the glucose it needs when keto adapted from glycerol (stored fat) or protein
 - Collagen much better for feeding Gut Flora

PROTEIN

- #4 Oxidative Priority
- Limited storage capacity (360-400 Calories)
- 25% Thermogenesis (TEF)
- Preferentially used for Muscle Protein Synthesis (building lean mass)
 - Very expensive to turn into fuel (glucose) so body only does it if other fuels not available (glucose, fat).
- Biologically Essential
 - Essential to maintain lean mass, hair growth, etc.



FAT

- #5 Oxidative Priority
- Theoretically unlimited storage capacity
- Smallest amount of Insulin needed to utilize
 - Yes, it raises insulin a little, enough to stop lipolysis, break your fast, etc.
- Moderately Satiating (calorie for calorie)
- Biologically Essential
 - Essential to make hormones, absorb vitamins like A, D, E and K and for cellular health

*Choosing
Healthy Fats*



OXIDATIVE PRIORITY

Oxidative Priority

How the body prioritizes fuels. MariaMindBodyHealth.com



Alcohol

Storage capacity: 0 calories

#1



Exogenous Ketones

Storage capacity: 0 calories

#2



Protein

Storage capacity: 360-480 calories

#3



Carbs

Storage capacity: 1200-2000 calories

#4



Fat

Storage capacity: Almost Unlimited calories

#5

If supply (diet) is greater than demand,
fuels of lower priority get stored first.

Source: The Best Selling Book "Keto." by Craig and Maria Emmerich

Oxidative Priority Example

Keto-Adapted.com

A Meal Composing of:

A couple beers, a cheeseburger and french fries.



Alcohol in beer.

No storage so has to be burned first in the cells.



Protein in burger.

Used to build muscle. Only used as fuel when others aren't available.



Carbs in bun, beer, fries, etc.

Stored in muscle and liver glycogen.

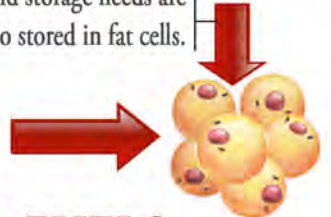


Excess carbs beyond storage needs are
turned into fat and also stored in fat cells.



Fat in burger, cheese, etc.

Stored in fat cells (Adipose tissue).



**KETO REMOVES OTHER FUELS
ALLOWING BODY TO BURN PRIMARILY FAT**

Source: The Best Selling Book "Keto." by Craig and Maria Emmerich

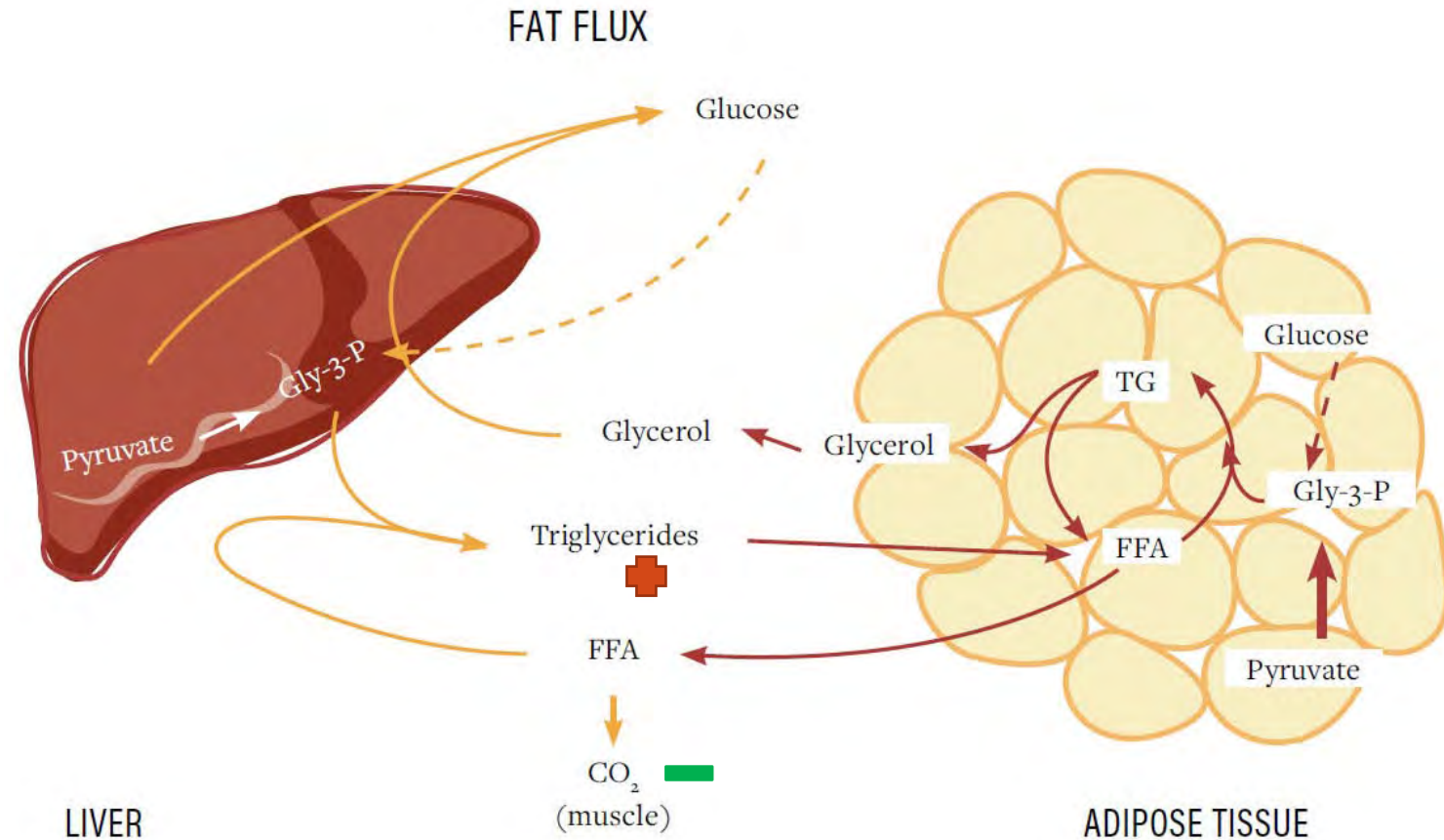
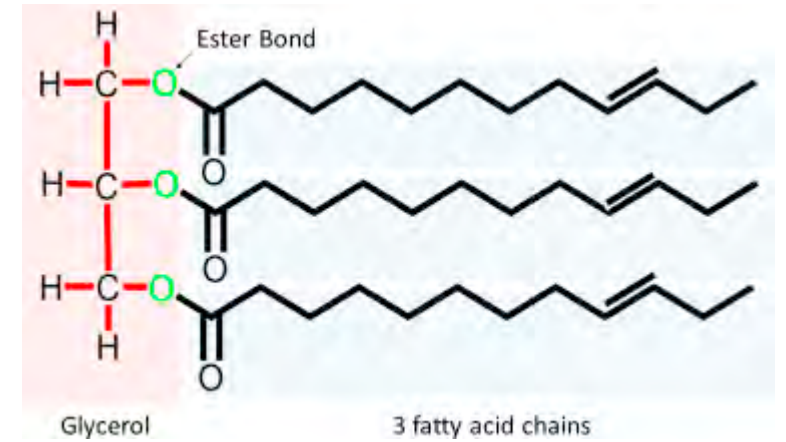


FAT FLUX

What is fat flux and how can it help you understand fat loss?

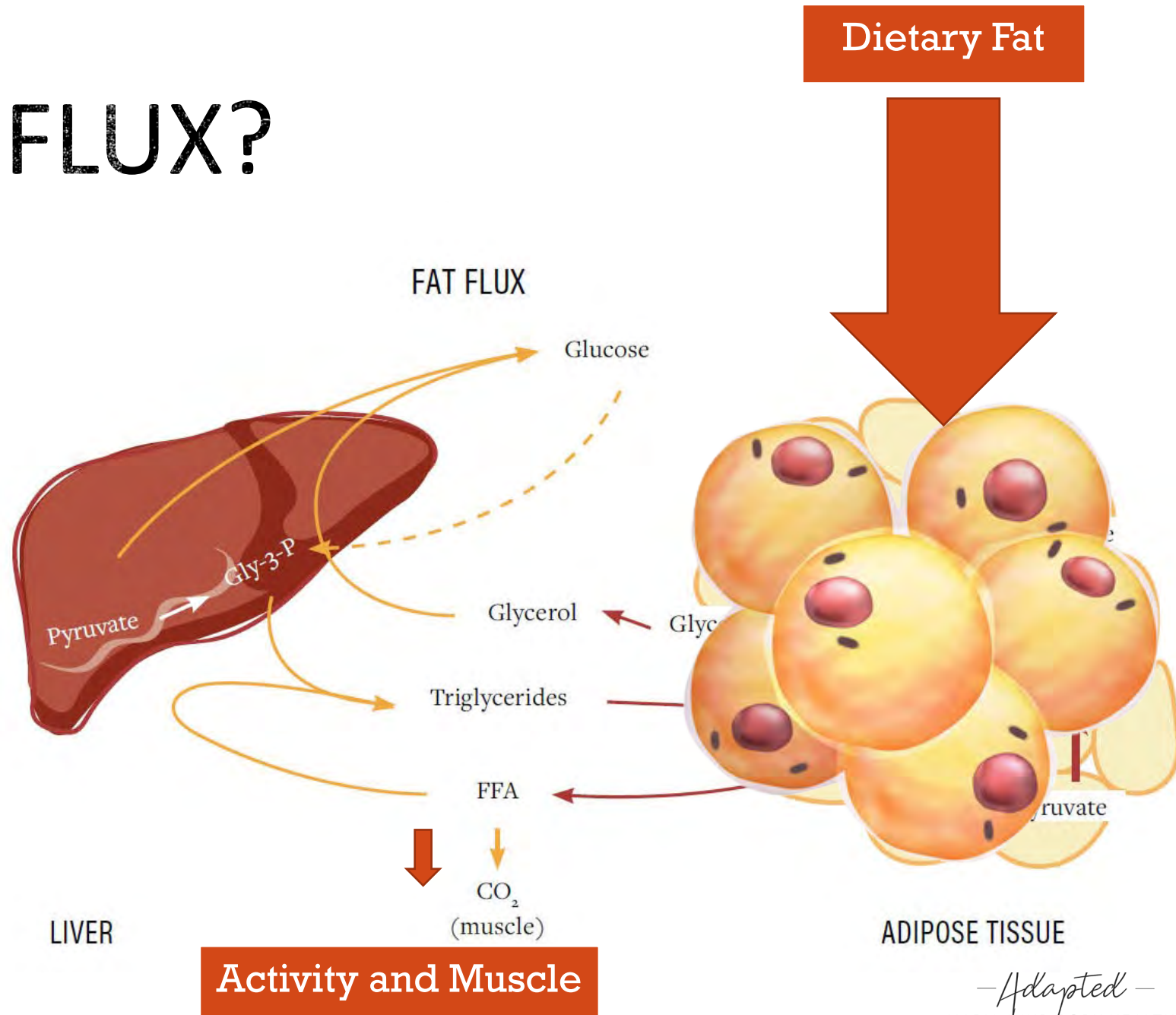
WHAT IS FAT FLUX?

- Fat is stored in adipose (fat cells) as Triglyceride molecules
- A triglyceride is 3 FFA (Free fatty acids) linked together by a glycerol backbone
- FFA bind to albumin
- FFA and glycerol go into blood
- FFA burned in muscle, glycerol goes to liver where 3 make glucose
- Excess FFA packaged back up with glycerol and sent back to fat



WHAT IS FAT FLUX?

- Constant cycle of fat moving in and out of our adipose (fat cells)
- Keto Primes you for fat burning
- Dietary fat is fat going into storage adding to amount stored
- Exercise and activity is fat coming out and being burned





TYPES OF FASTS

Explaining the pros and cons of the different types of fasts.



EGG FAST

You have to eat
24 eggs
to get enough protein
for muscle
protein synthesis!

Keto-Adapted.com

TYPES OF FASTS

- Extended Fasting
(water fasting)
- Intermittent Fasting
- Egg Fasts
- Fat Fasts
- Protein Sparing
Modified Fasts

EXTENDED FASTING

- Sometimes called water fast, fasting (little to no calories) for more than 24 hours.
- Studies consistently show you lose muscle
 - If very overweight and already keto, about ¼ pound per day
 - If leaner, up to 1 pound a day
- Autophagy is happening all the time
 - Strength training can raise it even more than fasting
- Stop going #2
 - Toxins released from fat cells can get reabsorbed into the body
- Might be beneficial to chronic disease like cancer



INTERMITTENT FASTING

- Time Restricted Eating
- Comes naturally to most people eating this way
 - Just not as hungry so eating 2 meals comes naturally
- Mostly a tool to limit snacking and overeating
- Great way to help get macros in check

EGG FAST AND FAT FASTS

- Eat only eggs or only fat
- Will lose lean mass
 - Definitely will on fat fast
 - Likely on egg fast (hard to eat enough eggs)
- Good way to get sick of eggs
- Fat will result in less fat burned off the body

| (per 400 calories) | Bullet Proof Coffee | Eggs | Beef |
|--------------------|---------------------|--------|-------|
| Calcium (mg) | 6.8 | 132.0 | 23.5 |
| Magnesium (mg) | 0.6 | 26.4 | 40.7 |
| Phosphorus (mg) | 6.8 | 454.0 | 374.5 |
| Potassium (mg) | 6.8 | 332.0 | 791.8 |
| Iron (mg) | 0 | 3.1 | 7.1 |
| Zinc (mg) | 0 | 2.8 | 9.6 |
| Selenium (mcg) | 0.3 | 81.3 | 30.4 |
| Vitamin A (IU) | 709 | 1372.8 | 85.6 |
| Vitamin B6 (mg) | 0 | 0.3 | 0.9 |
| Vitamin B12 (mcg) | 0 | 2.9 | 4.3 |
| Vitamin C (mg) | 0 | 0.0 | 4.3 |
| Vitamin D (IU) | 2.9 | 229.7 | 15.0 |
| Vitamin E (mg) | 0.7 | 2.7 | 3.6 |
| Niacin (mg) | 0 | 0.2 | 10.3 |
| Folate (mcg) | 0.9 | 116.2 | 12.8 |
| Protein | 0.2 | 33.0 | 77.0 |

PROTEIN SPARING MODIFIED FASTS

- Eating mostly lean proteins and little energy (fat or carbs)
- Preserves lean mass
- Lose lots of body fat (similar to extended fast without negatives)
- Stay satiated
- Get lots of nutrients from nutrient dense animal proteins

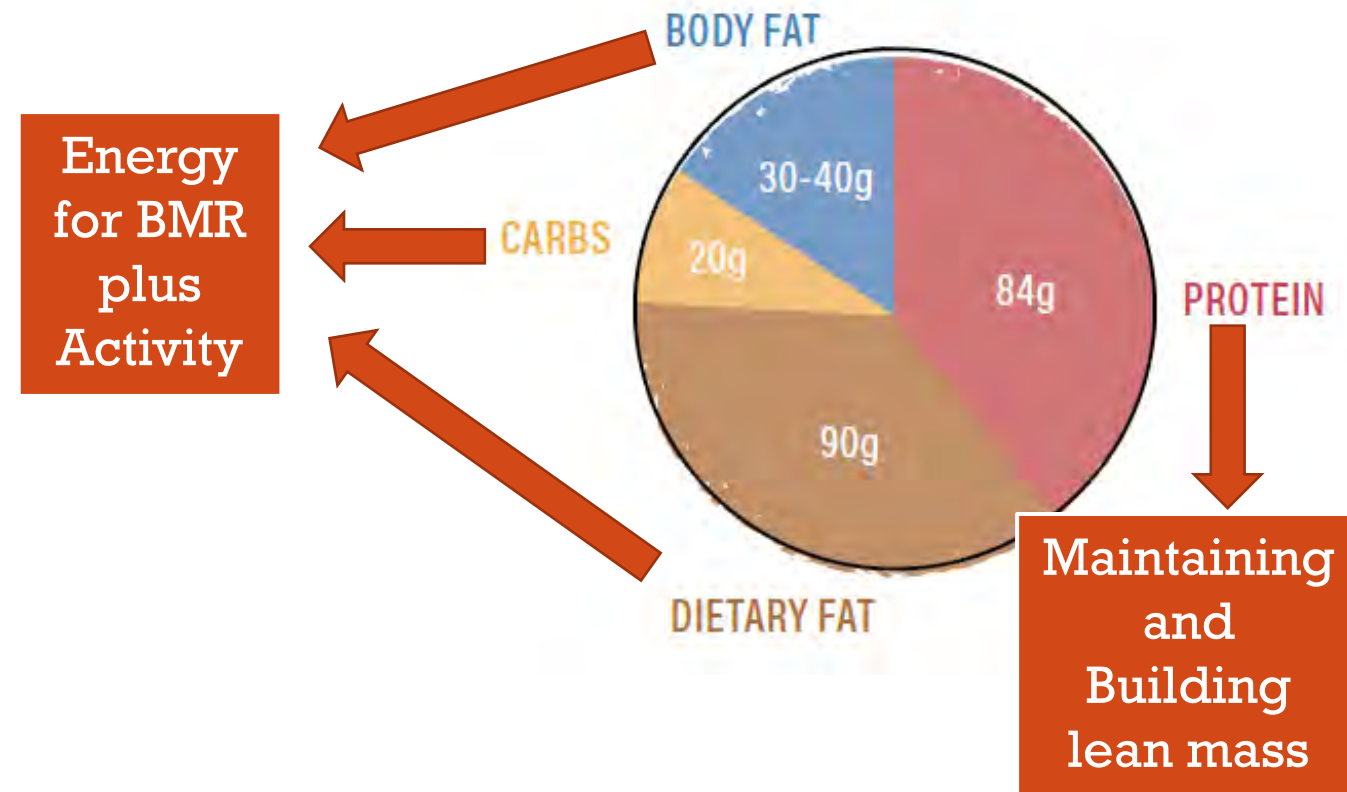


PROTEIN SPARING MODIFIED FASTS

A tool for speeding up results and breaking stalls.

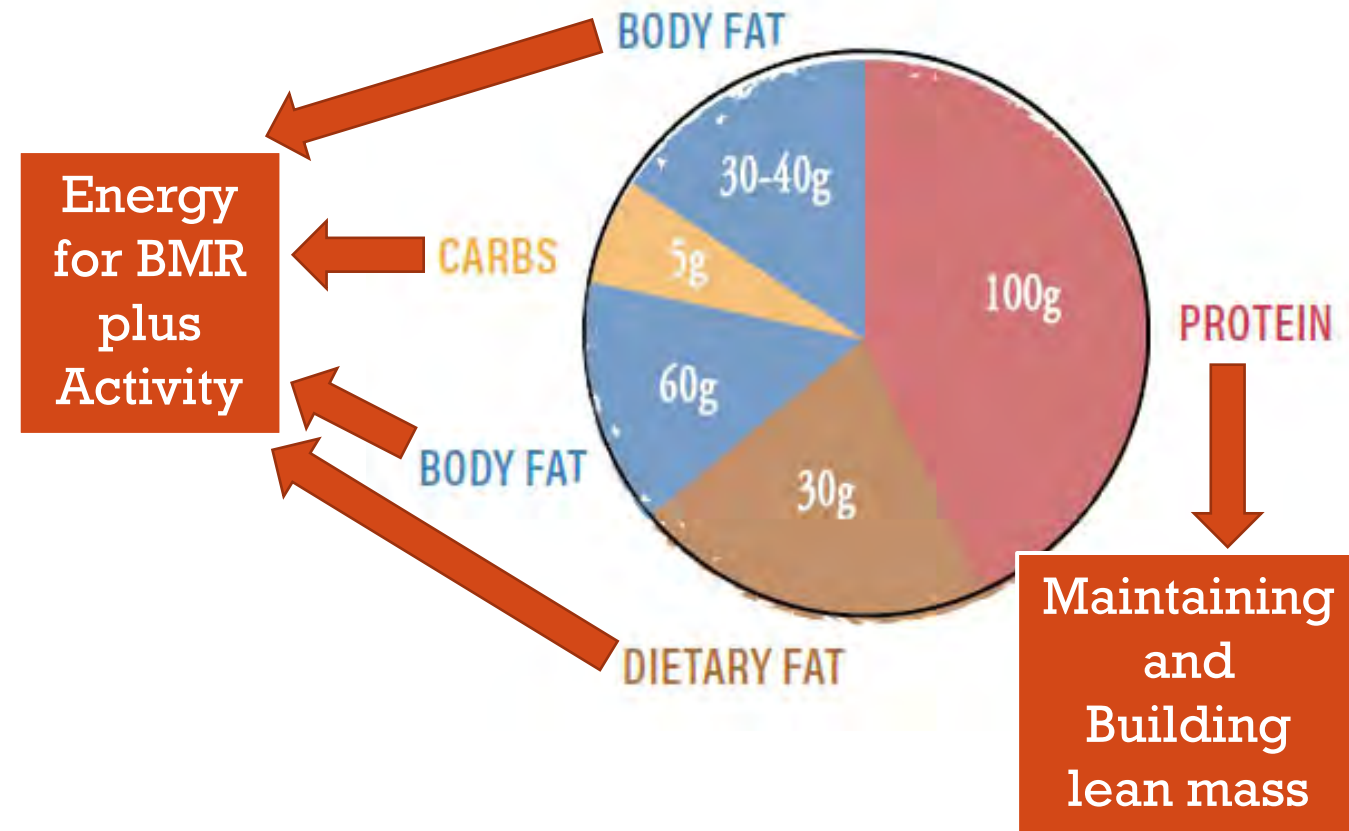
WELL FORMULATED KETO DIET

- Keep carbs low enough to “prime the pump” for fat burning
- Get enough protein to maintain lean mass
- Let the body use some of its own fat for fuel
- Enough fat to help keep you satiated



PROTEIN SPARING MODIFIED FAST

- Keep carbs near zero to limit fuel
- Get enough protein to maintain lean mass and maybe a little more to help with satiety
- Let the body use even more of its own fat for fuel
- Just enough fat for absorbing vitamins and making hormones



PSMF DAYS

- Great for breaking stalls or speeding up results
- Rapid fat loss can be achieved due to low dietary energy (fat and carbs)
- Forces body to tap more of its own fat for fuel
- Add a bit more protein than normal if needed
- Protein is very satiating making PSMF easier than you might think
- Try to keep carbs near zero
- Keep fat at 30g or so (maybe 30-40g)

HOW TO DO PSMF

- We recommend starting with 1-3 days a week, then normal keto fat loss macros the other days
- Even though you are eating very nutrient dense foods (animal proteins), you aren't eating much (like 600-700 total calories)
- So adding a few regular keto days each week ups the nutrients your body needs
- Tends to be easier to do once already fat adapted

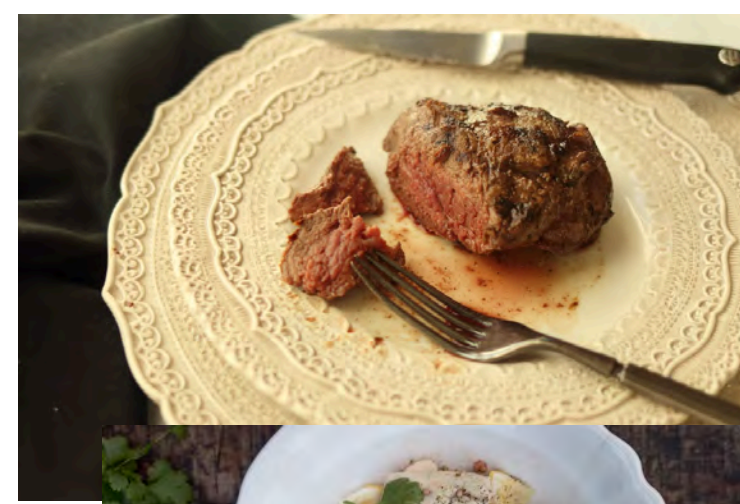
OVEREATING DUE TO LACK OF PROTEIN

- Regardless of age or body mass index, your appetite for protein is so strong that you will keep eating until you get enough protein!
 - If you do not prioritize protein, you will overeat.
 - Protein triggers appetite suppressing peptides
 - GLP-1 helps with appetite and weight maintenance because it has actions on the gastrointestinal tract as well as the direct regulation of appetite
 - GLP-1 in the gut and brain helps with hormones to trigger satiety.
 - Your body and brain continues to look for the nutrients
- Focus on protein instead of fat and carbs = satiation which = weight loss while fueling your body with nutrients.



WHAT DOES PSMF LOOK LIKE?

- Food can still be very tasty and satiating
- Lots of leaner animal proteins, limited plants
- Egg whites, chicken breast, fish, seafood, leaner cuts of meats like tenderloin, fillet mignon, pork loin

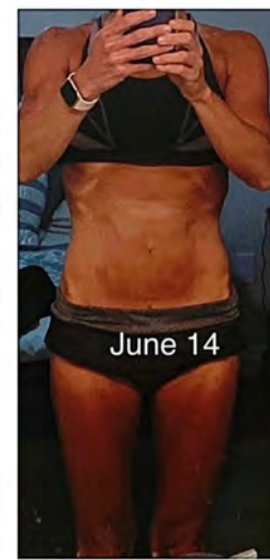
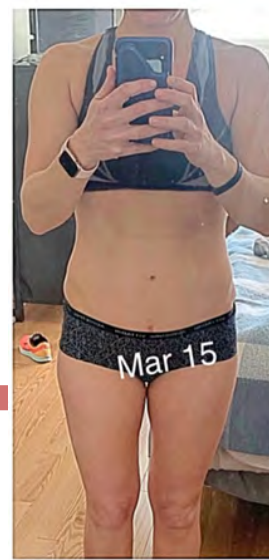


CLIENT RESULTS

■ Client testimonies using PSMF

“Thank you, Maria, for teaching us everyday what to do to lose weight and stay healthy! The Protein Sparing Modified Fast book is awesome! **I’m doing 3 days a week of PSMF and I’m losing weight again!!!** I only want 10 more lbs. and I’m good!!! Thank u again!”
MJ0

Results: **Week 1 of PSMF .. -3.5 lb.** 🌟
-53.5 lbs. down total!
I followed traditional keto Marco's from Jan - Apr.. saw amazing results. Things slowed down. I kept CONSISTANT (👉) even though I was frustrated not seeing "better" results. Last week I learned about PSMF and plugged in right away!
- 3 days of PSMF
- The rest of the week marco's from Maria and Craig Calculator
Shocked by the scale today!



“I ate all protein yesterday lost 2.6 pounds over night.”

This is definitely the most "curious" dish in the PSMF! It is the French Toast Porridge. It looks like oatmeal, is made from egg whites and almond milk, but it tastes like gourmet popcorn. Maple cinnamon poppycock. [Maria](#) you're a genius!





PROTEIN SPARING MODIFIED FASTING

NEW STUDY ON FASTING!

This Randomized Controlled Trial compared one group doing no fasting to a group doing 24 hour fasting (alternate day fasting). Both groups ate the exact same calories over the course of the week.

Here are the results:

- The Fasting group lost more lean mass (muscle)
- The Fasting group lost less fat mass (body fat)
- No significant differences in insulin sensitivity or post meal blood sugar levels
- Fasting didn't result in any favorable changes in gene expression of inflammation and Autophagy

KetoMaria.com

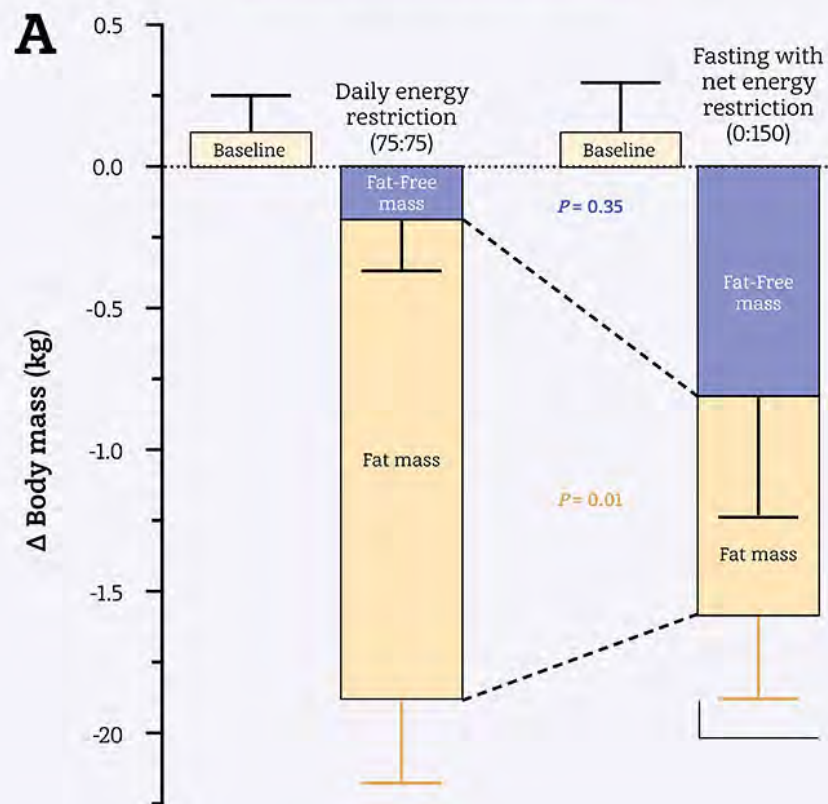
**Macros are more important
than any kind of fasting.**



- Alternate day fasting group lost more muscle
- Alternate day fasting group lost LESS body fat
- Alternate day fasting DID NOT result in changes in AUTOPHAGY or Inflammation gene expression!

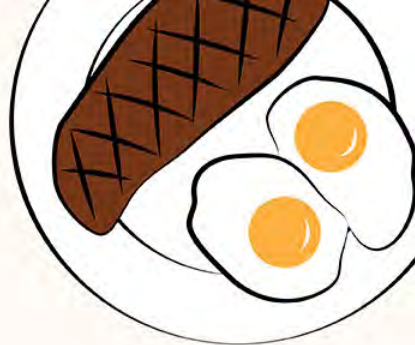
A randomized controlled trial to isolate the effects of fasting and energy restriction on weight loss and metabolic health in lean adults

KetoMaria.com



This new study by Templeman et al. doesn't look good for people that like alternate day fasting

- Alternate Day Fasting
 - lost less fat
 - lost more muscle



THERE IS A BETTER WAY

Want to get fast results without losing lean mass?

Protein Sparing Modified Fast is a great option.



KetoMaria.com

3.5 months of PSMF!



Which is better, water fasting or PSMF?



| Per Day | Water Fasting | % of RDA (per day) |
|-------------------|-----------------------------------|--------------------|
| Calcium (mg) | 0 | 0% |
| Magnesium (mg) | 0 | 0% |
| Phosphorus (mg) | 0 | 0% |
| Potassium (mg) | 0 | 0% |
| Iron (mg) | 0 | 0% |
| Zinc (mg) | 0 | 0% |
| Selenium (mcg) | 0 | 0% |
| Vitamin A (IU) | 0 | 0% |
| Vitamin B6 (mg) | 0 | 0% |
| Vitamin B12 (mcg) | 0 | 0% |
| Vitamin C (mg) | 0 | 0% |
| Vitamin D (IU) | 0 | 0% |
| Vitamin E (mg) | 0 | 0% |
| Niacin (mg) | 0 | 0% |
| Folate (mcg) | 0 | 0% |
| Fat per day | 0 | |
| Protein per day | 0 | |
| Carbs per day | 0 | |
| Lean Mass | 517g Lost (1.14 pounds muscle) | |
| Food Consumed | Water | |

| Per Day | 3 days of PSMF Day | % of RDA (per day) |
|-------------------|---|--------------------|
| Calcium (mg) | 192 | 6% |
| Magnesium (mg) | 453 | 36% |
| Phosphorus (mg) | 3348 | 159% |
| Potassium (mg) | 5967 | 42% |
| Iron (mg) | 27 | 110% |
| Zinc (mg) | 48 | 147% |
| Selenium (mcg) | 417 | 252% |
| Vitamin A (IU) | 1944 | 22% |
| Vitamin B6 (mg) | 12 | 286% |
| Vitamin B12 (mcg) | 18 | 232% |
| Vitamin C (mg) | 15 | 5% |
| Vitamin D (IU) | 45 | 3% |
| Vitamin E (mg) | 9 | 16% |
| Niacin (mg) | 129 | 268% |
| Folate (mcg) | 102 | 8% |
| Fat per day | 25 | |
| Protein per day | 133 | |
| Carbs per day | 5 | |
| Lean Mass | 0g Lost | |
| Food Consumed | Steak and Eggs Meatball Soup Protein Sparing Bourbon Chicken | |

KetoMaria.com

Fat mass lost? Likely the same or very similar.

So which protocol is healthier?

KETO
-Adapted-

PROTEIN SPARING MODIFIED FAST

- PSMF is a tool. It is something you can do occasionally for speeding up fat loss or breaking a stall (NOT FOR LEAN ATHLETES)
 - Instead of extended water fasting
- Reduce energy (carbs and fat) while still hitting your protein goal.
- Forces your body use even more stored fat for fuel = fat loss.
- PSMF helps keep you feeling full, added benefit of the high thermic with protein, which means that you effectively lose 30% of the calories you take in AND you get **NUTRIENTS!**
 - Helps avoid muscle loss and hair loss compared to water fasting.



HOW TO DO PSMF

- 1-3 days a week
 - normal keto fat loss macros the other days
- Even though you are eating very nutrient dense foods (animal proteins), you aren't eating much (like 600-700 total calories)
- Adding a few regular keto days each week ups the nutrients your body needs
- Tends to be easier to do once already fat adapted

BEEF

| | Beef cuts per 4 ounces | Calories | Fat | Protein | Carbs | P/E ratio |
|--|--------------------------|----------|------|---------|-------|-----------|
| | tenderloin steak | 115 | 3.0 | 22.2 | 0.0 | 7.40 |
| | Beef Heart | 187 | 5.4 | 32.2 | 0.2 | 5.96 |
| | Beef Kidney | 179 | 5.3 | 31.0 | 0.0 | 5.85 |
| | sirloin tip side steak | 190 | 6.0 | 34.0 | 0.0 | 5.67 |
| | Beef Liver | 216 | 6.0 | 33.0 | 5.8 | 5.50 |
| | tri tip steak | 200 | 11.0 | 23.0 | 0.0 | 2.09 |
| | shoulder steak | 204 | 12.0 | 24.0 | 0.0 | 2.00 |
| | chuck boneless pot roast | 240 | 14.0 | 28.0 | 0.0 | 2.00 |
| | brisket flat cut | 245 | 14.7 | 28.0 | 0.0 | 1.91 |
| | top sirloin steak | 240 | 16.0 | 22.0 | 0.0 | 1.38 |
| | t-bone | 170 | 12.2 | 15.8 | 0.0 | 1.30 |
| | porterhouse | 280 | 22.0 | 21.0 | 0.0 | 0.95 |
| | Beef tongue | 322 | 25.3 | 22.0 | 0.0 | 0.87 |
| | Rib Eye Steak | 310 | 25.0 | 20.0 | 0.0 | 0.80 |
| | Beef Back Ribs | 310 | 26.0 | 19.0 | 0.0 | 0.73 |
| | boneless short ribs | 440 | 41.0 | 16.0 | 0.0 | 0.39 |

WHO SHOULD DO PSMF?

- Gastric bypass patients: focusing on real protein rather than whey protein shakes.
- Patients with Insulin Resistance and Type 2 Diabetes:
 - The best way to reverse insulin resistance is to shrink fat cells while maintaining or growing muscle.
 - Protein sparing modified fasting helps shrink fat cells fast and ensure you won't lose muscle like with an extended fast!
- Men and women looking to speed up fat loss and break stalls.
- Bodybuilders and fitness competitors looking to shed body fat or cut before a competition.
- **We recommend Protein Sparing Modified Fasts to anyone looking to lose body fat, break a stall or just speed up their fat loss results. This is a fat loss tool, so if you are lean and don't want to lose body fat, PSMF is not for you.**



WHO SHOULDN'T DO PSMF

- Lean Athletes (unless you are body builder looking to cut)
- At are near goal weight
 - Focus more on body composition instead of the scale
- People treating epilepsy, seizures, Alzheimer's, Bipolar disease
 - Higher fat and blood ketones maybe be beneficial
- Pregnant women
- Breastfeeding women

WHAT DOES PSMF LOOK LIKE?

- Food can still be very tasty and satiating
- Lots of leaner animal proteins, limited plants
- Egg whites, chicken breast, fish, seafood, leaner cuts of meats like tenderloin, fillet mignon, pork loin



PROTEIN SPARING PROTEINS

9 HEALTHY LEAN PROTEINS

per 4 ounces



Chicken Breast
(Boneless, Skinless)
34g protein



White Fish
26g protein



Pork Loin
33g protein



Tuna
29g protein



Shrimp
26g protein



Beef Tenderloin
35g protein

KetoMaria.com



Egg Whites
13g protein



Turkey Breast
(Boneless, Skinless)
34g protein



Scallops
23g protein



Chicken Breast
(Boneless, Skinless)

34g protein
4 ounces cooked
P:E Ratio 9.6



White Fish

26g protein
4 ounces cooked
P:E Ratio 26.0



Pork Loin

33g protein
4 ounces cooked
P:E Ratio 2.9

KetoMaria.com



Tuna

29g protein
4 ounces cooked
P:E Ratio 29.0



Shrimp

26g protein
4 ounces cooked
P:E Ratio 7.2



Beef Tenderloin

35g protein
4 ounces cooked
P:E Ratio 3.5

KetoMaria.com



Egg Whites

13g protein
4 ounces cooked
P:E Ratio 13.0



Turkey Breast
(Boneless, Skinless)

34g protein
4 ounces cooked
P:E Ratio 14.5



Scallops

23g protein
4 ounces cooked
P:E Ratio 3.3

KetoMaria.com

KETO
— Adapted —
MARIA MIND BODY HEALTH



MISTAKES ON PSMF

MISTAKE #1

- On non-protein sparing days, eating things like
 - Quest Chips
 - Quest bars
 - LOTS of CHEESE and DAIRY
 - SNACKING ON NUTS
 - Cashews are very high in carbs
 - Carbs + Fat = weight gain



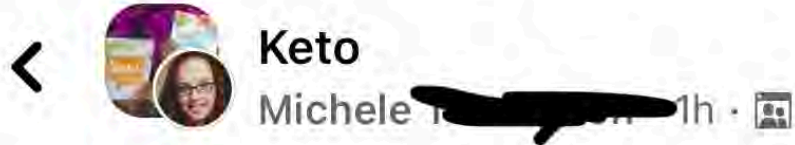
MISTAKE #2

- Doing PSMF every day
 - Metabolic adaptation can lower BMR and slow results
 - Many people say they feel so GREAT doing PSMF that they want to do it all the time.
- Just like you wouldn't water Fast every day, don't do PSMF every day



MISTAKE #3

- Overfeeding with carbs
 - Overfeeding days are higher fat and protein, not carbs.



I want to thank Maria SO much. I did a personal health assessment about 6 weeks ago and it has changed my life. I was already keto, but struggling. I have implemented the changes she suggested and I have finally given up dairy 🥹 and I feel amazing! I have pretty severe RA, along with other medical conditions and used to hate mornings because I was so stiff and it took me hours to get my you know what together. Now I can't wait to get up and start my day. I am loosing weight again, sleeping great, have the energy of a 20 year old and my chronic bloating and diarrhea has disappeared and I am just so grateful for Maria and Craig Emmerich for everything they are doing to try to help us all live our best life. I was getting very depressed for some time, but now I am hopeful and excited to live life again! If you haven't done it yet and are suffering PLEASE reach out to them and at the very least do a health assessment so you can get your life back ❤️

MISTAKE #4

- Drinking Alcohol
- Exogenous Ketones
- Supplements that hold you back:
 - Glucosamine
 - Fish Oil
 - Magnesium Oxide or Citrate
- Click [HERE to do a personalized supplement plan](#)



RESULTS & CONCLUSION

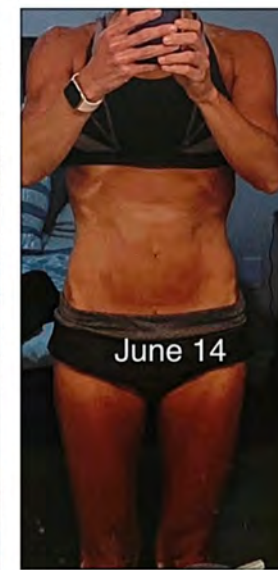
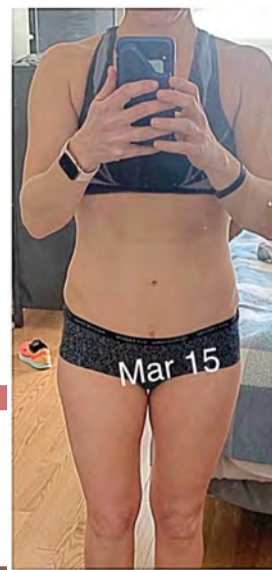
PSMF for Fat Loss

CLIENT RESULTS

■ Client testimonies using PSMF

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2y Like Reply

3



Jami M

This is the difference LCHF vs LCLF made in my life



2y Love Reply

4



KetoMaria.com

LOST 100 POUNDS
IN 2 MONTHS!



are never too
new go

73 and 77 years old



fit and health.
e food!

found your site, bought your books and switched to keto. As of this morning I weigh 181. Still have a way to go to my goal weight but I know keto will get me there! Oh, and I no longer suffer at all from my ulcerative colitis!!!" - Sam

Lost 104 pounds

"I have lost 135 lbs. in the last year and a half. My life is so different now, I had a son, after play minutes I would hours. I had Sle pressure my ha I to

Lost 135 pounds



We are blessed to have found your books to guide our keto journey. 1 year in with forever to go! This is 200 pounds of weight loss. - Lena

Lost 200 pounds Total

My heaviest weight was 456lbs. I needed a total lifestyle change. My heart was enlarging, I couldn't breathe, asthma, and the low carb way of eating weight so fast. I broke and have shed another total pounds. My can't lose pounds is amazing!!" - Ashley



Lost 254 pounds

"This is what your help has done for me...a mom of 5, and business owner with

Lost 150 pounds of fat, gained 20 pounds of muscle

OX" -Robyn



Comfort foods in particular has been the ultimate game changer. ...I am beyond excited as to what the future holds for my family and our Keto lifestyle. I have recommended these books to everyone. Literally every recipe I have made has been fantastic.



Lost 220 pounds

FREE MEAL PSMF PLANS USING OUR BOOKS!

- Click [HERE](#) for PSMF meal plans that have perfected macros for non-protein sparing day!
 - Dairy Free
 - Nut Free
 - AND DELICIOUS

30 Day Ketogenic Cleanse plus PSMF Meal Plans!

Here are BONUS meal plans for the [30 Day Ketogenic Cleanse](#) cookbook (click [HERE](#) to get it).
That include PSMF days from our new ebook [The Art of Fat Loss](#) (click [HERE](#) to get it).

To quickly find which cookbook each recipe is in, just go [HERE](#) to get our full [Recipe Index](#) of all our cookbooks!







Meal Plans with PSMF and Overfeeding Days





FREE MACRO CALCULATOR

- Get your personal macros done!
- Includes PSMF macros
- <https://mariamindbodyhealth.com/keto-calculator/>

What is your Goals?

| | | | |
|--|--|--|--|
|  Fast Fat Loss (with PSMF) |  Fat Loss |  Improve Body Composition (maintain or build muscle) |  Muscle or Gain Weight |
|--|--|--|--|

Activity
Set to Sedentary for quickest fat loss results.

| | | | |
|---|---|---|---|
|  Sedentary Desk job or seating work. |  Light Activity Housework, retail work, on your feet most of the day. |  Moderate Activity Factory work or other significant walking and movement. |  Heavy Activity Construction or other strenuous manual work. |
|---|---|---|---|

Results - Fast Fat Loss (with PSMF)
Remember that protein is a goal or minimum. Going over isn't a problem as long as calories (Fat) are under. Fat and carbs are a limit to stay under.

CONCLUSION

- Once you are keto adapted (after a couple weeks of going keto) dial the dietary fat down to allow your body to use more of its own fat for fuel.
- If you hit a stall or want to speed up results, add 2-3 days a week of PSMF.
- Don't fear protein
 - It is nutrient dense
 - It enables our bodies to stay strong
 - It aides in fat loss
- Insulin isn't the enemy; chronically elevated insulin is.



BOOKS AND SERVICES

How to get more help.



FREE YOUTUBE COOKING VIDEOS

- Click here to watch the videos and subscribe to our new YouTube channel and never miss a video!
<https://m.youtube.com/channel/UCyZia0TtezGqjGcXwXJhDoQ?s=1>
- Tell your friends! Keto food can be delicious and easy to make!

EVENTS AND TRIPS WITH MARIA EMMERICH

ITALY

CROATIA

SPAIN

PERU

PARIS

PORTUGAL



KETO TRIPS

- Trips of a lifetime!
 - Eating delicious keto and carnivore meals!
 - Private VIP tours
 - Even stayed in a CASTLE!
- Go here to check them out:
<https://mariamindbodyhealth.com/events/>

PSMF COOKBOOK

Pure Protein Cookbook

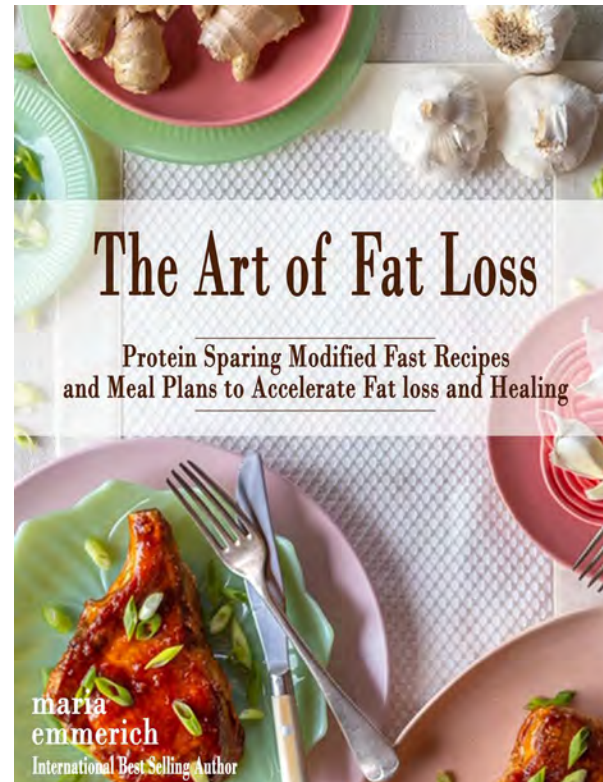
protein sparing recipes & meal plans to speed up fat loss

Coming Soon!

- [CLICK HERE](#) to get our PSMF eBook.

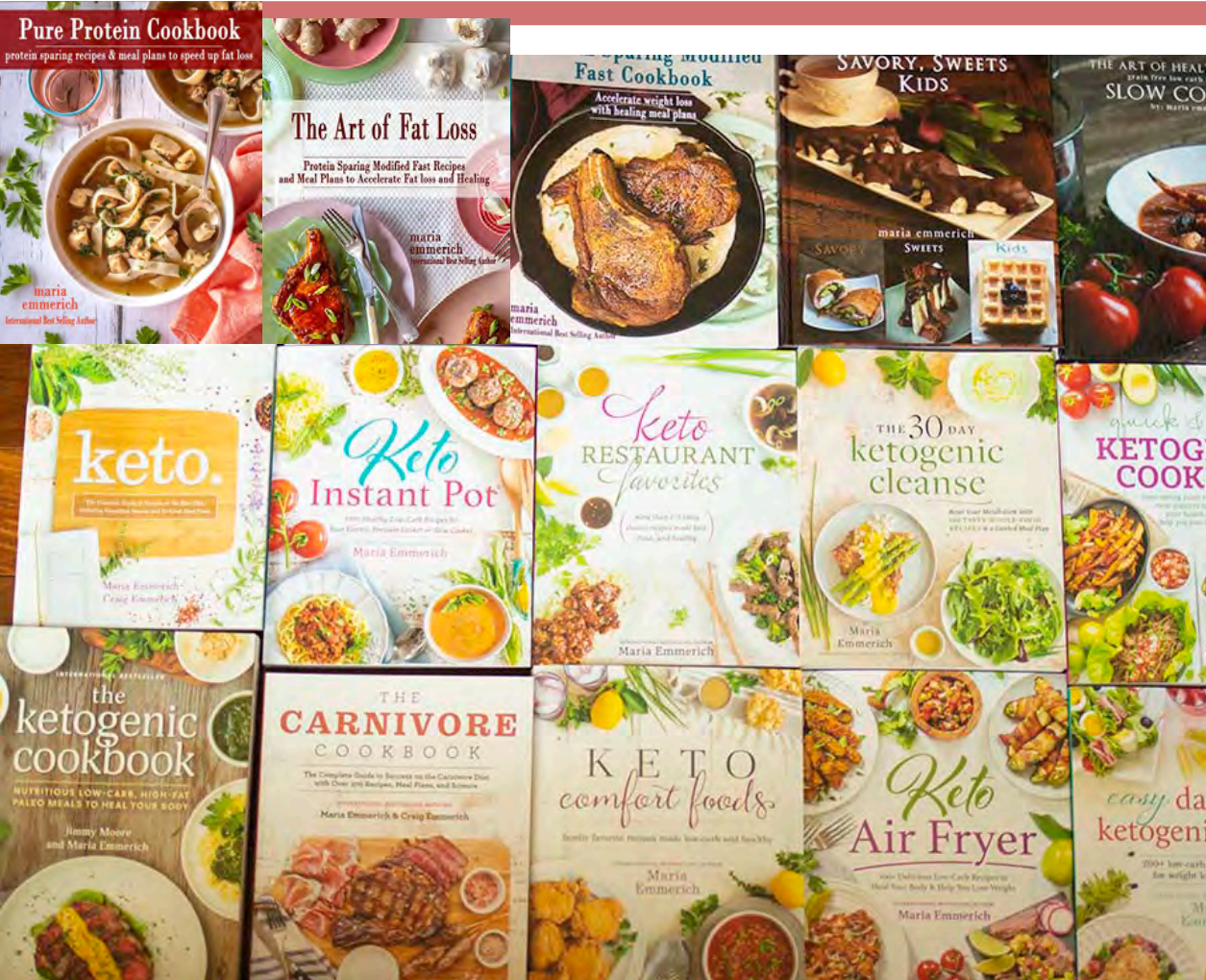


- Click [HERE](#) for the Art of Fat Loss!



maria
emmerich
International Best Selling Author

MY BOOKS



Sugar Free Kids: <https://amzn.to/3DeagwC>

Keto Comfort Foods: <https://amzn.to/2LEBgNM>

Keto Air Fryer: <https://amzn.to/2ZGnsXB>

The Carnivore Cookbook: <https://amzn.to/2tfjQzM>

Quick and Easy Ketogenic Cooking (Halle Berry's favorite)
<https://amzn.to/2AaRGbV>

The 30 Day Ketogenic Cleanse: <https://amzn.to/2JV8WE>

Keto: <https://amzn.to/2OkqIBE>

Keto audio book (read by me): <https://amzn.to/2JW6Ykr>

Keto Restaurant Favorites (which is my favorite!): <https://amzn.to/2mJmS8V>

Easy Dairy Free Ketogenic Recipes: <https://amzn.to/2JV3gaJ>

Keto Instant Pot Recipes: <https://amzn.to/2uQDfVA>

The Ketogenic Cookbook: <https://amzn.to/2Oii7zK>

And other favorite self-published books: <http://keto-adapted.com/product-category/ebooks/>

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