



The New Face of Weight Loss

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“We Have A Shot For That”

Disclosure: Dr. Clearfield has No Relevant Financial Relationships with Ineligible Companies to Disclose."



Objectives

1. **A History of Diets**
2. **How Did We Get Here? Up to 70% of US Adult Population is Obese in Some Counties?**
3. **The Four Pillars of Weight Loss**
 - **Chronic Inflammation**
 - **Nutrition**
 - **Hormone Balancing**
 - **Mind/Body/Lifestyle**
4. **Practitioner Interventions**
5. **Spoiler Alert: “Off-Label”**
 - **“The Game Changer”**

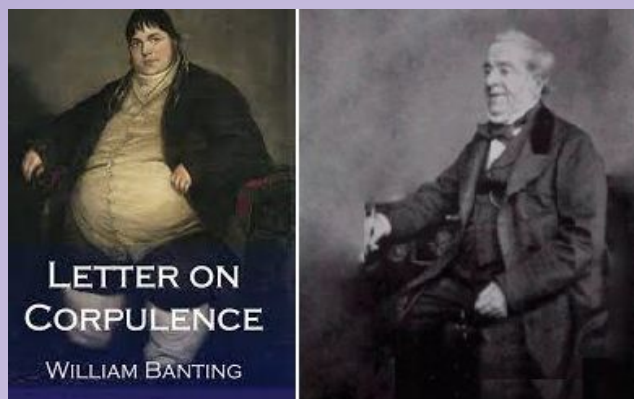
A Brief History of Diets

Diets=Confusion

We Are All Geniuses



A Brief History of Diets



1862

1869

“Of all the parasites that affect humanity I do not know of, nor can I imagine, any more distressing than that of obesity.”

1. Banting, William, “A Letter of Corpulence,” Hanson, 59, Pall Mall, Kensington, England; P.1 (1869)

“To Bant”

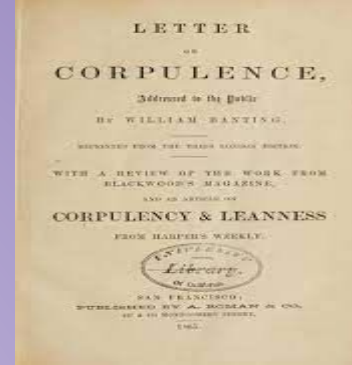
“I could not stoop to tie my shoe,

**Nor attend to the little office's humanity
requires without considerable pain and difficulty,
which only the corpulent can understand.**

**I have been compelled to go downstairs slowly
backward, to save the jar of increased weight upon
the ankle and knee joints, and been obliged to puff
and blow with every slight exertion, particularly
that of going upstairs.”**

**2. Banting, William, “A Letter of Corpulence,” Hanson, 59, Pall
Mall, Kensington, England; P.1 (1869)**

The Problem of Corpulence



1. "I have spared no pains to remedy this by low living.
2. Moderation and light food was generally prescribed
3. I had no direct bill of fare to know what was really intended
4. Consequently, brought my system into a low impoverished state, without decreasing corpulence
5. Many obnoxious boils appeared with two rather formidable carbuncles, for which I was ably operated upon.
6. I was then *fed into increased obesity.*"

3. <http://www.lowcarb.ca/corpulence/>

The “Cure for Corpulence”

- 1. 4 moderate meals/d vs. 3 large ones**
- 2. Vegetables of all kinds grown above ground except peas**
 - a. (Weight is gained from eating peas).**
- 3. Fruit is less likely to increase weight if cooked without sugar rather than eaten raw.**
- 4. Fat is to be skimmed off gravies and jellies.**
- 5. Expressly prohibited:**
 - a. Bread, milk, butter, beer, sugar, and potatoes.**
 - b. All root crops, including carrot, turnip, parsnip, swede and beetroot.**



The Cure for Corpulence-Summary

Daily Routine

On rising- 1 tablespoonful of an alkaline corrective cordial to “carry away the dregs of acidity left in the stomach after digestion.”

9 A.M.-Five to six ounces of: Beef, mutton, kidneys, broiled fish, bacon, or cold meat (no pork or veal)

-1 large cup of tea or coffee (no milk or sugar)

-1 small biscuit, or one ounce of dry toast; making together six ounces solid, nine ounces liquid.



The Cure for Corpulence-Summary

2 P.M.-Five or six ounces of any fish except salmon, herrings, or eels, any meat except pork or veal

-Any vegetable except potato, parsnip, beetroot, turnip, or carrot

- One ounce of dry toast, fruit out of a pudding not sweetened

-Any kind of poultry or game

-Two or three glasses of good claret, sherry, or Madeira

-Champagne, port, and beer are forbidden



The Cure for Corpulence-Summary

6PM Tea- A cup of tea without milk or sugar

- Two or three ounces of cooked fruit, a rusk or two

9 P.M.-Three or four ounces of meat or fish, similar to 2 pm, a glass or two of claret or sherry, and water.

Nightcap-A tumbler of grog—(gin, whiskey, or brandy, without sugar)—or 1-2 glasses of claret or sherry.

Five ounces of sugar distributed equally over seven days will “augment my weight nearly 1 pound/week.



A Stout Lot These “Banterers” Were!

Daily KCAL intake	1714	Calorie Allocation:	
Protein Intake (gms)	115 (27% of kcal)	Breakfast	319
Fat Intake (gms)	42 (22% of kcal)	Dinner	835
CHO Intake (gms)	119 (28% of kcal)	Tea	240
Alcohol (gms)	56 (23% of kcal)	Supper	320

4. Bray, George A., “*Commentary on Banting's Letters,*” *Obesity Research*, Vol 1, No. 2 March 1993, p. 148-151.



Brief History of Diets

- **8000 B.C.**-Stone Age man eats meat, meat, some plant leaves, and more meat.
- **1558**-First Diet Book "*The Art of Living Long*" by Luigi Cornaro. Limit food intake to 12 ounces per day, mainly egg yolks and wine to 14 ounces per day.
- **1614**-Giacomo Castelvetro, an Italian living in England, touts the benefits of a produce-rich diet in *The Fruits, Herbs, and Vegetables of Italy*. The British are unconvinced.
- **1825**-Jean Anthelme Brillat-Savarin "*The Physiology of Taste.*" The cause of obesity is a natural predisposition in conjunction with the "floury and feculent substances which man makes the prime ingredients of his daily nourishment." He added that the effects of this fecula -- i.e., "potatoes, grain or any kind of flour" -- were seen sooner when sugar was added to the diet.
- **1860s**: The *Letter on Corpulence* outlines a diet plan that emphasizes meat and vegetables and avoids bread, pastry, and potatoes.
- **1930s**: Studio-system starlets subscribe to the Hollywood diet: half a grapefruit before every meal, coupled with restrictions to limit calories



Brief History of Diets

- **1950s: *Cabbage Soup Diet*.** A crash diet of unlimited cabbage soup for a week—a rumored weight-loss remedy—doesn't keep off the pounds and can be flatulence inducing, but nonetheless catches on.
- **1958: Ancel Keys :”7 Countries Study”** links dietary fat consumption to coronary artery disease.
- **Mid-1950s:** Urban legend has it that opera singer Maria Callas dropped 65 pounds on the *Tapeworm Diet*, allegedly by swallowing a parasite-packed pill.
- **1960: Nathan Pritikin and Dr. Lester Morrison** Postulated that Animal Fat Deprivation as seen in WW2, leads to lower cholesterol and heart disease. *“Pritikin Plan”*-< 10% Saturated Fat Diet
- **1963: *Weight Watchers*** is founded by Jean Nidetch, a self-described "overweight housewife obsessed with cookies."

A Brief History of Diets

- **1960s:** An American physiologist living in Salerno, Italy, publishes the first scientific study on the *Mediterranean* way of eating.
- **1970s:** The *Grapefruit Diet* experiences a resurgence in popularity after it's mistakenly associated with the Mayo Clinic.
- **1970:** *The Sleeping Beauty Diet*, which involves sedation, is rumored to have been tried by Elvis.
- **1972:** Dr. Robert Atkins publishes his *Diet Revolution*, which claims that avoiding carbs will peel off pounds and lower the risk of metabolic syndrome, diabetes, and high blood pressure.
- **1975:** *The Stone Age Diet* introduces modern man to his dietary history.
- **1975:** Miami doctor Sanford Siegal introduces a “specially formulated” *Cookie Diet*.” Patients nosh six to nine cookies a day, followed by sensible meals.

A Brief History of Diets

- **1977: Slim-Fast** -- a shake for breakfast, a shake for lunch, then a sensible dinner -- becomes a diet staple.
- **1978:** Dr. Herman Tarnower publishes "**The Complete Scarsdale Medical Diet.**" Two years later he is shot by his girlfriend.
- **1979: Trade Name-**a diet drug containing *phenylpropanolamine* (PPA), appears on drugstore shelves. Its formula changes after PPA is linked to an increased risk of stroke in 2000.
- **1988: *Optifast and Medifast***-Protein Sparing Modified Liquid Protein Diets. Eat 0-1 meal/d with protein shakes. Gallstones as side effect.
- **1990s:** The *Atkins Diet* experiences a revival with the release of a second book.
- **1995:** The *Zone Diet*, which calls for a specific ratio of carbs, fat, and protein at each meal, begins to attract celeb fans.
- **2003:** The *South Beach Diet* cross-pollinates the Atkins and Mediterranean diets.

A Brief History of Diets

- **2010s:**
Repackaged as the Paleo diet, the ancient meal plan of meat, eggs, greens, fruits, and zero processed foods becomes the preferred diet of CrossFit enthusiasts.
- **2011:** The HCG Diet, which combines a fertility drug with a strict 500- to 800-calorie-a-day regimen, invites interest
- **2013:**
The Mediterranean diet (lean meats, produce, olive oil, nuts, wine, and whole grains) is found to reduce the chance of heart attacks, strokes, and death from heart disease by 30 percent.
- **2014**
- **Naltrexone-Bupropion Approved for Weight Loss**

A Brief History of Diets

2015s-Present-

GLP-1 (Glucagon like Peptide 1)

Agonists developed to treat T2DM exhibits a side effect of significant, predictable weight loss

MOA:

Stimulates Insulin Secretion; Inhibits Glucagon

Controls Appetite and Cravings

Slows Emptying Time from Stomach

Increases Resting Energy Expenditure

Improves Sleep

Mean 14.9 % Weight Loss in 68 Weeks

5. John P.H. Wilding, D.M., Rachel L. Batterham, M.B., B.S., Ph.D., “Once-Weekly Semaglutide in Adults with Overweight or Obesity” **March 18, 2021** N Engl J Med 2021; 384:989-1002 DOI: 10.1056/NEJMoa2032183

The Four Pillars of Weight Loss

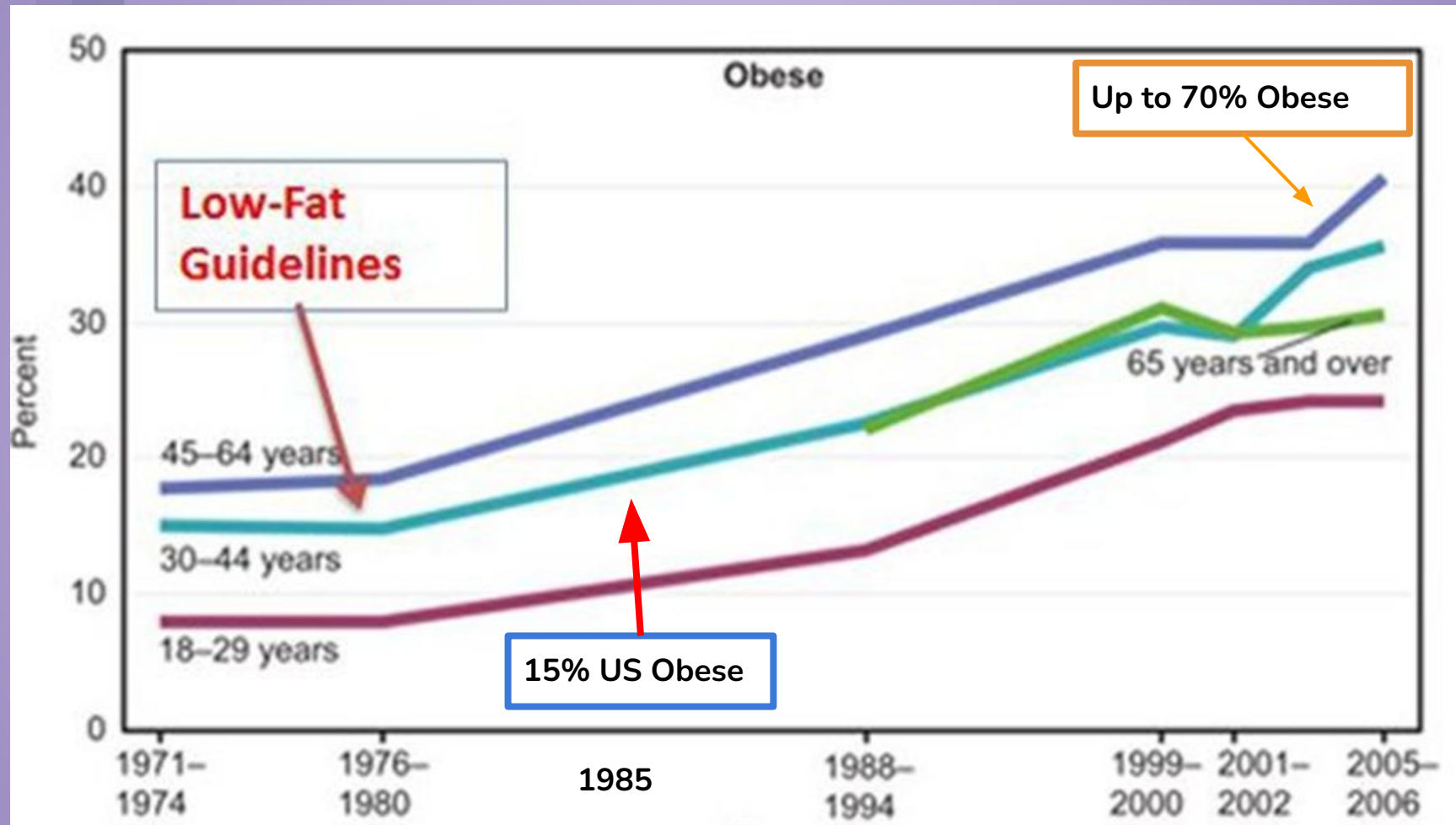


Hypothesis: Low Fat Diet=Lower CV Dx:

- Beginning in the early 1980's the low fat, high carbohydrate diet was deemed the holy grail of dietary intake.
- Were we ever wrong!
- Within 5 years of the medical community's acceptance of the low fat diet, a major health crisis developed in the United States. Americans became fat.
- As counter intuitive as it seems:

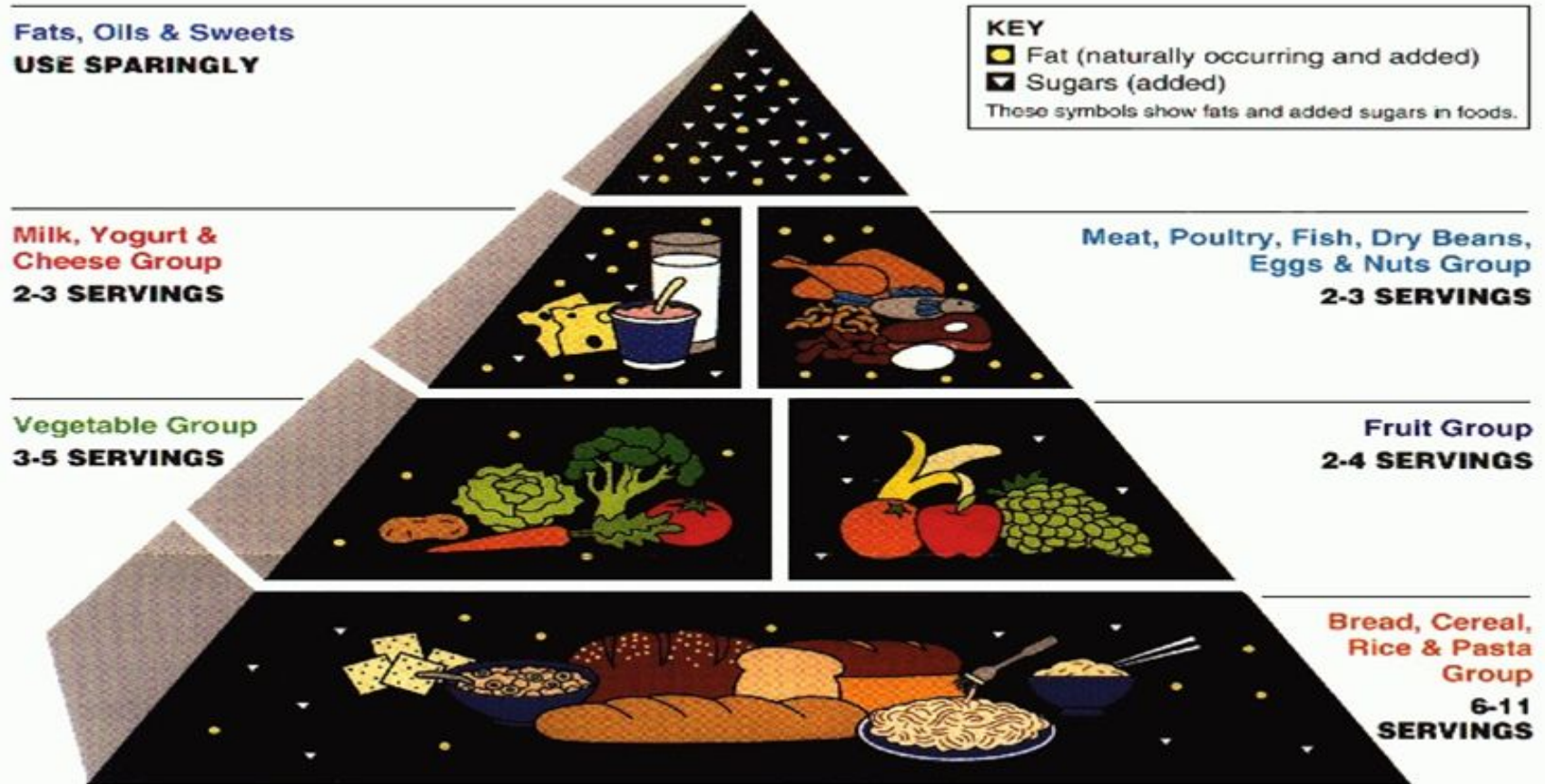
Low Fat=Fat

Obesity and the Low Fat Diet



What Happened? We (Doctors) Happened

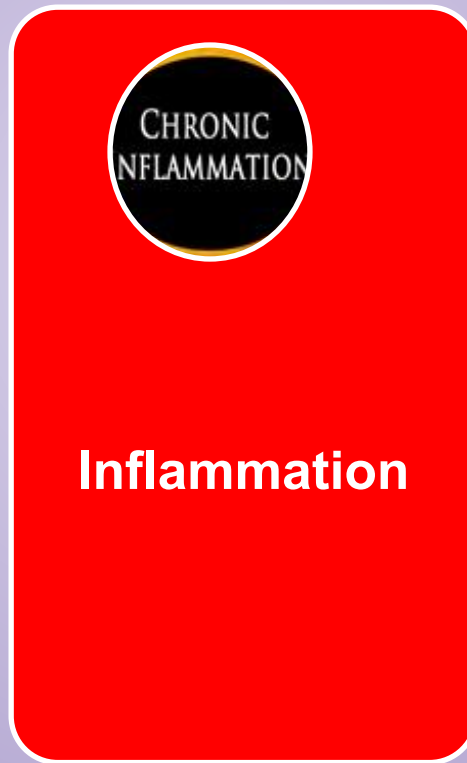
A Funny Thing Happened on the Road to a Low Fat Diet



What Happened? We (Doctors) Happened A Funny Thing Happened on the Road to a Low Fat Diet

Silent Inflammation and Obesity

I



Concept of Chronic Inflammation:

Centralia, Pa.



The Face of Silent Inflammation: Centralia, Pa.



Underground Mine Fire May 27, 1962-Burns Even Now



On Fire Underground for 60 Years and Counting



Measuring Inflammation

- ***c Reactive Protein***, a marker for inflammation produced in the liver, is elevated in the presence of vascular disease.
-
- **“Normal c RP” 0-3 mg/Dl** **“Optimal cRP” <1.0 mg/Dl**
- Inflammation occurs primarily in the cardiovascular system.
- Our markers identify inflammatory response, and if treated early, can delay and even reduce heart disease, diabetes, obesity, Alzheimer's disease among others.

8. <https://www.testing.com/tests/c-reactive-protein-crp/>

Elevated c Reactive Protein Remedies

- **Omega 3 Fatty Acids**
 - Supports Cardiovascular Health
 - Supports Healthy Mental Functioning
 - Supports Healthy Glucose and Insulin Metabolism
 - Anti-inflammatory
 - Antiplatelet Activity
- **Turmeric (Curcumin)**
 - Anti-inflammatory
 - Immune Support
 - Liver detoxification
 - Combine w Black Pepper Extract
 - Neutralizes free radicals

9. Bowden RG, Wilson RL, Deike E, Gentile M. Fish oil supplementation lowers C-reactive protein levels independent of triglyceride reduction in patients with end-stage renal disease. *Nutr Clin Pract*. 2009 Aug-Sep;24(4):508-12. doi: 10.1177/0884533609335376. Epub 2009 May 21. PMID: 19461006.

10. Gorabi, A. M., Abbasifard, M., Imani, D., Aslani, S., Razi, B., Alizadeh, S., Bagheri-Hosseiniabadi, Z., Sathyapalan, T., & Sahebkar, A. (2022). Effect of curcumin on C-reactive protein as a biomarker of systemic inflammation: An updated meta-analysis of randomized controlled trials. *Phytotherapy Research*, 36(1), 85– 97. <https://doi.org/10.1002/ptr.7284>

Measuring Inflammation

Lp-PLA2: (O: < 200, M: 200-234, H: > 234)

- **Specific for vascular inflammation and is proatherogenic**
- This enzyme cleaves oxidized phospholipids generating proinflammatory molecules and oxidized fatty acids
- Lp-PLA2 activity is increased with a high carb/high sugar diet
- ***A marker of plaque vulnerability***
- It is a prognostic indicator for cardiovascular events and acute coronary events

RX: Niacin, O3 F.A., Statins, Fibrates

11 De Stefano A, Mannucci L, Tamburi F, Cardillo C, Schinzari F, Rovella V, Nisticò S, Bennardo L, Di Daniele N, Tesauro M. Lp-PLA₂, a new biomarker of vascular disorders in metabolic diseases. *Int J Immunopathol Pharmacol.* 2019 Jan-Dec;33:2058738419827154. doi: 10.1177/2058738419827154. PMID: 30706739; PMCID: PMC6360470..

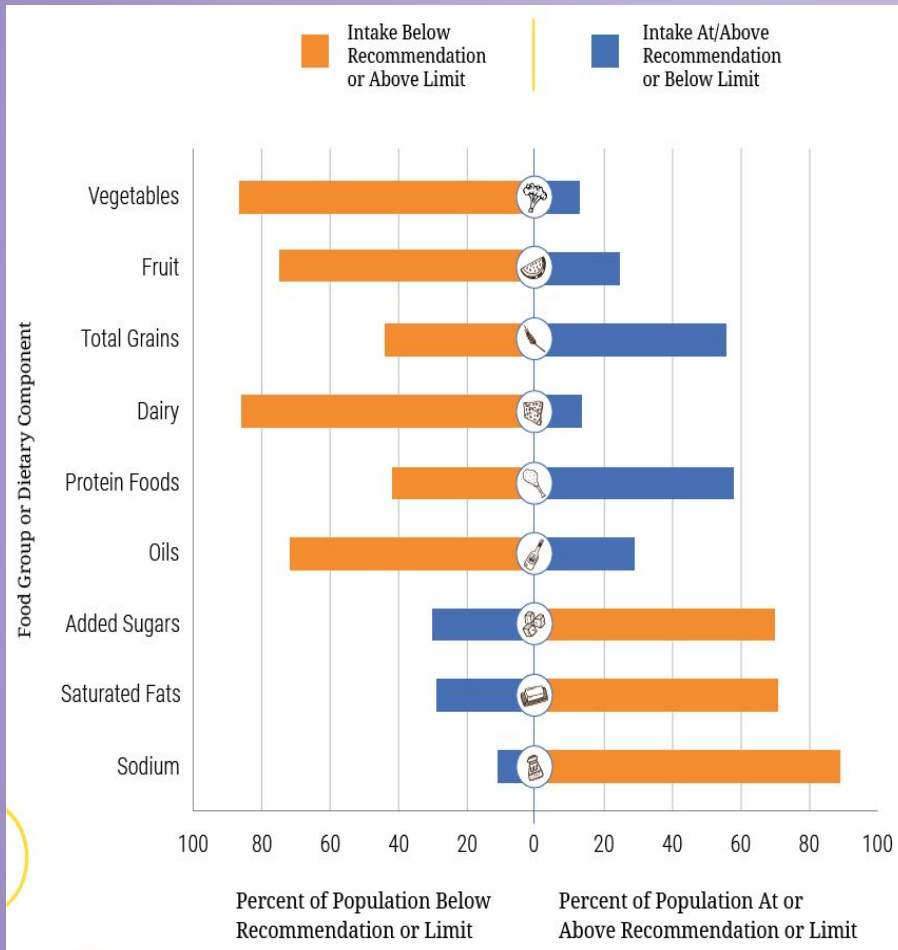
Measuring Inflammation

- **Myeloperoxidase (MPO)**
 - **O: < 350, M: 350-633, H: > 633**
 - **A cardiac specific biomarker**
 - A proatherogenic enzyme released from activated neutrophils
 - during degranulation at sites of vascular injury
 - MPO oxidizes LDL → foam cell production
 - Abundant in ruptured plaque
 - **RX: AGE, Curcumin, POM Seeds, Quercetin**



NUTRITION

The Standard American, S.A.D.



Recommended:

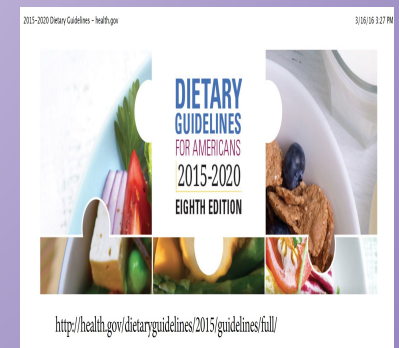
Nutrient-rich foods

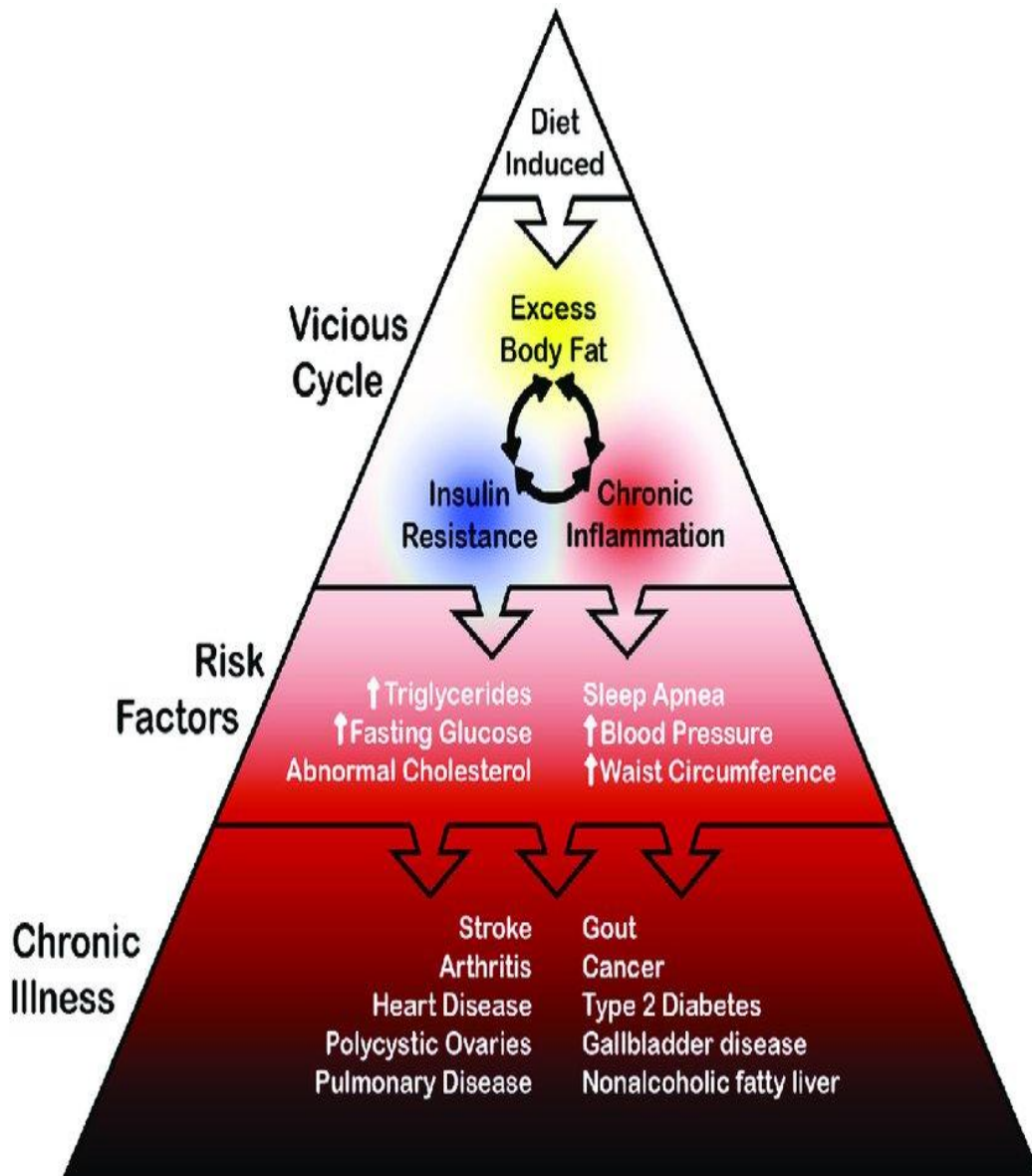
- Fruits, vegetables, whole grains
- Low-fat dairy, seeds/nuts

Limit inflammatory ingredients

- Rich in salt, sugar, saturated fat

13. <https://health.gov/our-work/nutrition-physical-activity/dietary-guidelines/previous-dietary-guidelines/2015>

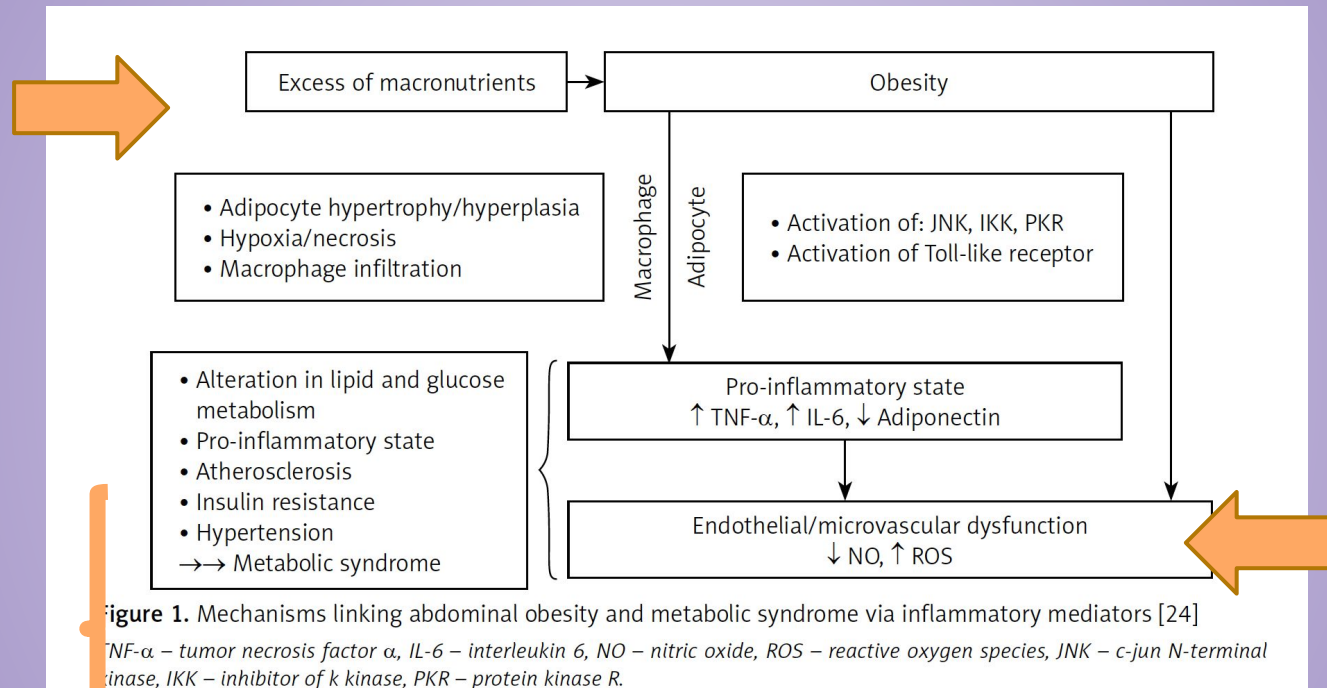




Diet and Inflammation

14. <https://www.nowleap.com/understanding-diet-induced-inflammation/>

Macronutrients and Chronic Inflammation



Micronutrients and Chronic Inflammation

<i>Vitamin</i>	<i>Diseases and their symptoms</i>	<i>Available from</i>
A (Retinol)	poor vision, night-blindness	spinach, carrots, butter, mangoes
B ₁ (Thiamine)	extreme weakness, beri-beri	eggs, meat, yeast
B ₂ (Riboflavin)	retarded growth, bad skin	green leafy vegetables, beans, peas, milk
B ₁₂ (Cyanocobalamin)	anaemia	non-vegetarian food like meat
C (Ascorbic acid)	scurvy, swollen gums, loose teeth	lime, lemon, oranges
D (Calciferol)	rickets, brittle bones in children which break or bend easily	milk, fish, liver oil
K (Phylloquinone)	excessive bleeding due to injury	green leafy vegetables
Diseases Caused due to Deficiency of Minerals		
<i>Name of minerals</i>	<i>Diseases and their symptoms</i>	<i>Available from</i>
Calcium	brittle bones, excessive bleeding, bad muscular movement	milk, green leafy vegetables
Phosphorus	bad teeth and bones	pulses, cereals, milk
Iron	anaemia, lack of red blood cells	green vegetables, pulses, meat
Iodine	goitre, enlarged thyroid gland	fish, salt from sea water
Copper	low appetite, retarded growth	pulses and leafy vegetables

Essential Micronutrients

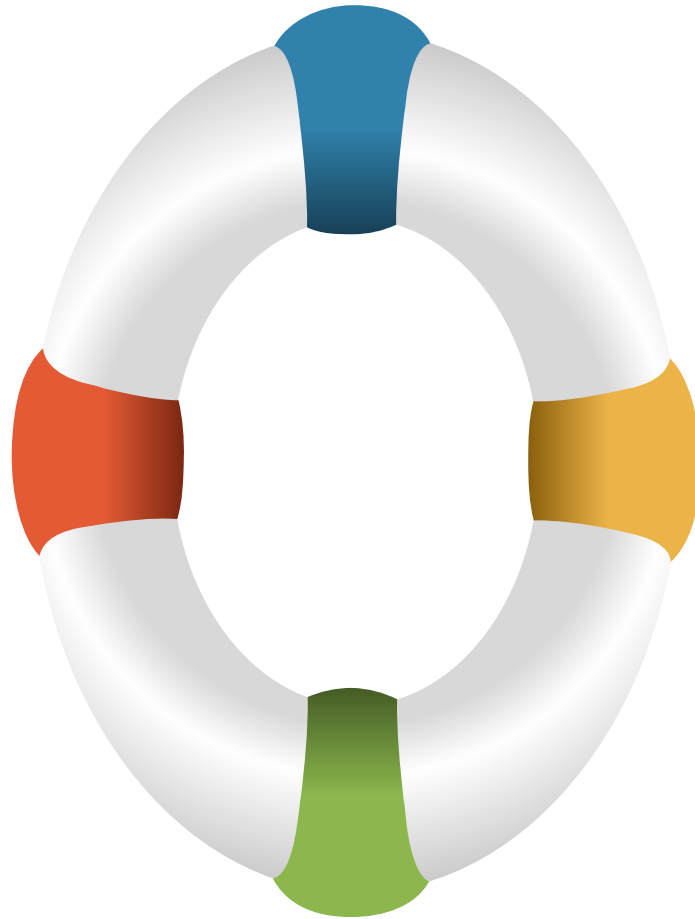
Vitamins

A,C,E,D,K, B6, B12
CHOLINE, BIOTIN
PANTOTHENIC ACID,
FOLIC ACID
THIAMIN,
RIBOFLAVIN, NIACIN

Fats

OMEGA-3, OMEGA-6 FA

WATER

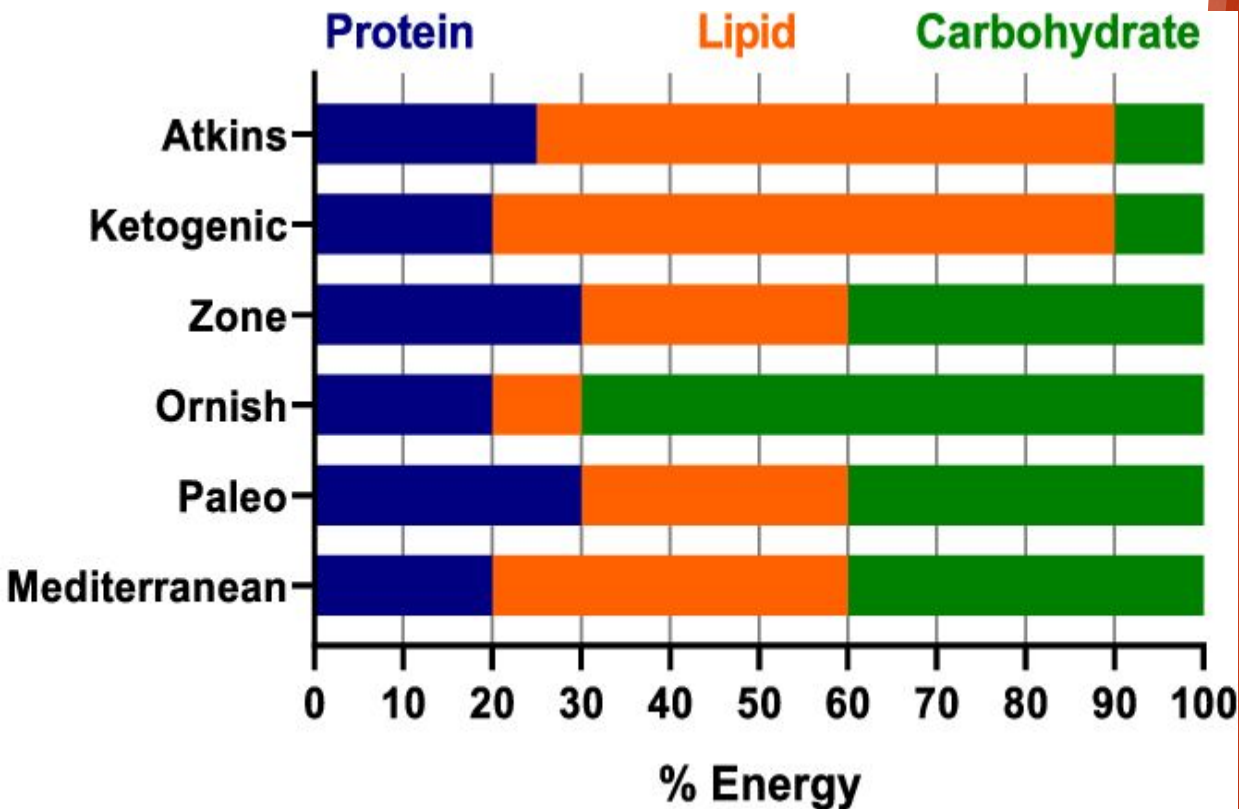


Minerals

CALCIUM, MAGNESIUM,
PHOSPHOROUS, SODIUM,
POTASSIUM, CHLORIDE,
ZINC, COPPER, CHROMIUM,
MANGANESE, SELENIUM,
IODINE, IRON, MOLYBDENUM

Amino Acids

LEUCINE, VALINE,
ISOLEUCINE
LYSINE, METHIONINE,
TYROSINE, ARGININE,
TRYPTOPHAN,
THREONINE, HISTIDINE



Popular Weight Loss Diet Macronutrient Content

18. Freire, Rachel. "Scientific evidence of diets for weight loss: Different macronutrient composition, intermittent fasting, and popular diets." *Nutrition* 69 (2019): 110549 .

The Laboratory of Nutrition

- **Fasting Glucose**-Everything consume in the form of food and drink converts, in the body, to glucose. Chronic elevated blood sugar levels (>100) is a marker for diabetes. For every point over 84 your risk of diabetes is elevated by 6%.
- **“Normal” Blood Sugar”** 65-99
- **“Optimal” Blood Sugar”** 65-84
- **Risk of Glucose Abnormality Within 5-10**
- **Years=FBS-84 x 6%**
- i.e. FBS = 94 Risk = $94-84=10 \times 6 \% = 60\%$

The Laboratory of Nutrition

- **Insulin**, produced in the pancreas, enables cells to use glucose for fuel. Elevated insulin levels indicate poor utilization resulting in a proinflammatory state.
- “Normal” Insulin 2.6-24.9 “Optimal”
Insulin <5 **Your Insulin**

- **Insulin Resistance (FBS x Fasting Insulin/405)**
- “Normal” IR <2.9 “Optimal” IR
<1.9

- 20. Birjais, R., Mourya, A.K., Chauhan, R. *et al.* Prediction and diagnosis of future diabetes risk: a machine learning approach. *SN Appl. Sci.* 1, 1112 (2019). <https://doi.org/10.1007/s42452-019-1117-9>



The Laboratory of Nutrition

- **Hemoglobin A1C**
 - Average blood sugar over 90 days (3 month)
 - Represents the portion (%) of hemoglobin coated (glycated) with glucose from the bloodstream

Normal < 5.7%

Prediabetes 5.7-6.4%

Diabetes >6.5%

False Positives due to: sickle cell anemia, thalassemia, anemia, kidney failure, liver disease, or blood transfusion

False Negatives due to: high altitude, pregnancy, hemorrhage, blood transfusion, erythropoietin administration, iron supplementation, hemolytic anemia, chronic kidney failure, liver cirrhosis, alcoholism, sickle cell anemia and spherocytosis

110. Eyth E, Naik R. Hemoglobin A1C. [Updated 2022 Mar 15]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK549816/>

The Laboratory of Nutrition

- **Homocysteine**-Elevated homocysteine indicates B complex or folic acid deficiency. Excess homocysteine damages arteries, increases the risk of blood clotting, strokes, heart attacks and diminished limb circulation.

- **“Normal” Homocysteine**
<11 **“Optimal” Homocysteine**

21.

<10

<https://my.clevelandclinic.org/health/diagnostics/22393-homocysteine-test#:~:text=A%20homocysteine%20test%20is%20a,higher%20risk%20for%20cardiovascular%20disease.>

The Laboratory of Nutrition

- **Vitamin D3**-Necessary for calcium absorption and bone strength, ensures adequate immune function, heart, brain and blood vessel integrity, insulin regulation and mood stabilization.
- “Normal” Vitamin D3 30-100
- “Optimal” Vitamin D3 50-80

Micronutrient Testing

▶ 32 specific Nutrients:

▶

▶ Vitamins from A-K

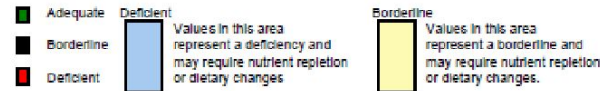
▶ The antioxidants

▶

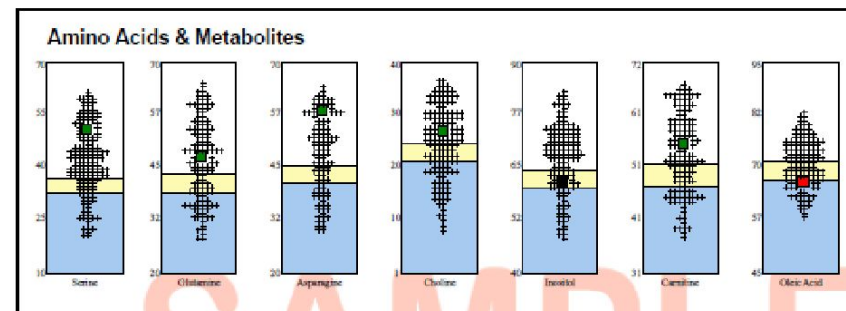
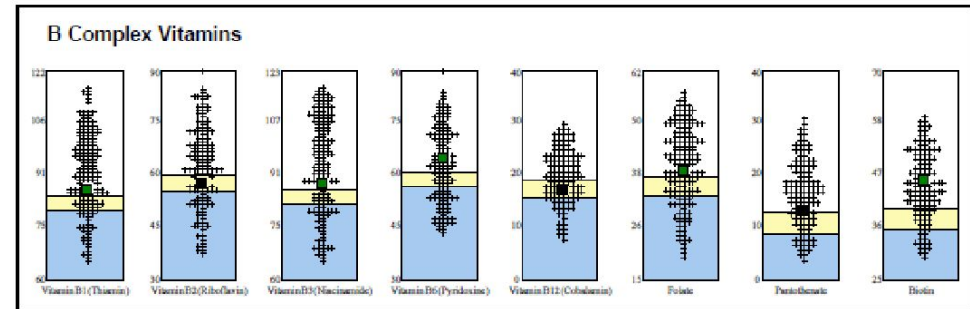
▶ Neurotransmitters

▶ Glucose Balance

▶ A Total Score

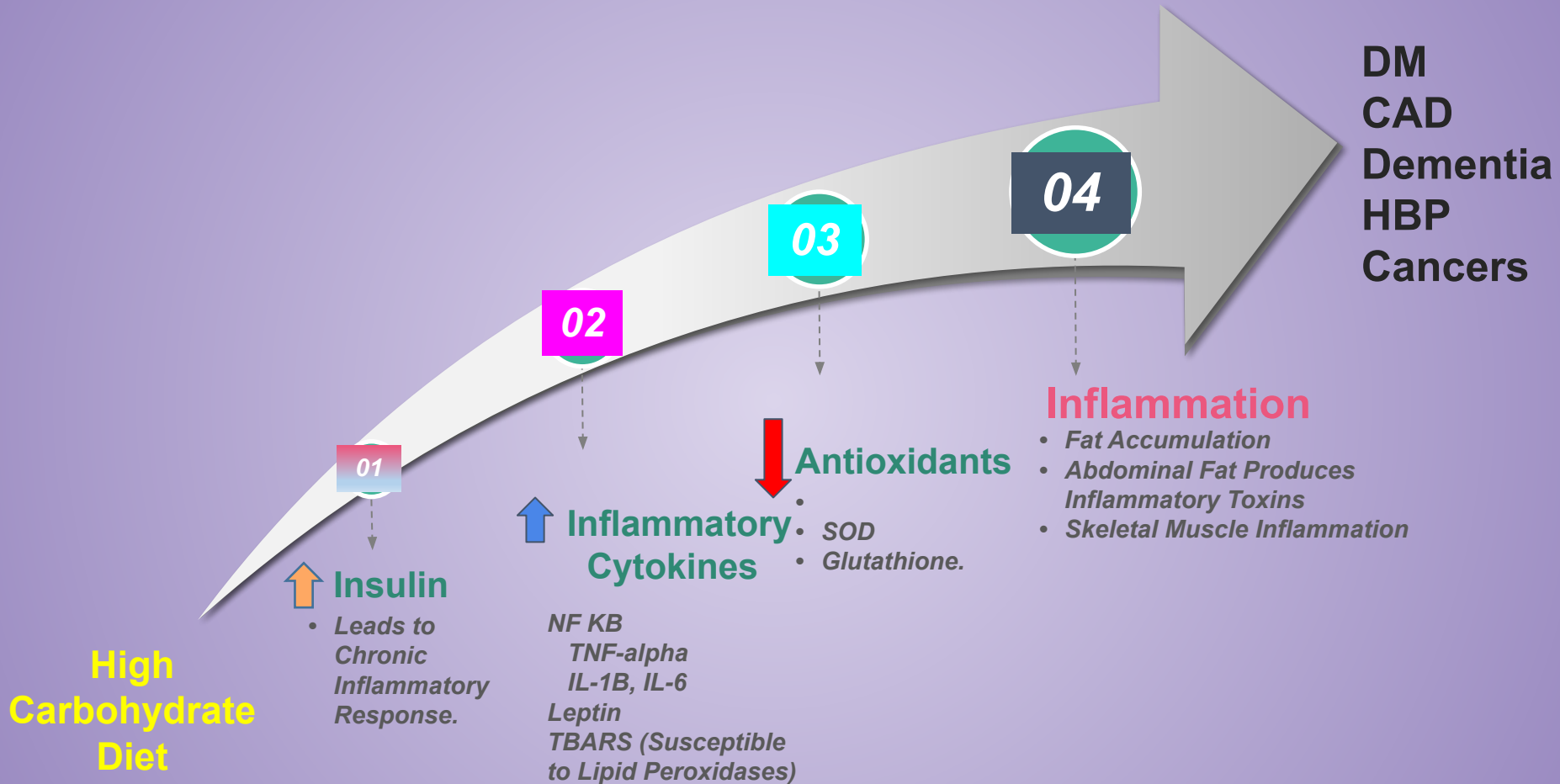


Accession Number
Janet Doe



23. <https://www.spectracell.com/micronutrient-test-panel>

The Road to Inflammation Summary



24. Kagal U. A, Hogade A. P. Effect of High Carbohydrate Diet on Complete Freund's Adjuvant Induced Inflammation in Rats. *Vivo. Biomed Pharmacol J* 2019;12(3).

Nutritional Quick Starts



Elimination Diet



Autoimmune Protocol



Protein Sparing Modified Fast





**Mini Fast with Bone Broth and
Exercise**



**“The Game-Changer”
GLP-1 Agonists**

Quick Start-Elimination Diet

- S.A.D. = Postprandial Spikes in Blood glucose and Lipids 
- Induces immediate oxidant stress = Transient increase in free radicals
- 
- Triggers atherogenic changes including inflammation, endothelial dysfunction, hypercoagulability, and sympathetic hyperactivity.
- Postprandial dysmetabolism is an independent predictor of future cardiovascular events even in nondiabetic individuals.
- 25. J Am Coll Nutr. 2015;34 Suppl 1:14-21.
- doi:10.1080/07315724.2015.1080105.
-

Quick Start-Elimination Diet

- **Food Sensitivity Symptoms**

- Headaches
- Chronic sinus drainage
- Low energy
- Depression
- Mood swings

- **Food Sensitivity Symptoms**

- Eczema
- Skin irritations
- Joint aches
- Asthma
- Difficulty losing weight

Quick Start- Elimination Diet

Anti Inflammatory Foods

1. **Fatty fish**
2. **Grass-fed lamb or buffalo**
3. **Nuts and seeds**
4. **Dark leafy greens**
5. **Red and blue colored fruits and vegetables**
6. **Extra-virgin olive oil (EVOO) and olives**
7. **Moist heat cooking under low temperature**
8. **Certain spices**

Inflammatory Foods

1. **Trans-fats**
2. **Refined sugars**
3. **Foods with a high glycemic response**
4. **High omega-6 oils such as corn or soy**
5. **Gluten-containing foods (wheat, rye, barley, spelt, kamut)**
6. **Saturated animal fats from grain-fed red meats**
7. **Dairy-containing foods**
8. **High-temperature cooking with fats**

26.

chrome-extension://efaidnbnmnnibpcajpcglclefindmkaj/https://www.fammed.wisc.edu/files/webfm-uploads/documents/outreach/im/handout_elimination_diet_patient.pdf

Fats & Oils

Servings / day

- Minimally refined, cold-pressed, organic, non-GMO preferred*
- 2 T.....Avocado
 1 1/2 T.....Coconut milk, regular (canned)
 3 T.....Coconut milk, light (canned)
 1 L.....Oils, cooking: canola, coconut, grapeseed, olive (extra virgin), rice bran, sesame
 1 T.....Oils, salad: almond, canola, flaxseed, grapeseed, hemp seed, olive (extra virgin), pumpkin, safflower, sesame, sunflower, walnut
 1 serving = 45 calories, 5 g fat

ELIMINATE

Butter	Margarine/spreads	Shortening
Corn oil	Mayonnaise	Soybean oil
Cottonseed oil	Peanut oil	

Nuts & Seeds

Servings / day

- 6.....Almonds
 2 Brazil nuts
 6.....Cashews
 1 T.....Chia seeds
 3 T.....Coconut (unsweetened)
 2 T.....Flaxseed, ground
 5.....Hazelnuts
 1 T.....Hemp seeds
 1/2 T.....Nut and seed butters
 4 Pecan halves
 1 T.....Pine nuts
 16.....Pistachios
 1 T.....Pumpkin seeds
 1 T.....Sesame seeds
 1 T.....Sunflower seed kernels
 4.....Walnut halves
 1 serving = 45 calories, 4 g fat

ELIMINATE

Mixed nuts (with peanuts)	Peanuts	Peanut butter
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Protein

Servings / day

- Lean, grass fed, organic, non-GMO preferred*
- Plant Protein:**
 1 oz.....Durger alternatives: legume, mushroom, veggie (no soy or wheat)
Animal Proteins:
 1 oz Fish, wild caught (canned, fresh, frozen)
 1 oz.....Meat: all wild game, buffalo, elk, lamb, venison
 1 oz Poultry: chicken (skinless), Cornish hen, turkey
Protein Powder:
 Check label for # grams/scoop (1 protein serving = 7 g protein)
 Hemp, pea, rice protein
 1 oz serving = 45 calories, 7 g pro

ELIMINATE

Beef/veal	Eggs	Whey	Tempeh
Canned meats	Frankfurters	Soy:	Tofu
Cold cuts	Pork	Miso	Textured veg. protein
	Shellfish	Natto	

Non-starchy Vegetables

Servings / day

- | | | |
|----------------------------|--|--------------------------------------|
| Artichoke | Escarole | Peppers, all |
| Arugula | Eggplant | Pumpkin |
| Asparagus | Fennel | Radichio |
| Bamboo shoots | Garlic and shallots | Radishes |
| Bok choy (Chinese cabbage) | Green beans | Salsa |
| Broccoli | Greens (beet, collard, dandelion, kale, mustard, turnip) | Sea vegetables |
| Brussels sprouts | Horseradish | Snap peas/snow peas |
| Cabbage | Jicama | Spinach |
| Carrots | Kohlrabi | Sprouts, all |
| Cauliflower | Leeks | Squash (spaghetti, yellow, zucchini) |
| Celery | Lettuce, all | Tomato |
| Chard/Swiss chard | Micro greens | Tornato juice |
| Chives | Mushrooms | Turnips |
| Cucumbers | Okra | Vegetable juice |
| Daikon radishes | Onions and scallions | Vegetables, fermented |
| Endive | Parsley | Water chestnuts |
| | | Watercress |
- 1 Serving = 1/2 c cooked, 1 c raw, 25 calories, 5 g carb

Avoid the following if directed by your healthcare provider:

Histamines	Nightshades	Oxalates	Salicylates
------------	-------------	----------	-------------

Legumes

Servings / day

- | | |
|--|-------------------------------------|
| 1/4 c Bean soups | 1/2 c Green peas |
| 1/2 c.....Cooked dried beans, peas, or lentils | 1/2 c.....Hummus or other bean dips |
| 1/4 c.....Flour, legume (containing only dried beans, lentils, peas) | 1/2 c.....Refried beans, vegetarian |
- 1 Serving = 110 calories, 15 g carbs, 7 g pro

ELIMINATE

Soybean products (edamame, miso, soy sauce, tamari, tempeh, tofu, soy milk, soy yogurt, textured vegetable protein)

Dairy Alternatives

Servings / day

- | | |
|---|---|
| 1/2 c.....Coconut yogurt and kefir (unsweetened) | 4 oz.....Milk alternatives: oat, rice (unsweetened) |
| 8 oz.....Milk alternatives: almond, coconut beverage, hemp, nut (unsweetened) | |
- 1 Serving = 100 calories, 12 g carbs, 7 g pro

ELIMINATE

Butter	Cream	Non-dairy creamers	Yogurt, dairy and soy
Cheese	Frozen yogurt	Soy milk	Whey
Cottage cheese	Ice cream		
	Milk		

Elimination Diet Food Plan

Starchy Vegetables

Servings / day

- | | |
|-----------------------------------|---|
| 1 c.....Acorn squash, cubed | 1/2 md.....Potato: purple, red, sweet, white, yellow |
| 1 c.....Beets, cubed | |
| 1 c.....Butternut squash, cubed | 1/2 c.....Potatoes, mashed (made with non-dairy milk) |
| 1 c Celery root (Celeriac), cubed | 1/2 c.....Root vegetables: parsnip, rutabaga |
| 1/2 c.....Plantain (1/2 whole) | |
- 1 Serving = 80 calories, 15 g carbs

ELIMINATE

Corn	Potato (if avoiding nightshades)
------	----------------------------------

Fruits (No sugar added)

Servings / day

- | | | |
|------------------------------------|---------------------------------------|---------------------|
| 1 sm.....Apple | 1/2 md.Grapefruit (or 1/4 c sections) | 1 c.....Papaya |
| 1/2 c.....Applesauce (unsweetened) | 1/2 c.....Juices, diluted | 1 sm..Peach |
| 4.....Apricots, fresh | 1 md.....Kiwi | 1 sm..Pear |
| 1/2.....Banana, med | 4.....Kumquats | 1/4 c.....Pineapple |
| 1 c.....Berries | 1.....Lemon | 2 sm..Plums |
| 2 T.....Dried fruit (no sulfites) | 1.....Lime | 1 sm..Pomegranate |
| 3.....Figs, fresh | 1 c.....Melon, all | 3 md..Prunes |
| 15 Grapes | 1/2 sm.Mango | 2 L.....Haisins |
| 2 T.....Goji berries (dried) | 1 sm Nectarine | 3 sm..Starfruit |
| | 1 md.....Orange | 2 sm Tangerines |
- 1 Serving = 60 calories, 15 g carbs

Eliminate citrus fruits if directed by your healthcare provider

Gluten-Free Grains

Servings / day

- | | |
|---|---|
| 1/4 c.....Amaranth, cooked | 1/2 c.....Millet, cooked |
| 2 Brown rice cakes | 1/2 c Oats, cooked (rolled or steel cut, certified gluten-free) |
| 1/2 c.....Buckwheat/Kasha, cooked | |
| 3-4.....Crackers, gluten-free: nut, rice, or seed | 1/2 c.....Quinoa, cooked |
| ~3 T.....Gluten-free flours for baking: arrowroot, sorghum, tapioca | 1/2 c.....Rice, cooked |
| | 1/4 c.....Teff, cooked |
- 1 Serving = 75-110 calories, 15 g carbs

ELIMINATE

Barley	Farro	Spelt
Corn	Kamut	Triticale
Emmcr	Rye	Wheat

Autoimmune Protocol (AIP)

1. The AI Protocol reduces inflammation, pain, and other symptoms caused by autoimmune diseases'
2. The AIP aims to reduce symptoms of autoimmune disorders, such as fatigue and gut or joint pain.
3. Damage to the gut barrier can lead to increased intestinal permeability, i.e. the "leaky gut,"
4. "Leaky gut can trigger the development of autoimmune diseases

28. Konijeti, Gauree G et al. "Efficacy of the Autoimmune Protocol Diet for Inflammatory Bowel Disease." *Inflammatory bowel diseases* vol. 23,11 (2017): 2054-2060.
doi:10.1097/MIB.0000000000001221

Autoimmune “Yes” Foods

- **Vegetables - all except nightshades or legumes *more details on nightshades and legumes under “Foods Not Allowed”.**
- **All fruits - limit 10-20g fructose/day or 2-3 pieces of fruit.**
- **Coconut products - coconut oil, manna, creamed coconut, coconut aminos, coconut milk (with no additives), unsweetened shredded coconut.**
- **Oils/fats - olive oil, coconut oil, avocados, lard, avocado oil, bacon fat, cultured ghee (free of casein and lactose), and palm oil.**
- **Fermented foods - coconut yogurt, kombucha, water and coconut kefir, fermented vegetables (such as sauerkraut and kimchi).
Fermented foods contain probiotics that help gut health.**
- **29.chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://healthcareblocks-storage-mybodysite.s3.amazonaws.com/storage/userFiles/pdf/William%20Clearfield%20DO%20-%20AIP%20Yes%20Foods.pdf**

Autoimmune “Yes” Foods

- Meats - grass fed meats (beef and bison) and wild caught fish are recommended. Aim for having fish 3 times/week.
- Teas - non-seed herbal teas, green tea.
- Vinegars - apple cider, coconut, red wine, balsamic (make sure vinegars have no added sugar).
- Sweeteners - you may use honey and maple syrup sparingly (1 tsp/day)
- Fresh herbs - all fresh and non-seed herbs are allowed (basil, thyme, mint, oregano, rosemary, ginger, turmeric, cinnamon, savory, edible flowers)
- Binders - grass fed gelatin and arrowroot starch are permitted, if needed. Be careful with the starch if you have adrenal issues.
- Bone broth

AIP "NO" Foods



Nightshades

Tomatoes, potatoes, sweet and hot peppers, eggplant, goji berries, onions



Sweeteners

ALL sugars or alternative sweeteners including raw sugar, Stevia, xylitol, Splenda, Sucralose, aspartame etc.



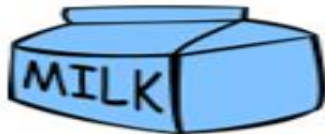
Grains

ALL including corn, wheat, buckwheat, rye, oats, tapioca and so on.



Beans/Legumes

All beans including kidney, pinto, black, soy, etc.



Dairy

ALL (milk, cream, yogurt, cheese etc).



Eggs

ALL (especially egg whites)



Oils/Fats

Vegetable oils, butter, ghee, palm-kernel, canola oil, and other seed oils



Fruit

Dried fruit and goji berries



Teas/Vinegars

Seeded teas



Herbs/Spices

Herbs from seeds (mustard, cumin, coriander, fennel, cardamom, fenugreek, caraway, nutmeg, dill seed)



Nuts/Seeds

ALL including nut/seed oils, flax, chia, pumpkin, cocoa, coffee, etc.



Gums/Binders/

Additives

Guar gum, carrageenan, Tara gum, Gellan gum, Gum Arabic, benzoic acid, MSG (all processed)



Alcohol

ALL

Autoimmune Protocol- NOs

***No gluten, no grains, no legumes, no dairy,
no sugar, and no alcohol***

- **Nuts and seeds** - including nut/seeds oils like sesame seed oil, flax, chia, pumpkin, cocoa and coffee
- **Beans/legumes** - no beans of any kind (including soy) or legumes except snap peas or string green beans.
- **Nightshades** - eggplant, tomatoes, onion, potatoes (only sweet potatoes allowed), goji berries, sweet and hot peppers
- **Grains** - corn, wheat, buckwheat, rye, oats, tapioca, etc.
- **Sweeteners** - sugar, xylitol, stevia, mannitol, aspartame, Sucralose
- **Dried fruits**
- **Dairy products**

Gluten

Gluten is the combination of glutenin and gliadin

Proteins found in wheat (including Kamut, Spelt, malt and Brewer's Yeast), barley, rye and triticale

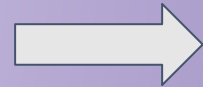
Gluten triggers an immune response in the lining of the small intestine

SI damage interferes with nutrient adsorption

Increases the risk for bone disease, anemia and GI cancer.

Avoiding Gluten

Celiac Disease-GI issues, inability to digest food



Consequences: Weight loss, bone loss,

Iron deficiency, dental cavities

Gluten Sensitivity-Antibody tests are negative, SI damage less

Symptoms (bloating, joint pain, fatigue, IBS)

Similar to celiac disease

Gluten Sensitivity/Celiac Symptoms

GI S/S

Abdominal bloating, Pain
Constipation • Diarrhea
Foul-smelling and bulky stool
GERD
Nausea • Vomiting
Weight loss or weight gain

Non GI S/S

Anemia
Bone disease (*osteopenia/ osteoporosis*)
Brain fog, Irritability
Dental defects, Pale mouth sores
Depression
Failure to thrive (children), Short stature
Fatigue
Headaches
Itchy skin rash (*dermatitis herpetiformis*)
Joint pain, Peripheral neuropathy
Unexplained elevation in liver enzymes
Unexplained infertility, miscarriage

34.

<https://www.beyondceliac.org/gluten-free-diet/getting-started/download-the-getting-started-guide/?submissionGuid=a810f8a6-2cde-4337-a297-fa3a5d409494>

GLUTEN FREE FOOD LIST

Produce

- Apples
- Avocado
- Baby tomatoes
- Bananas
- Bell Peppers
- Blueberries
- Broccoli
- Brussel Sprouts
- Beets
- Carrots
- Cauliflower
- Celery
- Cucumber
- Ginger Root
- Green onion
- Kale
- Lemon
- Mushrooms
- Pomegranate
- Plantains
- Red and yellow Onion
- Turmeric Root
- Small Sweet peppers
- Spinach
- Strawberries
- Sweet potato

Meat ORGANIC/ HORMONE FREE

- Eggs
- Chicken breast
- Ground turkey meat
- Shell Fish
- Fish- Flounder, salmon, mahi-mahi, etc..
- Bacon- 150mg sodium
- Grass Fed Beef/Bison

Oils

- Extra virgin olive oil
- Coconut oil
- Palm Oil
- Avocado Oil

Nuts & Seeds

- Almonds
- Cashews
- Walnuts
- Chai Seeds
- Sunflower Seeds

Dairy/ Replacements

- Almond Milk
- Well sourced Dairy products: Must be organic and hormone free.
- Coconut milk- canned
- Plain coconut yogurt

Baking

- Coconut flour
- Arrow Root flour
- Brown Rice flour
- Potato or tapioca starch
- Almond flour
- Stevia
- Corn starch
- Xanthan Gum
- Baking soda
- Baking powder
- cream of tartar

Herbs/Spices

- Basil
- Cayenne pepper
- Cilantro
- Cinnamon
- Dill
- Garlic
- Himalayan salt
- Mint
- Oregano
- Pepper
- Paprika
- Parsley
- Rosemary
- Thyme
- Turmeric

Pantry

- Liquid Aminos
- Dates
- Nut Butters
- Apple Cidar Vinegar
- Black beans
- Lentils
- Tea- Chai, Fennel, Ginger, Camomile, Spearmint/ peppermint

32.<https://www.pinterest.com/pin/780037597930632013/>

Foods to label check:

These foods may contain gluten, so check the ingredients before you buy!

Protein

- Lunch meats
- Ground meats
- Hot dogs
- Pepperoni
- Bacon
- Salami
- Plant-based substitutes

Fats & Oils

- Oils with additives
- Cooking & baking sprays

Random Stuff

- Broths & soups
- Vitamins
- Caramel color
- "Wheat-free" items
- Ground spices

Milk & Dairy

- Processed cheeses (sauces)
- Ice cream
- Flavored dairy

Fruits & Veggies

- Anything frozen
- Anything canned
- Anything dried
- Anything pre-chopped

Snacks

- Chips
- Jerky
- Candy
- Chocolate
- Popcorn



Beverages

- Pre-made smoothies
- Flavored coffees & teas
- Distilled liquors
- Hot chocolate packets

Condiments

- Ketchup, mustard, mayo
- Tomato sauce
- BBQ sauce
- Marinades
- Dry spices
- Rice vinegar
- Gravy mixes
- Stuffing mixes
- Salad dressings

Foods that are NOT Gluten-Free:

Protein

Breaded meat
Seitan
Protein mixed with soy sauce

Fats & Oils

Malt vinegar
Wheat-based soy sauce
Wheat-based teriyaki sauce



Milk & Dairy

Malted milk drinks
Bleu cheese

Grains

Wheat
Barley
Rye
Triticale
Ready-to-eat cereal
Bagels
Croutons
Pasta
Couscous

Beverages

Non-distilled liquors
Malt beverages (wine coolers)
Beer, ale, lager

Snacks

French fries
Doughnuts
Cheesecake
Cereal bars
Nutrition bars
Crackers
Pretzels



Protein Sparing Modified Fast

- Less than 1000 calories (We recommend 500-800 calories/day)
- High quality protein-1.5 grams/kg of ideal body weight
- 1-2 servings of a non-starchy vegetable
- Vitamin and nutrient supplementation to provide
- 1.5 liters (8-10 glasses) of fluid/day-flavor with lemon or lime.
- 5 grams of sea salt/day

• Portion Size

- **Protein**-amount of food is the size of palm
- **Fruits, vegetables**-amount of food is quantity you can cup in your hand. (i.e. "scoop" from a salad bowl from your favorite buffet)

35. Bakhach M, Shah V, Harwood T, Lappe S, Bhesania N, Mansoor S, Alkhouri N. The Protein-Sparing Modified Fast Diet: An Effective and Safe Approach to Induce Rapid Weight Loss in Severely Obese Adolescents. *Glob Pediatr Health*. 2016 Jan 22;3:2333794X15623245. doi: 10.1177/2333794X15623245. PMID: 27335996; PMCID: PMC4784653.

PSMF-Schedule

- **Water:** 8-10 Glasses per day
- **Sea Salt** 1/2 teaspoonful per day

What to Eat	Breakfast	Snack	Lunch	Snack	Dinner	Snack
Protein	Liquid Protein	Liquid Protein	Liquid Protein	Liquid Protein	1 Serving	Liquid Protein or Snack
Carbohydrate	Weight Loss Supplement		Liquid Protein		1 Serving	
Fat					1 Serving	

(R.I.P.) HCG With 500-800 Calorie/Day Intake

500-800 Calories/Day

250 IU Human Choriogonadotropin

Subcutaneous Injection Daily X 50 Days

- Eat 5-6 meals per day. Do not skip meals.
-
- No fruit juices, white sugar, artificial sweeteners, diet sodas, dried fruits, fast foods.
-
- Watery fruits, while better than candy bars, are high in natural sugars.
-
- Be mindful of sugars in low fat, low calorie salad dressings.
-
- Keep a food diary.
-
- No alcoholic beverages
-
- No white bread, white flour. It's best if you have no breads, even multigrain at all.
-
- Oil based cosmetics and moisturizers are absorbed as calories from the skin. Stay away.
-
- No skipping meals.
-
- MCT Oil-Provides energy, guards against constipation, is anti-inflammatory.
-
- Plant based (good) oils, olive oil, canola oil, coconut oil

36. Bakhach M, Shah V, Harwood T, Lappe S, Bhesania N, Mansoor S, Alkhouri N. The Protein-Sparing Modified Fast Diet: An Effective and Safe Approach to Induce Rapid Weight Loss in Severely Obese Adolescents. *Glob Pediatr Health*. 2016 Jan 22;3:2333794X15623245. doi: 10.1177/2333794X15623245. PMID: 27335996; PMCID: PMC4784653.

(RIP) HCG-Schedule

What To Eat	Breakfast	Snack	Lunch	Snack	Dinner	Snack
Protein	Liquid Protein	Bone Broth	1 serving	None or Bone Broth	1 Serving	
Carbohydrate	Weight Loss Supplement	Fruit	1 serving	Fruit	1 Serving	Snack
Fat	1 Serving		1 serving		1 Serving	

- **1 Serving:**
- **Protein:** 100 grams protein (Palm Size).
- **Carbohydrate:** 2 cups raw or 1 cup steamed vegetables (2 scoops w hand)
- **Fat:** 1 tsp. Olive Oil, Coconut Oil, Canola Oil or MCT Oil
- **Daily:**
- **Water:** 8-10 Glasses per day-can add fresh lemon juice
- **Sea Salt** 1/2 teaspoonful per day

What to Eat On the (RIP) HCG Diet

Protein (100 grams)

Chicken Breast
(Skinless)
Turkey Breast (Skinless)
Buffalo (Steak or
Ground)
Veal
White Fish-fresh)
Lobster
Crab
Shrimp
Scallops
Albacore Tuna
Egg Whites (3 or 1/2 cup Egg
Substitute)

Fruit

Blackberries
Blueberries
Raspberries
Orange
Apple
1/2 Grapefruit

Liquids

Tea, coffee, Mineral Water
Lemon, Lime juice
Braggs Amino Acids
1 tbsp 1/2 and 1/2, fat

free

Vegetables (1 cup/meal)

Spinach
Shallots
Zucchini
Yellow Squash
Salad Green
Cucumbers
Leafy greens

Oils

(2/d or 2 cups/d)

Olive Oil (1 tsp/d)
Coconut Oil
Canola Oil
Avocado Oil
MCT Oil
Spritzer Salad Dressing
Braggs Amino Acids
and Lemon Juice

HCG-Side Effects

- *Headache, irritability, restlessness, fatigue, depression, swelling in the feet, ankles, lowers legs, or hands, “man boobs,” injection site pain.*
- *Acne, breast, penis and/or testes enlargement and discomfort in males. Emotional lability, mood changes, irritability, restlessness, constipation, dry skin, dehydration, leg cramps – Normally occurs due to dehydration, fatigue, thinning or thickening of hair (returns to normal after HCG usage).*
- *In our experience these are quite rare and aside from some mild dehydration, due mainly to inadequate intake, we haven't seen any of the above effects.*

Contraindications to HCG Administration

- Asthma, breast, ovary, uterus, or prostate cancer, seizures.

37. Matura S, Okashi M, Chan HC, et al. Physiochemical and immunological characterization of an HCG-like substance from human pituitary glands. *Nature*. 1980;286:740-741.

38. Tennant F. *Human Chorionic Gonadotropin in Pain Treatment*. *Pract Pain Manag*. 2009;9(5).

39. Odell WD, Friffin J. Pulsatile secretion of human chorionic gonadotropin in normal adults. *N Engl J Med*. 1987;817;1688-1692

Emergency, Emergency I Had A Bad Day

- **1 Day Apple Diet:**

Begin at Lunch (go from Lunch to Lunch)

Consume 1 apple every 3 hours (6 total) for 24 hours

Drink only water (100 oz.)

Do not do this for more than 24 hours

Salad Dressing: Braggs Amino Acids with Apple Cider Vinegar and Lemon Juice

40.

<https://www.goodto.com/wellbeing/diets-exercise/wo-man-s-own-apple-diet-65558>

41. Pesta DH, Samuel VT. A high-protein diet for reducing body fat: mechanisms and possible caveats. *Nutr Metab (Lond)*. 2014 Nov 19;11(1):53. doi: 10.1186/1743-7075-11-53. PMID: 25489333; PMCID: PMC4258944.

- **1 Day Steak Day**

1. Eat only one apple or one tomato during the day
2. Eat a large portion (6-12 oz.) of anything listed in Column A below, meat, fish, chicken or vegetarian protein for dinner.
3. Drink only water (100 oz.)
4. Do not do this for more than 24 hours.
5. Red meat provides a larger amount of slow-digesting protein than your body needs for cellular recovery at night. Animal based protein is satiating. It is a natural appetite suppressant. Meat proteins are thermogenic; they act as a fat burner.

- Apples and tomatoes provide fiber and enzymes to keep proteins moving. No constipation here.

Mini- Fast W Bone Broth

Eat 2 meals per day in a continuous 8-hour time period.

Fast for 16 hours, if your last meal is dinner, 6PM, your next meal is lunch the next day. Thus, we have a 16 hour fast followed by an 8-hour feeding period.

2-3 high protein, high fat snacks between meals are permissible. See the snack list for suggestions.

Plan exercise sessions, along with bone broth intake, for the time of the fast. If fasting through breakfast, this is your exercise time. Follow exercise with a cup of bone broth.

Hydrate adequately. Acceptable fluids include water, sparkling water, flavored water, preferably with lemon or lime, bone broth, coffee, or tea.

Mini-Fast W Bone Broth



Review and choose low-glycemic foods (<50). See the glycemic index chart.



Do not go hungry. Eat until you are full, but do not eat if you are not hungry.



No fruit juices, white sugar, artificial sweeteners, diet sodas, dried fruits, or dairy except for a limited (1-3 X/wk) amount of Greek Yogurt.



Make a meal by choosing an item from each of our “Chinese Menu” columns A (Protein), B (Complex), and C (Fats).



Use flax seeds and plain, unsalted almonds.

What to Eat	Breakfast	Snack	Lunch	Snack	Dinner	Snack
Protein	Fast-Exercise Bone Broth	Fast, Liquid Protein	1 serving	Liquid Protein	1 Serving	Fast
Carbohydrate	Fast-Exercise Bone Broth	Weight Loss Supplement	1 serving	Weight Loss Supplement	1 Serving	Fast
Fat	Fast-Exercise Bone Broth	Included in Protein	1 serving	Included in Protein	1 Serving	Fast

Mini-Fast W Bone Broth

What to Eat	Breakfast	Snack	Lunch	Snack	Dinner	Snack
Protein	Fast-Exercise Bone Broth	Fast, Liquid Protein	1 serving	Liquid Protein	1 Serving	Fast
Carbohydrate	Fast-Exercise Bone Broth	Weight Loss Supplement	1 serving	Weight Loss Supplement	1 Serving	Fast
Fat	Fast-Exercise Bone Broth	Included in Protein	1 serving	Included in Protein	1 Serving	Fast

Mini-Fast W Bone Mini-Fast w Bone Broth

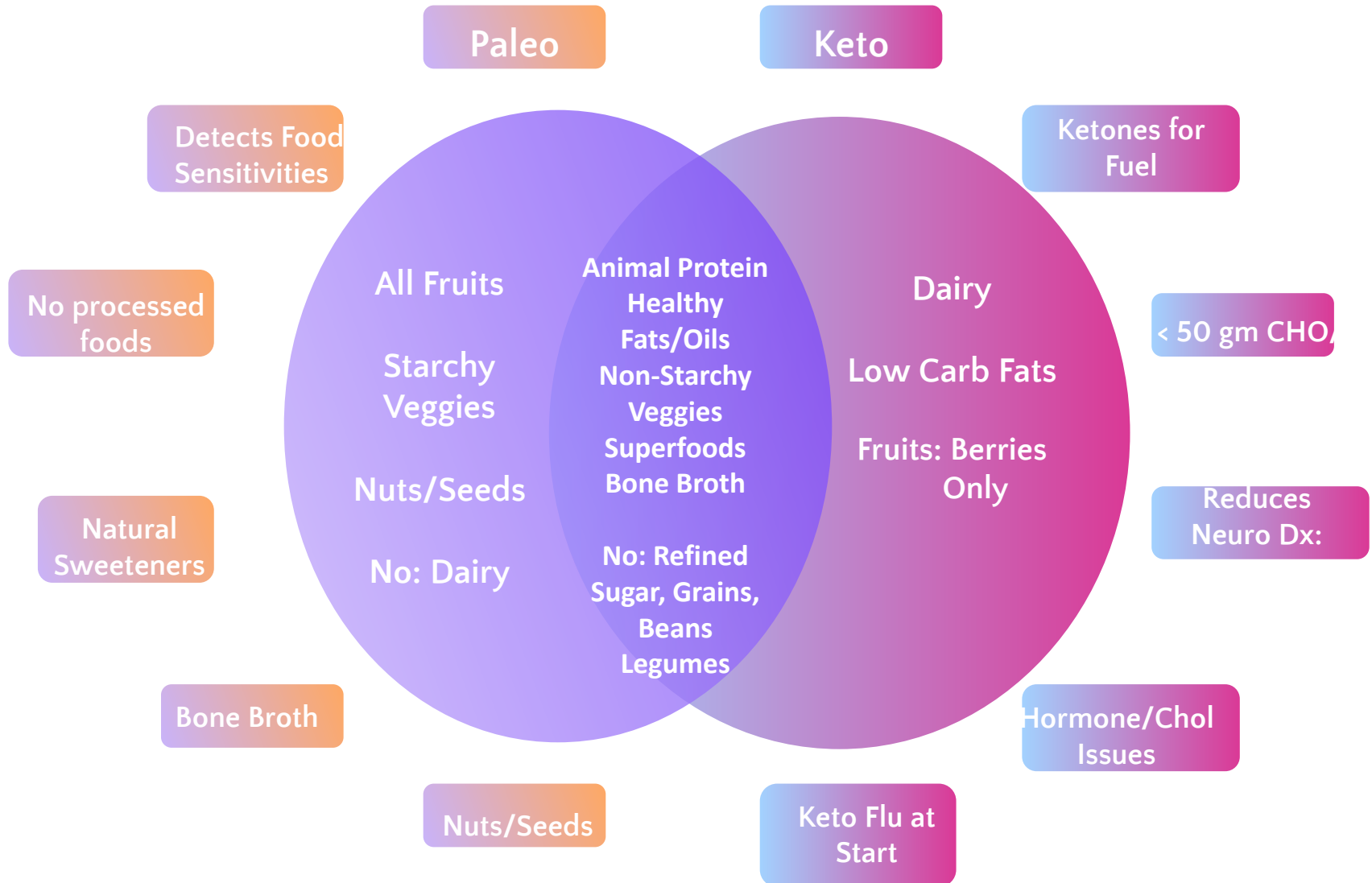
Bubby Clearfield's Bone Broth Recipe (44)

- Bone Broth Prepared in A Large Stock Pot or Slow Cooker
- **Ingredients**
 - 1 whole chicken, bones and all. (Being from the low-fat era, I'm still pulling the skin off. Most experts disagree and leave the chicken intact. Gives me an "ick" factor.)
 - Dill, 1/2 cup, minced
 - Celery, carrots, bay leaf
 - 1/2 small onion, chopped
 - 1 turnip, sliced
 - 1 parsnip, chopped

Bubby Clearfield's Bone Broth Recipe

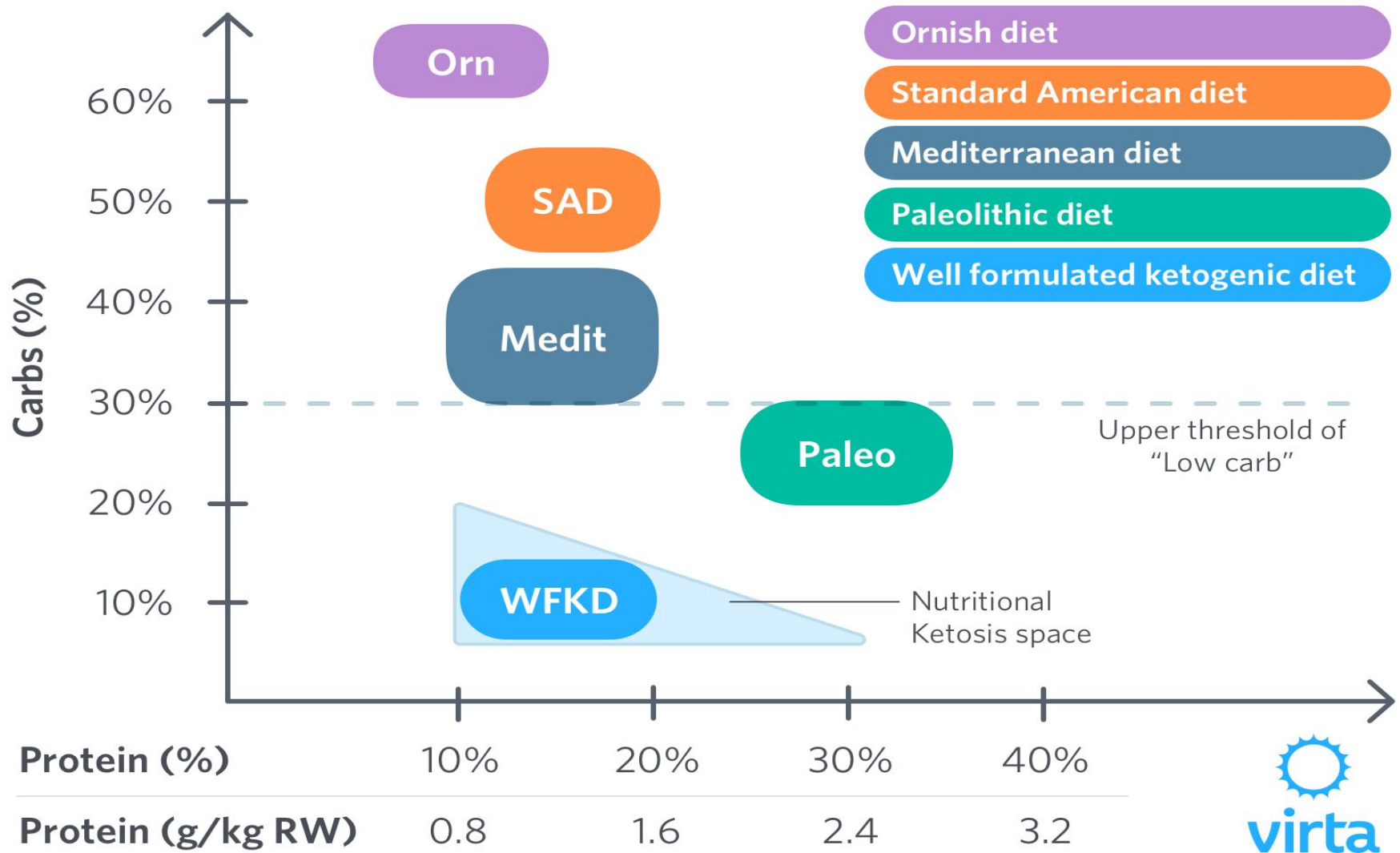
- **Bone Broth Prepared in A Large Stock Pot or Slow Cooker**
- **Place all ingredients except the chicken into the stock pot or slow cooker. When completed, place chicken in pot, then cover to near brim with water. Bring to a boil, then lower to a simmer. Skim the fat off the top until liquid is clear. Cook for 2 hours if using a stock pot. If using a slow cooker, leave on continuously replenishing the water when necessary. Bones can be boiled for up to one week before discarding. Chicken and remaining ingredients.**
- **If made in stockpot you may begin using broth immediately. Let cool before freezing leftover stock in glass jars (we use Mason Jars). If using a slow cooker, simmer twenty-four hours before using the broth. As needed dip a ladle or measuring cup into the slow cooker to remove the amount needed. Pour it through a fine-mesh sieve or coffee filter clarifying the broth. Replace the broth you remove from the slow cooker with an equivalent amount of filtered water.**
- **If using a whole, fresh chicken, you may remove chicken meat from the slow cooker as desired.**
- **On a weekly basis strain off any remaining broth and discard or compost the bones. Clean the insert and begin again.**
-

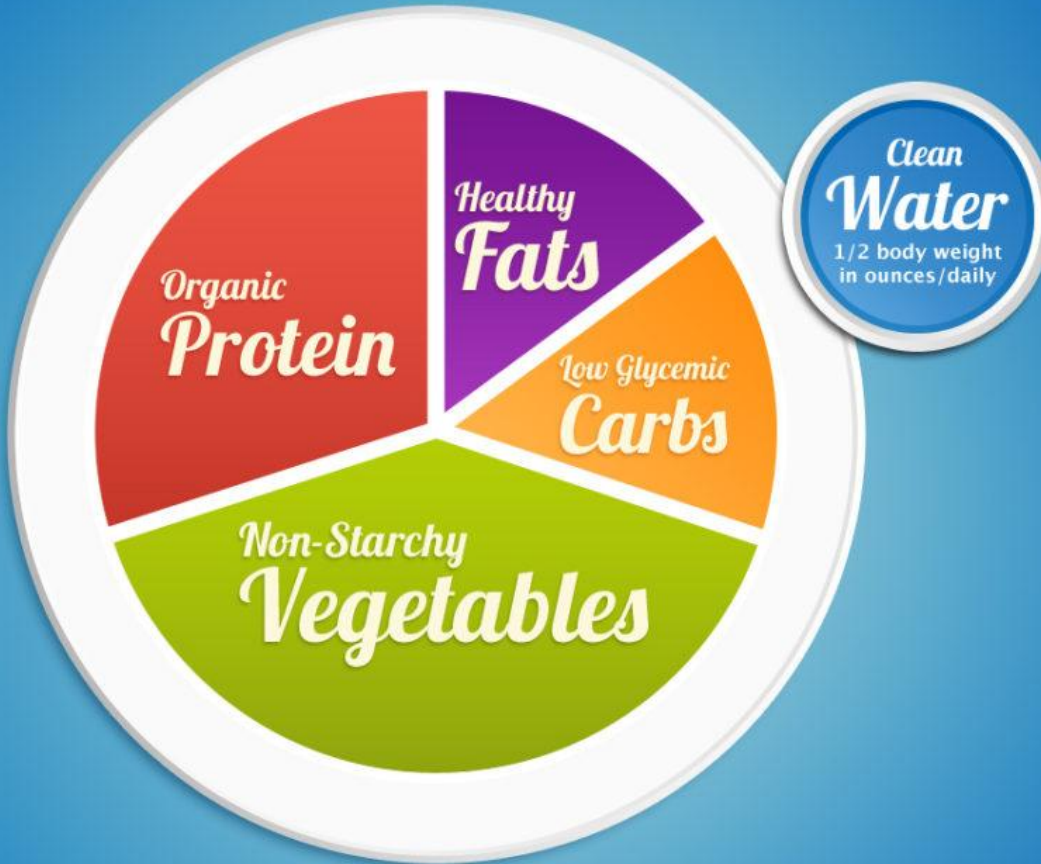
Paleo Vs. Keto



Paleo vs. Keto

111.<https://www.virtahealth.com/blog/paleo-vs-keto-whats-the-difference>





Vegetables

40%

- Leafy Greens
- Red Cabbage
- Carrots
- Red Bell Pepper
- Broccoli
- Spinach
- Kale
- Onion
- Cucumber
- Cauliflower
- Asparagus
- Egg Plant
- Zucchini
- Beans

Protein

30%

- Meat (Grass Fed)
- Eggs
 - Wild Salmon
 - Beef
 - Venison
 - Chicken
 - Turkey

Healthy Fat

15%

- Avocado
- Raw Dairy
- Flax Seeds
- Pumpkin Seeds
- Almonds
- Pecans
- Cashews
- Coconut Milk

Carbs

15%

- Fruit
- Blueberries
 - Raspberries
 - Strawberries
 - Apples
- Beans
- Kidney
 - Black
 - Garbanzo
- Gluten Free Grains
- Sweet Potato
 - Quinoa
 - Brown/Wild Rice

Paleo Macros

46.

https://eighty20nutrition.com/what_is_paleo/

PALEO DIET BASICS

EAT

Meat, Poultry & Fish

(including organ meats and bone broth)

Eggs

Vegetables

Fruit

Fermented foods

(sauerkraut, kimchi, etc.)

Healthy Fats

(coconut oil, extra virgin olive oil, ghee, duck fat, lard from pasture-raised pigs, beef tallow, etc.)

Spices & Herbs

Nuts & Seeds

(in moderation)

Natural Sweeteners

(i.e. honey, maple syrup, coconut sugar, etc. on occasion)

AVOID

Grains

(wheat, rye, barley, corn, rice, quinoa, etc.)

Legumes

(beans, soy, lentils, peanuts, etc.)

Dairy

(for at least the first 30 days)

Vegetable and industrial seed oils

(canola, soybean, cottonseed, safflower, sunflower, etc.)

Processed & Artificial Sweeteners

Processed food

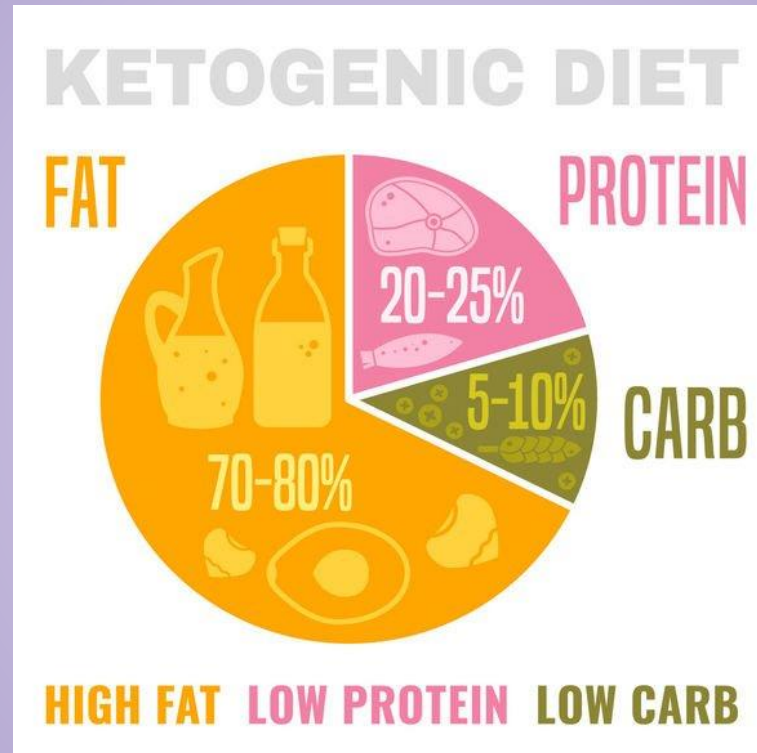
(including most packaged food)

Perservatives and Additives

(basically any ingredient that you don't recognize as food)

Ketogenic Diet

- High-fat, moderate-protein, very low-carb diet.

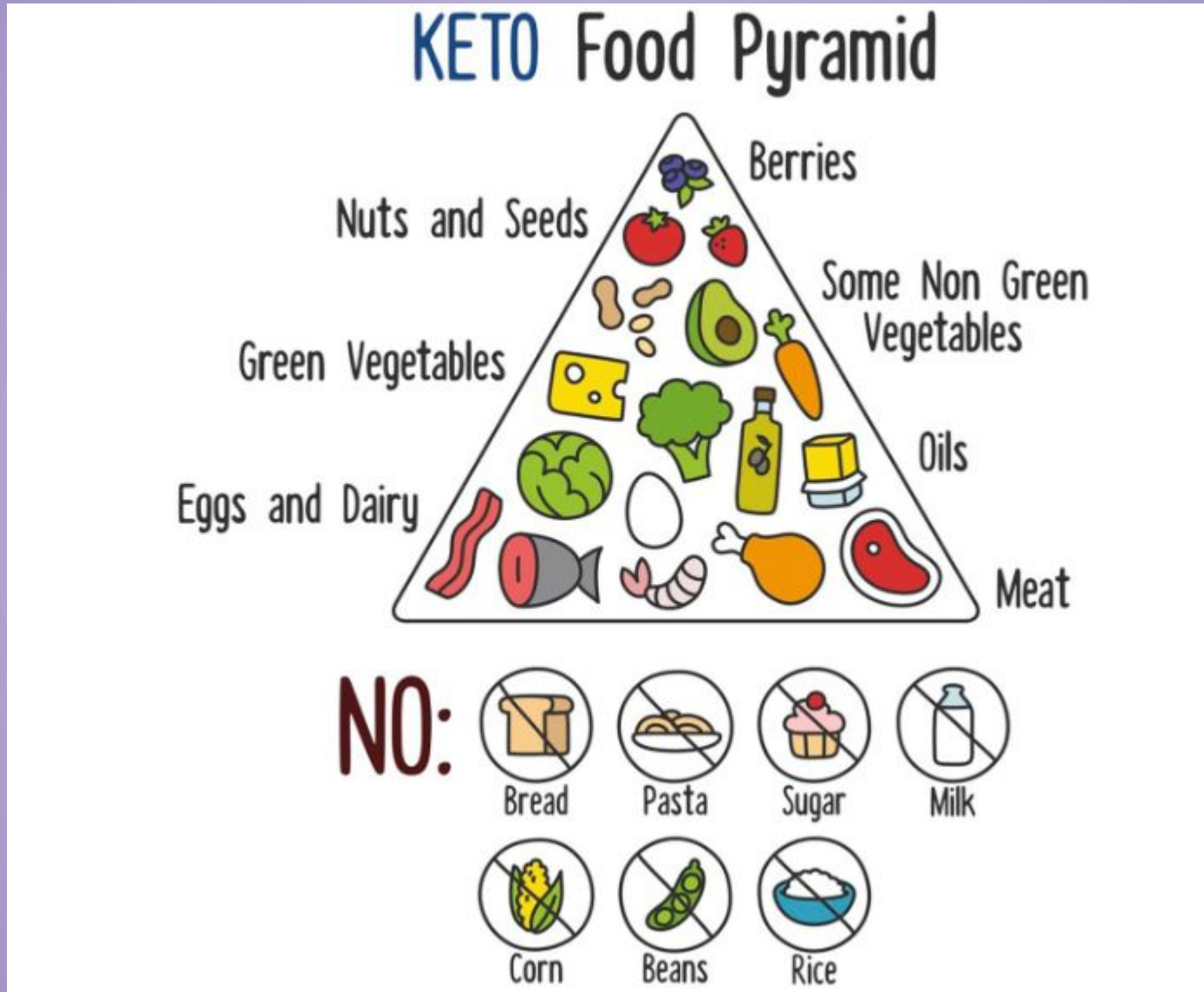


- Generates the ketone bodies in of place glucose as energy source.

48. Hodgkin, E., "What Exactly to Eat on the Keto Diet,"

<https://www.express.co.uk/life-style/diets/1188295/weight-loss-diet-macros-what-are-keto>

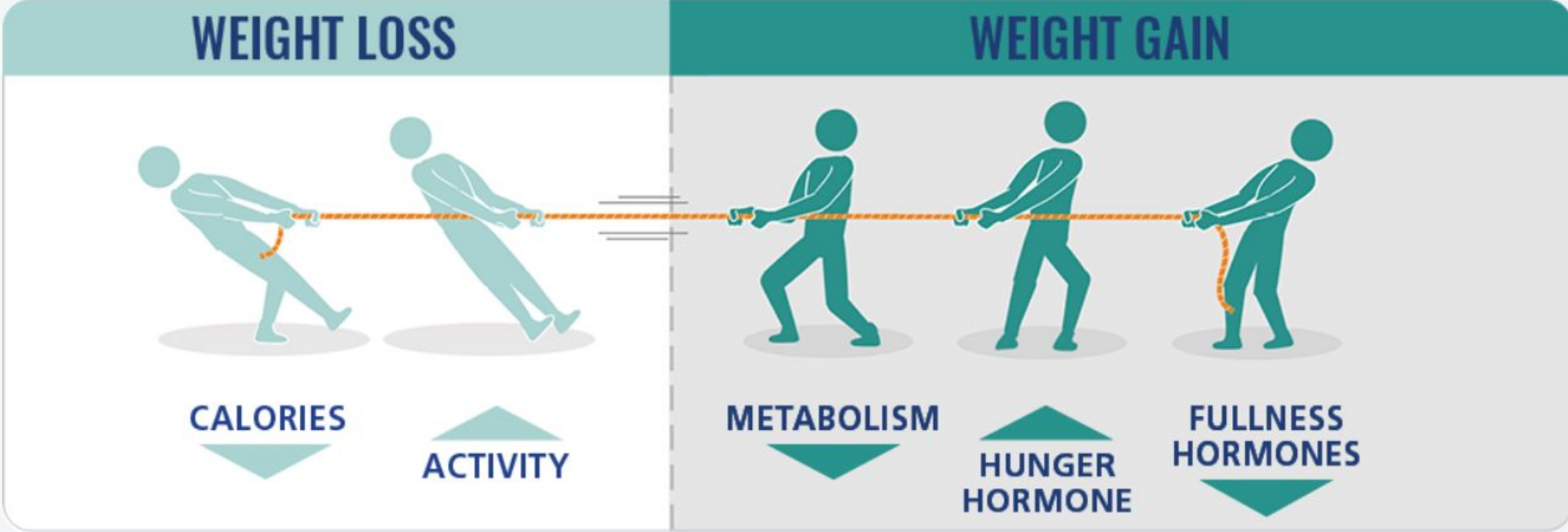
What to Eat on the Keto Diet





HORMONES

The Problem With Calorie Restriction



Hormone Summary	Functions	S/S Deficiency
<p>Testosterone</p> <p>Males ½-1 gm 10-20% Cream, 40-80 mg IM q 7-10 d Pellets 1000-2400 mg q 4-6 mo. implant</p> <p>Females ½-1 gm 1 % Cream, 5-20 mg IM q 7-10 d Pellet 50-225 mg q 3-4 mo. implant</p>	<p>Mood, Motivation, Strength Sense of Well Being</p> <p>Directly Responsible for: Sex Drive, Sexual Desire Vaginal Lubrication</p>	<p>Fatigue, Depression, Tissue Deterioration</p> <p>Apathy</p> <p>Poor Libido, Sexual Performance</p>
<p>Estrogen</p> <p>Bi-est 2.5-10 mg/d (Compounded) Estradiol Patch (0.025-0.1 mg 2x/week)</p> <p>Oral Discouraged Due to VTE Risk (4x transdermal)</p>	<p>Blood Flow to Brain Increases HDL Maintains Vaginal Tissue</p>	<p>PTSD, pain Depression Hot Flashes Night Sweats Brain Fog, Dementia Osteoporosis</p>
<p>Progesterone</p> <p>2.5-7.5 % OTC Cream 50-200 mg Rx: Cream 100-200 mg Orally (Micronized)</p>	<p>Anti-inflammatory, Calming Increased Sexual Desire Improved Sense of Well Being Balances Estrogen</p>	<p>Depression, anxiety, aggression Poor Libido Agitated, Irritable Insomnia Weight Gain</p>
<p>Growth Hormone</p> <p>0.3-0.5 mg SQ/day 5-7 days/week</p>	<p>Memory, Concentration, Mental Clarity Libido Anti-Inflammatory “Executive Function”</p>	<p>Paranoia, Poor Concentration, Dark Moods Tissue Deterioration Anhedonia, OCD Social Isolation</p>
<p>Thyroid</p> <p>25-300 mcg levothyroxine/d 15-300 mg DTE/d</p>	<p>Energy, Mental Clarity Tissue Construction Metabolism, Your “Gas Pedal” Sexual Performance, Desire</p>	<p>Poor Cognition, Depression, Psychosis Dry Skin, Nails, Hair Constipation Weight Gain Fatigue Erectile Dysfunction (Males) Dyspareunia (Females)</p>
<p>Cortisol</p> <p>10-15 mg/d</p>	<p>Energy Production Immune Stability Coping with Stress Tissue Construction</p>	<p>Sugar cravings, Allergies LH Suppression = Testosterone Deficiency</p>

DHEA
(Females 5-25 mg/d)
(Males 25-100 mg/d)
(SLE 200 mg/d)

**Regenerates Myelin, Protects
Brain Cells**
Sexual Drive and Desire
Precursor Substrate:
Testosterone
Estrogen

**Ageing, Poor Memory,
Infections**
Depression
Erectile Dysfunction
Poor Libido
Hypothyroidism

Pregnenolone
(50-400 mg/day)

Memory
Nerve Construction
Central Neurotransmitter
Cognition
GABA, NMDA Receptor Binding

Anger
Anxiety
Apathy

Prolactin

(If < 6.0
Rx. GABA 100-400 mg @ hs)

(If > 40 R/O Pituitary Issue
Rx: Cabergoline 0.25 mg-1 mg 2x/wk. or
Bromocriptine 2.5-15 mg/d)

Sense of Well-Being, Calmness
Mediates Sexual Satisfaction

Treatment Resistant Depression
Male:
**Impotence, Decreased
Sperm, Libido**
Decreased testosterone
Female:
Amenorrhea
Decreased ovulation
Diminished Libido

Oxytocin

40-80 IU via troche, or nasal spray

Sexual Function
Pleasure

Fear
Loneliness
Isolation

Evaluation (Serum, Saliva, Urine?)

- **History, Physical /Testing**
 - **Medical / Surgical / Social / Family history / Gynecologic**
 - **Comprehensive symptom checklist**
 - **Pap, BMD, Colonoscopy (age dependent)**
- **Baseline testing needed:**
- **CBC, CMP, cRP, Homocysteine, Lipid Profile**
- **25 Oh-Vit D3, B12, Folic Acid, RBC-Zinc, RBC-Magnesium**
- **Hemoglobin A1C, Fasting Insulin**
 - ***Thyroid*-TSH, free T3, free T4, rT3, TPO, Antithyroglobulin, TSI (if S/S/ indicate), Ferritin**
 - ***Sex Hormones*-Estrone, Estradiol, Progesterone, Testosterone (Day 19-21 if Premenopausal)**
- **As Indicated:**
 - **Cortisol (Serum, Urine, Saliva)**
 - **DHEA-S, IGF-1**
 - **Pregnenolone, Prolactin**
 - **Oxytocin; Oxytocin Challenge Test**



Medication for
Weight Loss

Drug Therapies

- 1. Phentermine-37.5 mg. or according to your need**
- 2. Topiramate-50 mg at bedtime**
- 3. Bupropion 150 mg/Naltrexone 3.5 mg-**
- 4. HCG Injection-250 IU (1/4 ml.) @ hs for 50 nights**
- 5. Naltrexone Implants (1.1-2.2 gm q 4 months)**
- 6. GLP-1 Agonists (Semaglutide and Tirzepatide)**
 - a. AMPK**
 - b. Butyrate**
 - c. Oxytocin**
- 10. AOD 9604**
- 11. Tesofensine**

Phentermine

MOA:

1. An adrenergic reuptake inhibitor-stimulates the sympathetic nervous system to release **norepinephrine**.
2. Amphetamine-like appetite suppressant. No effect on **dopamine** transmission, mitigating its abuse potential.
3. Increases energy utilization

Dose: 37.5 mg scored tablet. Can compound as low as 15 mg/d. Take 1 hour before breakfast

Side effects: Tachycardia, elevated blood pressure, dry mouth, palpitations, restlessness, and insomnia.

50. Kaplan LM. Pharmacologic therapies for obesity. Gastroenterol Clin N Am. 2010;39:69-79.

Phentermine

Contraindications

High Blood Pressure
Glaucoma
Alcohol or Drug Abuse
Vascular Heart Disease
Mental/Mood Disorders
Pulmonary Hypertension
Stroke
Hyperthyroidism
Kidney Disease
Pregnancy/Breast Feeding

Drug Interactions

Similar medications (ephedra/ma-huang)

MAO Inhibitors (OK if off 2 weeks)

Use With Caution With:

Anti-depressants (TCA's, SSRIs, SNRI's)

Anti-hypertensives

Phenothiazines

Stimulants (amphetamines, cocaine, Ecstasy/MDMA)

Anti-histamines, anti-seizure medications (Benadryl, Tegretol)

Insomnia/Anti-anxiety Medications (Valium, Ambien, Xanax)

Caffeine and Chocolate (can increase side effects)

Topiramate

Indications: anti-seizure medication

Off Label Use: Migraine headache prevention, treatment of bipolar disorder and weight loss.

MOA for Weight Loss: Acts on frontal cortex of the brain to reduce appetite.

Deactivates the addictive center of the brain, cravings

Dose: 25-800 mg in Split Doses in higher amounts

Weight Loss Start: 50 mg @ bedtime

Side Effects:

Brain fog, Loss of mental alertness/intelligence, confusion, Attention Deficits,

Memory Loss, Dizziness, Fatigue,

Nausea, dry mouth, back pain, hair loss

Combination (AM) Phentermine (37.5 mg) + (PM) Topiramate (50 mg)

Effects of Inflammation on Weight Gain

- **Decreased T4 to T3 conversion (leading to a state of thyroid resistance)**
- **Increased insulin resistance (leading to weight gain)**
- **Low testosterone and increased expression of aromatase leading to high estrogen levels**
- **Increased leptin levels (leading to weight gain)**
- **Increased appetite**
- **Cytokines Involved:**
 - **IL-1, TNF α , IL-6**

53. Younger J, Parkitny L, McLain D. The use of low-dose naltrexone (LDN) as a novel anti-inflammatory treatment for chronic pain. *Clin Rheumatol.* 2014 Apr;33(4):451-9. doi: 10.1007/s10067-014-2517-2. Epub 2014 Feb 15. PMID: 24526250; PMCID: PMC3962576.

Naltrexone 3.5 mg/Bupropion 150 mg

Indications: Targets CNS Pathways Influencing Food Intake

MOA for Weight Loss: Combination of Opioid Antagonist and Anti-depressant

Who is It For: BMI >30 or BMI >27 with one comorbidity (HBP, DM, Inc. Lipids)

Why This Combo?: *Naltrexone*-Suppresses pro-opiomelanocortin (POMC) neuron inhibition in the hypothalamus

Bupropion-Activates POMC neurons

Result= Loss of Appetite; Increased Energy, Less food craving

Dose:	Week 1	1 tablet	None
	Week 2	1 tablet	1 tablet
	Week 3	2 tablets	1 tablet
	Week 4- Onward	2 tablets	2 tablets

Side Effects: Nausea (32%), constipation, headache, vomiting, dizziness, insomnia, dry mouth, diarrhea, anxiety, hot flashes, fatigue, tremor, upper abdominal pain, influenza, tinnitus, urinary tract infection, hypertension, hyperhidrosis, irritability, blood pressure spike, rash, muscle strain, and palpitation.

(54) Greenway, Frank; Whitehouse, M.J; Guttadauria, Maria; Anderson, James (2008). "Rational Design of a Combination Medication for the Treatment of Obesity". *Obesity* 17: 30-39.

(55) Apovian, Caroline; Aronne, Louis; Rubino, Domenica; Still, Christopher (2013). "A randomized, Phase 3 Trial of Naltrexone SR/Bupropion SR on Weight and Obesity-related Risk Factors (COR-II)". *Obesity* 21: 935-943

LDN and Weight Loss

1. **Naltrexone Reduces Insulin Resistance**
2. **Naltrexone Increases Growth Hormone**
 - a. *(Increased Insulin=Decreased GH)*
 - b. *Burns fat, Reduces Lean Body Weight*
3. **Naltrexone decreases cravings**
4. **Modulates Appetite by Modulating Opioid (Pleasure) Receptors**
5. **Naltrexone Acts as an Anti-Inflammatory Agent**
 - **Reduces Leptin, Estrogen= Weight Loss**
6. **Naltrexone Improves Sleep & Sleeping Patterns**
7. **Naltrexone increases total T3 levels and improves T4 to T3 conversion.**

Side Effects: Nausea (32%), insomnia (10%), nightmares (20.3%)

56. https://ldnresearchtrust.org/sites/default/files/LDN_Side_Effects_Results_Jan_2021_1.pdf

57. Tek, Cenk. "Naltrexone HCl/bupropion HCl for chronic weight management in obese adults: patient selection and perspectives." *Patient preference and adherence* vol. 10 751-9. 4 May. 2016, doi:10.2147/PPA.S84778

Naltrexone Implants Tidbits

- ❑ **Goal:** Reduce desire and reward of eating, drinking or smoking
- ❑ Aids in eliminating cravings encountered with lifestyle changes
- ❑ Naltrexone may NOT completely eliminate all cravings
- ❑ NOT a substitute for lifestyle changes
 - ❑ (Not a “miracle” drug-See Semaglutide)
- ❑ Effects of naltrexone pellets last 4 months then wear off
- ❑ May need to be combine with other medications
- ❑ **Dose: Oral: 1.5-4.5 mg/day**
- ❑ **Pellet-1.1-2.2 gm per 4 mo cycle (Insert in lower abdomen, buttock or lower lumbar spine)**
- ❑

Semaglutide - The Game Changer

Glucagon-Like Peptide 1 Analogue

Stimulates Insulin Secretion; Inhibits Glucagon

FDA Approved for Diabetes and Weight Loss

Improves Sleep

Controls Appetite and Cravings; Slows Stomach Emptying Time

Increases Resting Energy Expenditure

14.9% Average Weight Loss of 68 Weeks

32% of Patients Lose 20% of Initial Body Weight

70% of Patients Lose at Least 10% of Initial Body Weight

Wilding, J.P.H. Batterham, R.L., "Once-Weekly Semaglutide in Adults with Overweight or Obesity" March 18, 2021 N Engl J Med 2021; 384:989-1002 DOI: 10.1056/NEJMoa2032183

Semaglutide Characteristics

Absorption

SC

- **Bioavailability: 89%**
- **Peak plasma time: 1-3 days**
- **Plasma concentration, steady-state**
 - **65 ng/mL (0.5 mg/week); 123 ng/mL (1 mg/week); similar exposure is achieved with SC administration of semaglutide in the abdomen, thigh, or upper arm**
 - **Wegovy: 75 nmol/L; increases proportionally with doses up to 2.4 mg/week**

PO

- **Absolute bioavailability: 0.4-1%**
- **Peak plasma time: 1 hr**
- **Plasma concentration, steady-state: 6.7 nmol/L (7 mg/day); 14.6 nmol/L (14 mg/day)**
- **Steady-state: 4-5 weeks**

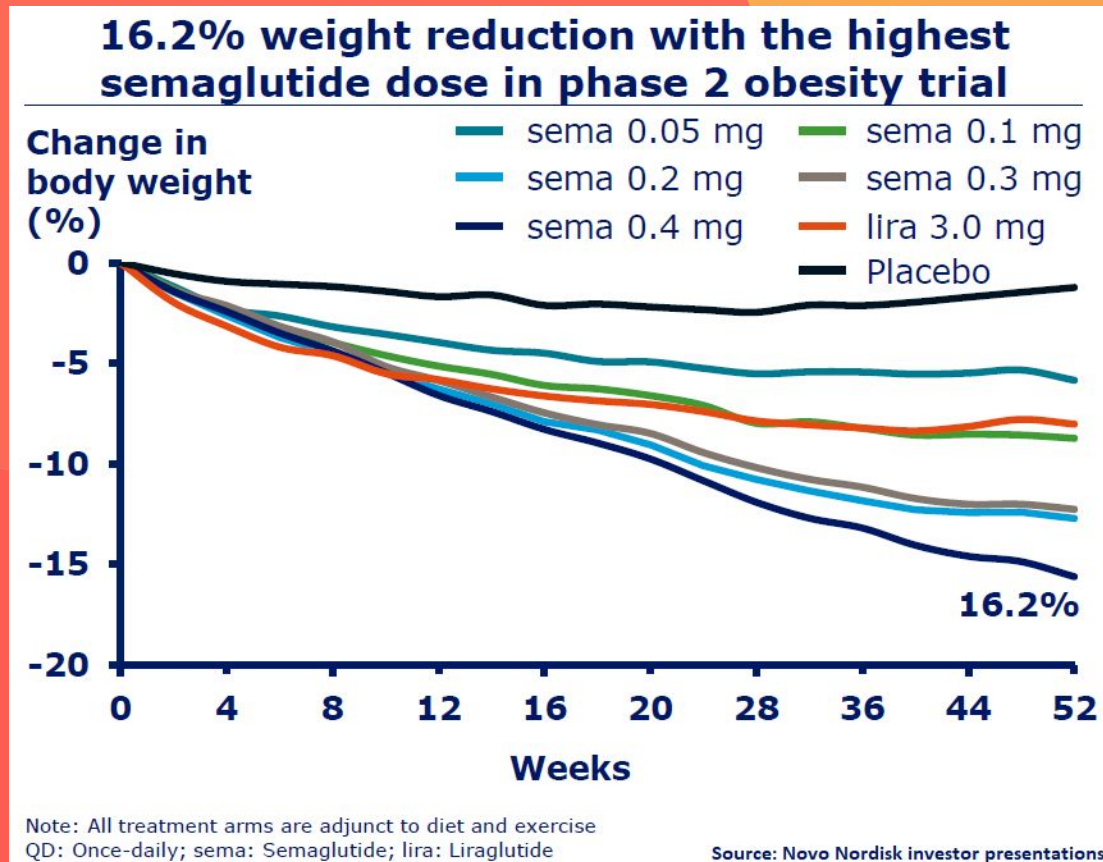
Excretion

Half-life: ~1 week

Clearance: 0.05 L/hr (SC); 0.04 L/hr (PO)

“16.2 % Weight Reduction with Highest Dose”

Maximum Dose: 2.4 mg/week

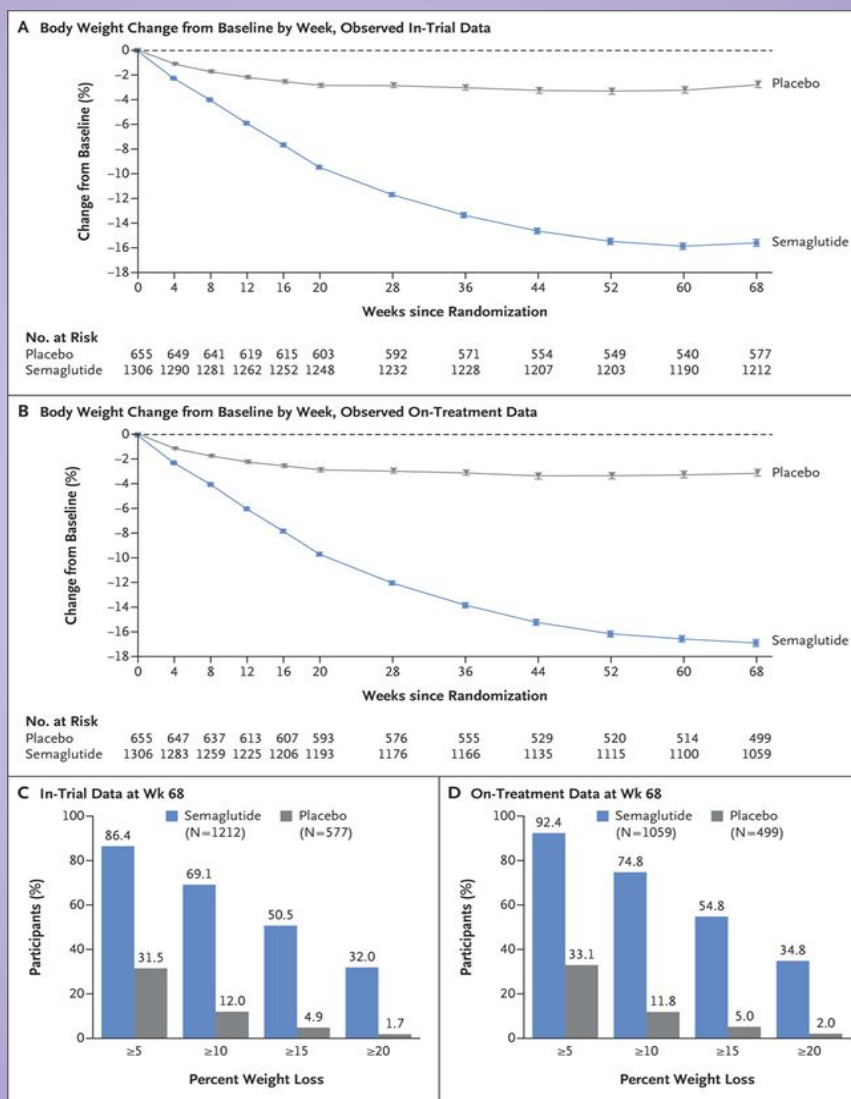


Effect of Once-Weekly Semaglutide, as Compared with Placebo, on Body Weight.

62. JP Wilding et al. N Engl J Med 2021;384:989-1002

**Panels A and B
=
Observed Mean
% Weight change
from baseline
over time**

**Panels C and D
=
Observed %
percentages of
participants who
had body-weight
reductions of at
least 5%, 10%,
15%, and 20%
from baseline to
week 68**



Semaglutide Particulars

Dosing Schedule:

- Weeks 1-4: 0.25 mg
- Weeks 5-8: 0.5 mg
- Weeks 9-12: 1 mg
- Week 13-16: 1.7 mg
- Week 17 and onward: 2.4 mg (maintenance)

Dosing Modifications:

Renal or hepatic impairment

- No dosage adjustment required

Upper GI tract disease

- PO: No dosage adjustment required

Drug Interactions:

- Use w Caution w Insulins and Oral DM Meds

Semaglutide Side Effects

Warning Will Robinson!

- Nausea (44%)
- Diarrhea (30%)
- Vomiting (24%)
- Constipation (24%)
- Abdominal pain (20%)
- Headache (14%)
- Fatigue (11%)



63.<https://reference.medscape.com/drug/ozempic-rybelsus-wegovy-semaglutide-1000174#4>

Semaglutide Warnings

Contraindicated: Personal or Family history of Medullary Thyroid Cancer

Routine monitoring of serum calcitonin or using thyroid ultrasound is of uncertain value for early detection of MTC in patients treated with semaglutide

Weight Loss Drug Issues:

- *Cholelithiasis*
- Hypoglycemia
- Heart rate increased (mean 1-4 bpm);
 - 10-19 bpm (41%); 20 bpm (26%)
- Suicidal behavior and ideation

The Problem with Semaglutide

Cost

Retail \$1500-\$1700/month

Discount Coupon-Approx \$1350/mo.

Medical Issue

44% incidence of nausea severe enough to cause discontinuation of regimen

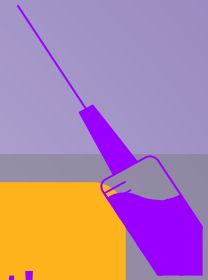
We Can Fix It!

65. John P.H. Wilding, D.M., Rachel L. Batterham, M.B., B.S., Ph.D., Salvatore Calanna, Ph.D., Once-Weekly Semaglutide in Adults with Overweight or Obesity DOI: 10.1056/NEJMoa2032183

66. Kushner RE, Calanna S, Davies M, Dicker D, Garvey WT, et.al., Semaglutide 2.4 mg for the Treatment of Obesity: Key Elements of the STEP Trials 1 to 5. *Obesity* (Silver Spring). 2020 Jun;28(6):1050-1061. doi: 10.1002/oby.22794. PMID: 32441473; PMCID: PMC7318657.

67. Yuko Tashiro, Kengo Sato, Takuya Watanabe, Kyoko Nohtomi, Michishige Terasaki, Masaharu Nagashima, Tsutomu Hirano, - "A glucagon-like peptide-1 analog liraglutide suppresses macrophage foam cell formation and atherosclerosis." - *Peptides*, 2014/01/10, DOI 10.1016/j.peptides.2013.12.015

Warning! Warning! "Off-Label" Dr. Clearfield's "S" and "B" Weight Loss Game Changer !



Semaglutide

Glucagon like Peptide 1 Analogue
Stimulates Insulin Secretion; Inhibits Glucagon
FDA approved for Type II Diabetes Mellitus
FDA approved for Weight Loss

Controls Appetite and Cravings
Slows Emptying Time from Stomach
Increases Resting Energy Expenditure
Improves Sleep
Mean 14.9 % Weight Loss in 68 Weeks

The "S" and "B" Shot!

Semaglutide 1.25 mg
+
BPC 157 1.25 mg
+
B6 40 mg/ml
=
5 ML Solution

Dose 0.2 cc Sub Q 5 Days/Week

BPC 157

Anti-inflammatory Agent from Gastric Juice
Promotes New Vascular Formation
Stimulates VEGF, FGF, TGF-*B*
Downregulates TNF-*A*

Revives, Repairs and Rejuvenates the GI Tract
Adjunct for IBD, Leaky Gut, GERD, IBS, Ulcerative
Colitis, Crohn's Dx: Gastric Ulcers
Anti-nausea, Vomiting, Diarrheal

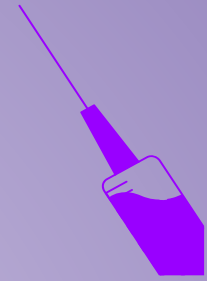
Vitamin B6

**Reduces Nausea, Vomiting up to 50% >
than Placebo**

Sahakian V, Rouse D, et. Al "Vitamin B6 is effective therapy for nausea and vomiting of pregnancy: a randomized, double-blind placebo-controlled study." *Obstet Gynecol.* 1991 Jul;78(1):33-6.
PMID: 2047064.

Dr. Clearfield's Weight Loss Game Changer !

Improved Semaglutide Injection Plan



1. Dr. C's Weight Loss Game Changer

- a. Semaglutide/BPC 157/B6
- b. 0.2 cc SQ in Abdomen 5 days/week
- c. 10 weeks on, 2-4 weeks off

2. AMPK

- a. Central regulator of energy homeostasis,
- b. Coordinator of metabolic pathways
- c. Balances nutrients with energy demand
- d. Dose: 1 in am

3. Diet

- a. Paleo
- b. Mediterranean
- c. Keto
- d. AIP

4. Exercise

- a. Choose 2 Per Day
 - i. 8 Minute Abs
 - ii. 8 Minute Legs
 - iii. 8 Minute Arms
 - iv. 8 Minute Buns
- b. 20-30 min aerobic exercise/day
 - i. Walk, Jog, Run, Bike, Row

5. Sweet Tooth, Appetite Killer


- a. 2 tablespoons Apple Cider Vinegar
in 6- Oz. Water

6. Add Ons (Choose 1)

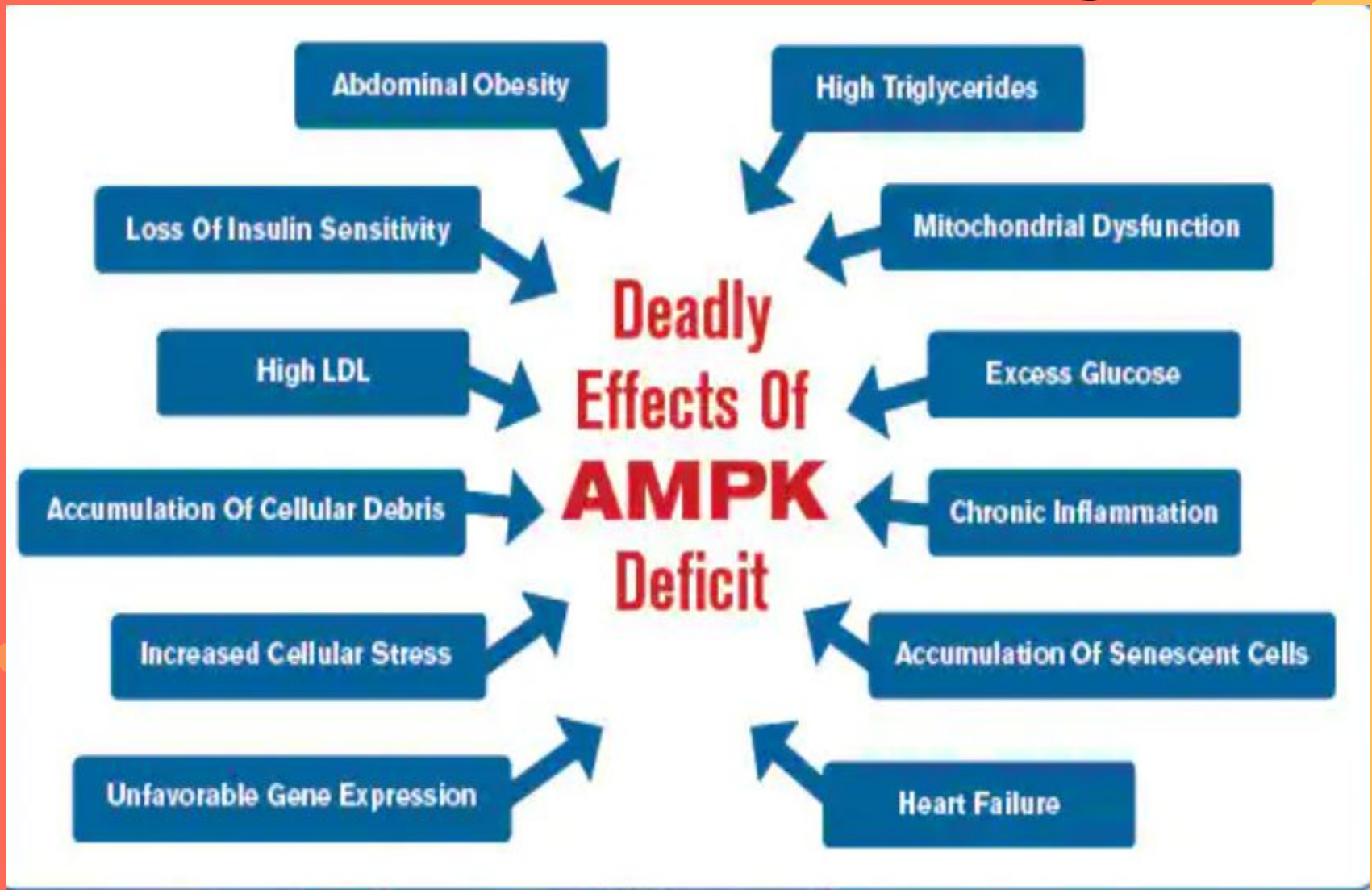
- a. Butyrate/Tributyryn-2/d
- b. Oxytocin-24 IU ac and hs.
Intranasal
- c. Tesofensine 1 mg sq daily

AMPK

5' adenosine monophosphate-activated protein kinase

- **AMPK System Acts as the Energy Sensor of the Cell**
 - **Is Activated During Energy Depletion**
- **AMPK is the Quintessential Metabolic Regulator**
- **Hormones and cytokines (Insulin, Leptin, Adiponectin) interacts w system**
- **AMPK Regulates (i.e. Improves) Glucose and Lipid Metabolism**
 - **Metformin and TZDs act as AMPK Activators**
- **AMPK Activation** 
 - **Switches Cells from ATP Consumption to Production**
- **Contains 3 Subunits**
 - **Alpha-catalytic**
 - **Beta-Glycogen sensor**
 - **Gamma- 2 Regulatory sites Bind Activating and Inhibitory Nucleotides**
 - **AMP and ATP**

AMPK Deficiency



Physiologic Functions of AMPK

In Skeletal Muscle (SKM)

SKM is Main Site of Glucose Disposal In Body

I.R. is an Early effects Muscle of Diabetic Patients

AMPK Targets Insulin Dependant Pathway to Restore Glucose Utilization

Exercise Increases Muscle Glucose Disposal In DM

AMPK Declines w Aging

Increased: Oxidative Stress, Apoptosis, Endoplasmic Stress,
Inflammation, Fat Deposition, Metabolic Syndrome

Inhibits:

mTOR, NF-kB, CRTC-1

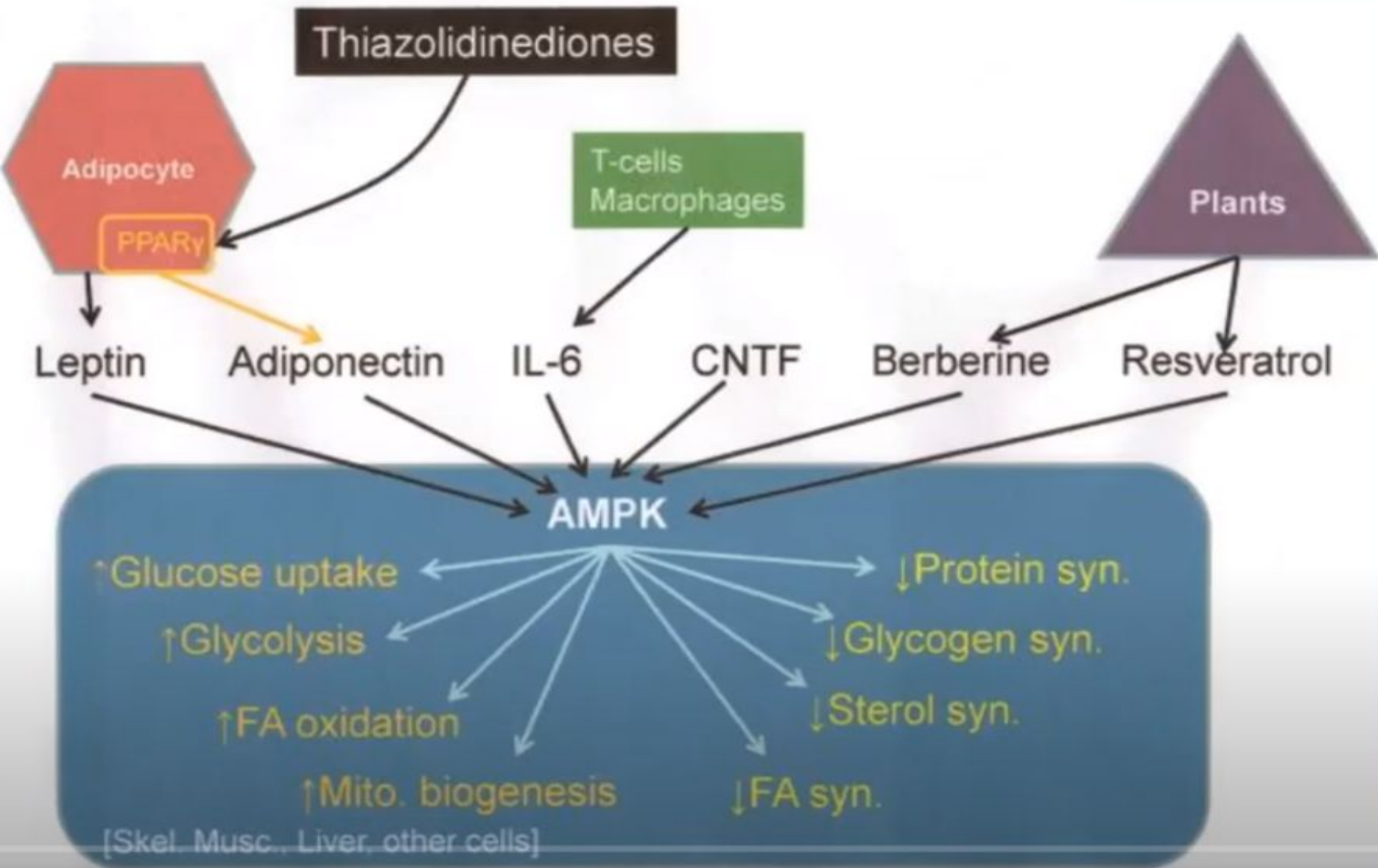
Activates:

Nrf2/SKN-1

Activated by:

Exercise, Heat Shock, Hormones (Adiponectin, Leptin), Phytochemicals, Metformin,
AICA, Methylene Blue

AMPK



Net Effect of AMPK

- 1. Stimulates hepatic fatty acid oxidation and ketogenesis**
- 2. Inhibits Cholesterol and Triglyceride Synthesis & lipogenesis**
- 3. Inhibits adipocyte lipolysis and lipogenesis**
- 4. Stimulates skeletal muscle fatty oxidation**
 - a. Stimulates muscle glucose uptake via pancreas beta cells**
- 5. Acts as the metabolic “master switch regulating:**
 - a. Cellular uptake of glucose**
 - b. B-oxidation of F.A.**
 - c. Biogenesis of GLUT4 (glucose transporter**

71. Yassin K, Huyen VT, Hoa KN, Ostenson CG. Herbal extract of gynostemma pentaphyllum decreases hepatic glucose output in type 2 diabetic goto-kakizaki rats. *Int J Biomed Sci.* 2011 Jun;7(2):131-6.

72. Huyen VT, Phan DV, Thang P, Hoa NK, Ostenson CG. Antidiabetic effect of Gynostemma pentaphyllum tea in randomly assigned type 2 diabetic patients. *Horm Metab Res.* 2010 May;42(5):353-7.

AMPK Activator Tips

Methylene Blue-Modulates autoimmune diseases via the AMP/SIRT1 Pathway + Th17/Treg immune reactions

Metformin-Inhibits mitochondrial respiratory chain in liver=inc insulin sensitivity in DMT2. Triggers autophagy

AICAR-Regulates glucose/lipid metabolism. Inhibits proinflammatory cytokines and iNOS production. Inhibits autophagy/mitophagy.

Gingerol-from Ginger. Antineoplastic, anti-inflammatory, anti-oxidant.

Ginkgolide C-from Ginkgo. Decreases platelet aggregation, ameliorates dementia

Butyrate- Short-chain fatty acid formed by fermentation in the large intestine. Reduces insulin resistance, adiposity

Gynostemma-Transports fats to cell to be utilized as energy. Reduces fat storage. Reduces insulin resistance up to 35%. Decreases glucose production by 29%

Preferred AMPK Activators-**Gynostemma**

- ❖ **Transports fats to cell to be utilized as energy**
- ❖ **Reduces visceral fat storage.**
- ❖ **Reduces insulin resistance up to 35%**
- ❖ **Decreases glucose production by 29%**
 - A 5-fold reduction in fasting glucose,
 - A 10-fold reduction in hemoglobin A1c, a measure of chronic glucose exposure,
 - A near 3-fold decrease in insulin resistance
 - No reports of hypoglycemic episodes
- ❖ **“Anti-aging” “Anti-obesity” Properties**

73. Gauhar R, Hwang SL, Jeong SS, et al. Heat-processed *Gynostemma pentaphyllum* extract improves obesity in ob/ob mice by activating AMP-activated protein kinase. *Biotechnol Lett.* 2012 Sep;34(9):1607-16.

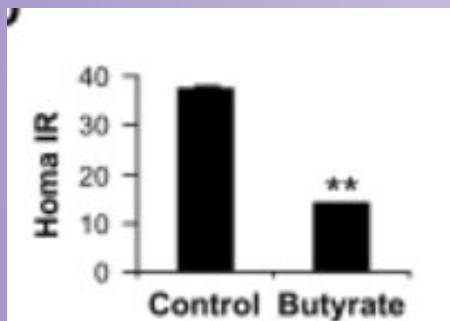
74. Nguyen PH, Gauhar R, Hwang SL, et al. New dammarane-type glucosides as potential activators of AMP-activated protein kinase (AMPK) from *Gynostemma pentaphyllum*. *Bioorg Med Chem.* 2011 Nov 1;19(21):6254-60.

75. Samuel MA, Voinescu PE, Lilley BN, et al. LKB1 and AMPK regulate synaptic remodeling in old age. *Nat Neurosci.* 2014 Aug 3.

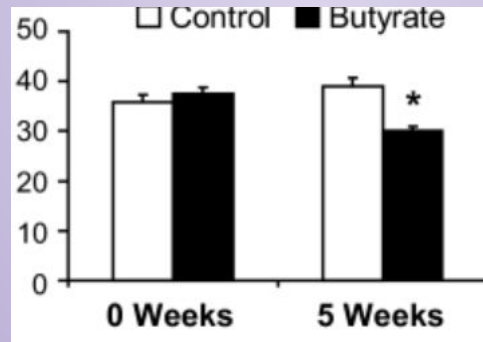
Preferred AMPK Activators- **Butyrate**

- ❖ A short-chain fatty acid formed by fermentation in the large intestine
- ❖ Reduces Insulin Resistance
- ❖ Enhances adaptive thermogenesis and fatty acid oxidation were enhanced
- ❖ Increases mitochondrial function/biogenesis in skeletal muscle/brown fat.
- ❖ Increases Energy Expenditure
- ❖ Inhibits growth/induces differentiation of abnormal cells, i.e antineoplastic

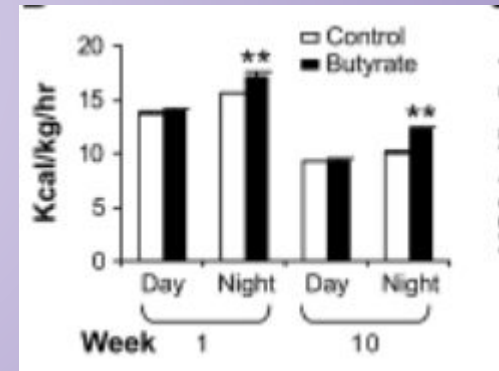
Insulin Resistance



Weight Change
(10.9%) Decrease



Energy Expended



76. Gao Z, Yin J, Zhang J, Ward RE, Martin RJ, Lefevre M, Cefalu WT, Ye J. Butyrate improves insulin sensitivity and increases energy expenditure in mice. *Diabetes*. 2009 Jul;58(7):1509-17. doi: 10.2337/db08-1637. Epub 2009 Apr 14. PMID: 19366864; PMCID: PMC2699871.

77. Tanja Gaschott, Dieter Steinhilber, Vladan Milovic, Jürgen Stein, Tributyrin, a Stable and Rapidly Absorbed Prodrug of Butyric Acid, Enhances Antiproliferative Effects of Dihydroxycholecalciferol in Human Colon Cancer Cells, *The Journal of Nutrition*, Volume 131, Issue 6, June 2001, Pages 1839–1843,


<https://doi.org/10.1093/jn/131.6.1839>

Tributylin-Butyrate Prodrug (79-82)

- Butyrate is rapidly metabolised via active transport system
- Unable to obtain adequate serum levels for therapy
- Increases energy expenditure and oxygen consumption
- Tributyrin-Natural Butyrate Prodrug when combine w Vit D V
 - Obtains Adequate Plasma concentrations for anti-neoplastic activity
 - Increases plasmatic butyrate levels up to 2.4 mM to sustain butyrate concentrations above 0.1 mM for more than 120 min after oral administration
- Anti-inflammatory-Inhibits IL-12, Increases (anti-inflammatory) IL-10,
 - Decreases TNF-A, IL-1 B, IL-6

Tributylin-Butyrate Prodrug (83-84)

1. **Weight Reduction**
 - a. Acts a prebiotic
 - b. Decrease in adipocyte hypertrophy
 - c. Improves mitochondrial function
 - d. No effect on heart, skeletal muscle or brown fat
 - e. Decreased cholesterol. triglycerides
 - f. Decreased leptin, resistin
 - g. Reduces blood sugar by stimulating GLP-1 receptors
 - i. Leaves patient feeling satiated
 - ii. Increased fat breakdown for energy
 - iii. Increased energy expenditure/increased oxygen consumption

2. **Attenuates Insulin Resistance**  **Fat Storage**

3. **Attenuates fatty infiltration of liver**

4. **Source: Plant Fibers, Butter, Ghee, Supplements**

Butyrate References

78. Schröder, C., Eckert, K. & Maurer, H. R. (1998) Tributyrin induces growth inhibitory and differentiating effects on HT-29 colon cancer cells *in vitro*. *Int. J. Oncol.*13:1335–1340.
79. Säemann MD, Böhmig GA, Osterreicher CH, Burtscher H, Parolini O, Diakos C, Stöckl J, Hörl WH, Zlabinger GJ. Anti-inflammatory effects of sodium butyrate on human monocytes: potent inhibition of IL-12 and up-regulation of IL-10 production. *FASEB J.* 2000 Dec;14(15):2380-2. doi: 10.1096/fj.00-0359fje. PMID: 11024006.
80. Egorin MJ , Yuan ZM , Sentz DL , Plaisance K , Eiseman JL. Plasma pharmacokinetics of butyrate after intravenous administration of sodium butyrate or oral administration of tributyrin or sodium butyrate to mice and rats. *Cancer Chemother Pharmacol* 43: 445–453, 1999.
81. Marco Aurélio Ramirez Vinolo, Hosana G. Rodrigues, William T. Festuccia, et. al., Tributyrin attenuates obesity-associated inflammation and insulin resistance in high-fat-fed mice, *American Journal of Physiology-Endocrinology and Metabolism* 2012 303:2, E272-E282
82. Lin HV , Frassetto A , Kowalik EJ , Nawrocki AR, et al., Butyrate and propionate protect against diet-induced obesity and regulate gut hormones via free fatty acid receptor 3-independent mechanisms. *PLoS One* 7: e35240, 2012.
83. Marco Aurélio Ramirez Vinolo, Hosana G. Rodrigues, William T. Festuccia, et. al., Tributyrin attenuates obesity-associated inflammation and insulin resistance in high-fat-fed mice, *American Journal of Physiology-Endocrinology and Metabolism* 2012 303:2, E272-E282
84. Miyoshi M , Sakaki H , Usami M , Iizuka N , Shuno K , Aoyama M , Usami Y. Oral administration of tributyrin increases concentration of butyrate in the portal vein and prevents lipopolysaccharide-induced liver injury in rats. *Clin Nutr* 30: 252–258, 2011

Oxytocin for Weight Loss

- ❖ Produced in Hypothalamus-Secreted in Posterior Pituitary
- ❖ Best Known for Effects on: Childbirth, breastfeeding, emotions
 - (love, affection, social behavior, and metabolic process)
- ❖ Increases energy intake, decreases food consumption
- ❖ Binds to oxytocin receptors found throughout the body
- ❖ Involved in nitric oxide production
- ❖ Associated with eating behaviors are oxytocin receptors in pancreas, adipocytes, and gastrointestinal tract.

85. Lawson EA. The effects of oxytocin on eating behaviour and metabolism in humans. *Nat Rev Endocrinol.* 2017;13:700–9. doi: 10.1038/nrendo.2017.115

86. Ferguson JN, Young LJ, Hearn EF, Matzuk MM, Insel TR, Winslow JT. Social amnesia in mice lacking the oxytocin gene. *Nat Genet.* 2000;25:284–8. doi: 10.1038/77040.

87. Jørgensen H, Knigge U, Kjaer A, Warberg J. Serotonergic involvement in stress-induced vasopressin and oxytocin secretion. *Eur J Endocrinol.* 2002;147:815–24. doi: 10.1530/eje.0.1470815

88. Blevins JE, Baskin DG. Translational and therapeutic potential of oxytocin as an anti-obesity strategy: insights from rodents, nonhuman primates and humans. *Physiol Behav.* 2015;152(Pt B):438–49. doi: 10.1016/j.physbeh.2015.05.023

Oxytocin for Weight Loss

- ❖ O decreases food intake, promotes lipolysis, oxidation of fats.
- ❖ O lowers body temperature/ visceral fat
- ❖ O increases thermoregulation and energy consumption.
 - Activates brown fat
- ❖ O plays a role in glucose and metabolic homeostasis
- ❖ O improves insulin sensitivity
- ❖ O increase satiety signaling in brain = decrease food intake
- ❖ Positive association w BMI, fat mass, obesity, metabolic syndrome
- ❖ O down regulates HPA axis
- ❖ O decreases ACTH, cortisol release
- ❖ O facilitates insulin secretion from *B* cells of pancreas
- ❖ Glucose metabolism is inversely related to O Levels

89. Chaves VE, Tilelli CQ, Brito NA, Brito MN. Role of oxytocin in energy metabolism. *Peptides*. 2013;45:9–14. doi: 10.1016/j.peptides.2013.04.010

90. Szulc P, Amri EZ, Varennes A, Panaia-Ferrari P, Fontas E, Goudable J, et al. High serum oxytocin is associated with metabolic syndrome in older men: the MINOS study. *Diabetes Res Clin Pract*. 2016;122:17–27. doi: 10.1016/j.diabres.2016.09.022.

91. Qian W, Zhu T, Tang B, Yu S, Hu H, Sun W, et al. Decreased circulating levels of oxytocin in obesity and newly diagnosed type 2 diabetic patients. *J Clin Endocrinol Metab*. 2014;99:4683–9. doi: 10.1210/jc.2014-2206.

Oxytocin for Weight Loss

O suppresses sugar/CHO intake-High O increases desire for fat intake

O decreases food intake and visceral fat

Chronic oxytocin infusions promotes fat usage and glucose tolerance

O decreases food consumption in males > females

O decreases food consumption in obese patients > thin patients

Dose: 24 IU 4x/d intranasally results in 4.6 kg wt. loss in 4 wks, 9.8 kg in 8 weeks

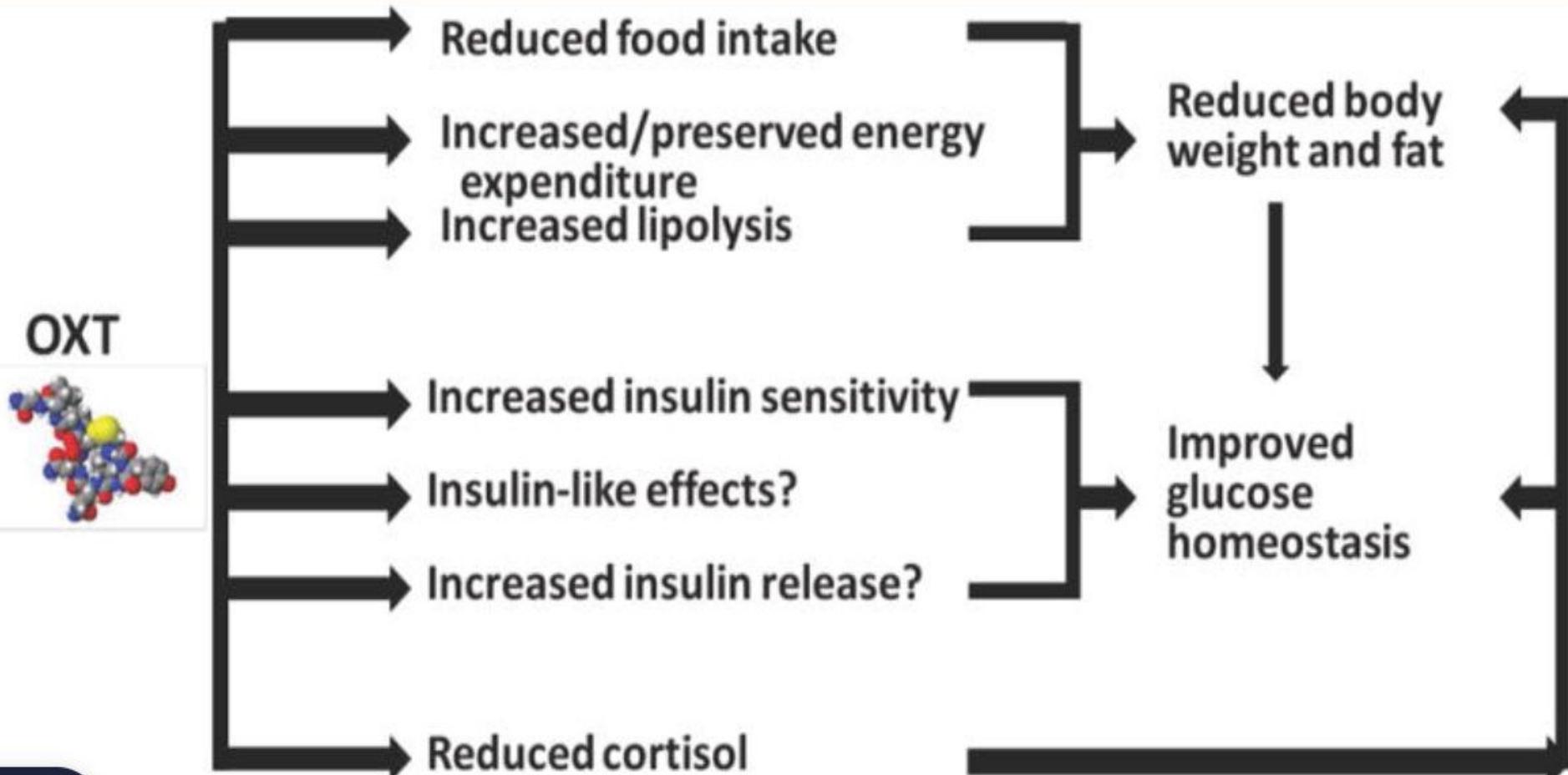
92. Sclafani A, Rinaman L, Vollmer RR, Amico JA. Oxytocin knockout mice demonstrate enhanced intake of sweet and nonsweet carbohydrate solutions. *Am J Physiol Regul Integr Comp Physiol.* 2007;292:R1828-33. doi: 10.1152/ajpregu.00826.2006.

93. Maejima Y, Iwasaki Y, Yamahara Y, Kodaira M, Sedbazar U, Yada T. Peripheral oxytocin treatment ameliorates obesity by reducing food intake and visceral fat mass. *Aging (Albany NY)* 2011;3:1169-77. doi: 10.18632/aging.100408

94. Altirriba J, Poher AL, Caillon A, Arsenijevic D, Veyrat-Durebex C, Lyautey J, et al. Divergent effects of oxytocin treatment of obese diabetic mice on adiposity and diabetes. *Endocrinology.* 2014;155:4189-201. doi: 10.1210/en.2014-1466.

95. Zhang H, Wu C, Chen Q, Chen X, Xu Z, Wu J, et al. Treatment of obesity and diabetes using oxytocin or analogs in patients and mouse models. *PLoS One.* 2013;8:e61477. doi: 10.1371/journal.pone.0061477.

Oxytocin for Weight Loss



Oxytocin for Weight Loss (Summary)

Intranasal Oxytocin 24 iu ac and hs

Acute Effects

- Reduces caloric intake at test meal and post-meal snack
- Reduces respiratory quotient = indicates increased fat utilization
- Increases fasting and postprandial insulin sensitivity
- Improves β -cell responsiveness to oral glucose tolerance test
- Reduces hypothalamic-pituitary-adrenal activity and reactivity

Chronic Effects

- ★ Reduced body weight and waist circumference
- ★ Reduced levels of total and LDL cholesterol

97. Lawson EA. The effects of oxytocin on eating behaviour and metabolism in humans. *Nat Rev Endocrinol.* 2017 Dec;13(12):700-709. doi: 10.1038/nrendo.2017.115. Epub 2017 Sep 29. PMID: 28960210; PMCID: PMC5868755.

Oxytocin for Weight Loss (Conclusions)

Intranasal Oxytocin 24 iu ac and hs

- **Oxytocin is a potent regulator of caloric intake and metabolism;**
- **A single dose of intranasal oxytocin reduces caloric intake in men, .**
- **Intranasal oxytocin acutely increases the use of fat as a fuel**
- **An 8-week study of intranasal oxytocin led to substantial weight loss.**
- **Oxytocin might improves glucose homeostasis**
- **Pathways that involve oxytocin offer novel therapeutic targets for obesity and metabolic disease.**

98. Lawson EA. The effects of oxytocin on eating behaviour and metabolism in humans. *Nat Rev Endocrinol.* 2017 Dec;13(12):700-709. doi: 10.1038/nrendo.2017.115. Epub 2017 Sep 29. PMID: 28960210; PMCID: PMC5868755.

AOD 9604 for Weight Loss

**16 Amino Acid Peptide from the C terminal end of HGH
Fragments 176-191**

Promotes tissue repair and weight reduction

Stimulates lipolysis/Inhibits lipogenesis-Non anabolic

Weight loss in obesity-no effect on non obese

No change in IGF-1 levels, No effect on insulin levels

Side Effects: Headaches

Other Uses:

**Osteoarthritis: 1 mg in 10 mg hyaluronic Acid IA weekly x 4 then
monthly x 3**

Osteoporosis: 1 mg/kg/d sq x 12 weeks

Post Herpetic Neuralgia/DM Neuropathy: 30 mg (PO) 2x/d

Migraine HA: 60 mg Orally 2x/d within 1 hr headache onset

AOD 9604 References

99. [HTTPS://WWW.ABC.NET.AU/SCIENCE/ARTICLES/2013/07/26/3811053.HTM](https://www.abc.net.au/science/articles/2013/07/26/3811053.htm)
100. NG FRANK, ET. AL. Metabolic studies on a synthetic lipolytic domain of human growth hormone. HORM RES 2000;53:274–278
101. HEFFERNAN M, ET. AL., ENDOCRINOLOGY 142(12):5182–5189
102. AOD 9604–ADVANCED OBESITY DRUG WITTERT GARY, ET. AL. AOD9604, AN ORALLY ACTIVE PEPTIDE FOR THE TREATMENT OF OBESITY: RESULTS OF A PHASE 2B STUDY. DIABETES; JUN 2005; 54, SCITECH PREMIUM COLLECTION PG. A440
103. STIER H, ET AL., SAFETY AND TOLERABILITY OF THE HEXADECA PEPTIDE AOD9604 IN HUMANS. J ENDOCRINOL METAB • 2013;3(1-2):7-15
104. KWON DR AND PARK GY. Effect of intra-articular injection of AOD9604 with or without hyaluronic acid in rabbit osteoarthritis model . ANNALS OF CLINICAL & LABORATORY SCIENCE, VOL. 45, NO. 4, 2015
105. ERIN EILEEN FAWCETT , The skeletal effects of a growth hormone-derived peptide (AOD9604) in the aged rat model of postmenopausal osteoporosis., 2004 DEPARTMENT OF LABORATORY MEDICINE AND PATHOBIOLOGY, UNIVERSITY OF TORONTO
106. <https://clinicaltrials.gov/ct2/show/NCT03865953?term=LAT8881&draw=2&rank=1>
107. <https://clinicaltrials.gov/ct2/show/NCT04153409?term=LAT8881&draw=2&rank=2>

Tirzepatide

MOA-A dual glucose-dependent insulinotropic polypeptide and glucagon-like peptide-1 (GLP-1) receptor agonist.

Dose- 5, 10, 15 mg IM weekly

HBA1c Improvement -2.1, -2.24, -2.30 (Semaglutide -1.86)

Weight Reduction—1.9, -3.6,-5.5 kg respectively

Side Effects-nausea, 17 to 22% and 18%; diarrhea, 13 to 16% and 12%; and vomiting, 6 to 10% and 8%, respectively

Tesofensine

MOA-a pre-synaptic reuptake inhibitor of dopamine, serotonin and noradrenaline resulting in feeling less hungry.

Other Observations-15% increased fat oxidation q24 hours vs placebo

Improved insulin utilization (decreases insulin resistance)

6% increase in energy expenditure

Doses-0.25 mg, 0.5 mg, 1 mg sq daily x 24 weeks

Weight Reduction-6.5%, 11.2%, 12.6% respectively

Side Effects-Insomnia, dry mouth, constipation, tachycardia, diarrhea, nausea, ,constipation, iincreased heart rate, high blood pressure (at highest doses)

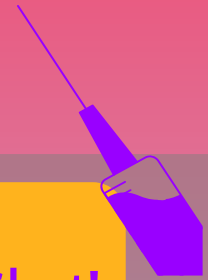
109. Doggrell SA. Tesofensine--a novel potent weight loss medicine. Evaluation of: Astrup A, Breum L, Jensen TJ, Kroustrup JP, Larsen TM. Effect of tesofensine on bodyweight loss, body composition, and quality of life in obese patients: a randomised, double-blind, placebo-controlled trial. *Lancet* 2008;372:1906-13. *Expert Opin Investig Drugs.* 2009;18(7):1043-1046. doi:10.1517/13543780902967632

Mots-C





Summary-Dr. Clearfield's Weight Loss Game Changer !



Semaglutide

Glucagon like Peptide 1 Analogue
Stimulates Insulin Secretion; Inhibits Glucagon
FDA approved for Type II Diabetes Mellitus
FDA approved for Weight Loss

Controls Appetite and Cravings
Slows Emptying Time from Stomach
Increases Resting Energy Expenditure
Improves Sleep
Mean 14.9 % Weight Loss in 68 Weeks

BPC 157

Anti-inflammatory Agent from Gastric Juice
Promotes New Vascular Formation
Stimulates VEGF, FGF, TGF-*B*
Downregulates TNF-*A*

Revives, Repairs and Rejuvenates the GI Tract
Adjunct for IBD, Leaky Gut, GERD, IBS, Ulcerative
Colitis, Crohn's Dx: Gastric Ulcers
Anti-nausea, Vomiting, Diarrheal

The "Game Changer" Shot!

Semaglutide 1.25 mg
+
BPC 157 1.25 mg
+
B6 40 mg/ml
=
5 ML Solution

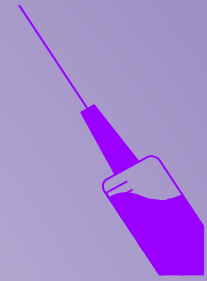
Dose 0.2 cc Sub Q 5 Days/Week

Vitamin B6

**Reduces Nausea, Vomiting up to 50% >
than Placebo**

Sahakian V, Rouse D, ,et. Al "Vitamin B6 is effective therapy for nausea and vomiting of pregnancy: a randomized, double-blind placebo-controlled study." *Obstet Gynecol.* 1991 Jul;78(1):33-6. PMID: 2047064.

Dr. Clearfield's Weight Loss Game Changer !



Improved Semaglutide Injection Plan

1. **Dr. C's Weight Loss Game Changer**
 - a. **Semaglutide/BPC 157/B6**
 - b. **0.2 cc SQ in Abdomen 5 days/week**
 - c. **10 weeks on, 2-4 weeks off**
2. **AMPK**
 - a. **Central regulator of energy homeostasis,**
 - b. **Coordinator of metabolic pathways**
 - c. **Balances nutrients with energy demand**
 - d. **Dose: 1 in am**
3. **Diet**
 - a. **Paleo**
 - b. **Mediterranean**
 - c. **Keto**
 - d. **AIP**
4. **Exercise**
 - a. **Choose 2 Per Day**
 - i. **8 Minute Abs**
 - ii. **8 Minute Legs**
 - iii. **8 Minute Arms**
 - iv. **8 Minute Buns**
 - b. **20-30 min aerobic exercise/day**
 - i. **Walk, Jog, Run, Bike, Row**
5. **Sweet Tooth, Appetite Killer**
 - a. **2 tablespoons Apple Cider Vinegar in 6- Oz. Water**
6. **Add Ons (Choose 1)**
 - a. **Butyrate/Tributylin-2/d**
 - b. **Oxytocin-24 IU ac and hs. Intranasal**
 - c. **Tesofensine 1 mg sq daily**



Game Changer Summary

- BENEFITS

By making a few simple changes to a patient's eating habits, we can attain short term benefits in the form of weight loss, and instill lifelong habits leading to physical, mental and spiritual well being.

Weight Loss Expected Gains

BENEFITS

- **Appropriate Eating Habits.**
- **Reduced Risk of Heart Disease**
- **Reduced Risk of Adult Onset Diabetes**
- **Reduced Risk of Osteoarthritis.**
- **Reduced Risk of Osteoporosis.**
- **Reduced Risk of Breast and other Cancers.**
- **Improved Immune System.**
- **Younger Looking Skin**
- **A Healthier Brain.**
- **Enhanced Sexual Function.**
- **Improved Energy.**

Some Diet Tips

- ❖ Eat 3-5 small meals per day
 - Do not skip meals.
- ❖ The Bad Guys
 - No white flour, white sugar, dairy, except for a limited amount of Greek yogurt
- ❖ Review and choose low-glycemic foods (<50)
 - Glycemic index offers information about how foods affect blood sugar and insulin.

Glycemic Index

Waffles, Aunt Jemima (Quaker Oats) 76

- Bagel, white, frozen 72
 - Corn tortilla 52
 - Wheat tortilla 30
 - Cornflakes™, average 93
 - Oatmeal, average 55
 - Instant oatmeal, average 83
 - Watermelon 72
 - Pear, average 38
 - Macaroni and Cheese (Kraft) 64
 - Spaghetti, white, boiled, average 46
- Watery fruits, while better than candy bars, are high in natural sugars.
 - Go easy on anything that needs to be mopped up after you bite into it (Bananas, mangos or melons.)

Glycemic Index

- Cornflakes™, average 93
- Oatmeal, average 55
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- Spaghetti, white, boiled, average 46
- Watery fruits, while better than candy bars, are high in natural sugars. Go easy on anything that needs to be mopped up after you bite into it (Bananas, mangos or melons.)

More Diet Tips

- ❖ **No carbohydrates after 8:00 pm. If hungry eat lean protein**
- ❖ **Add Fage or natural Greek yogurt to your routine.**
- ❖ **Avoid sugar and artificial sweeteners.**
- ❖ **Avoid fresh juices and all dried fruits.**
- ❖ **Bragg's Amino Acids with Lemon Juice is the best salad dressing or as a sweet tooth killer. Add 2 tablespoons to 6 oz water 2-3 times/day**
- ❖ **Use slow cooked (Steel cut oats) 30 min. oatmeal.**
- ❖ **Use a two week food-log periodically to get useful feedback.**
- ❖ **No diet drinks. Avoid all artificial sweeteners.**

And a Few More

- ❖ **Restrict alcohol to 2 drinks/day.**
- ❖ **Always shop at the periphery of the grocery store, avoid the aisles.**
- ❖ **Rather than cheating a little each day, have a Mardi Gras Meal once per two weeks.**
- ❖ **Drink 100 oz. of water per day. (8- 16 oz. extra water for every 20 min. of exercise).**
- ❖ **Eat slowly.**
- ❖ **Weekly injections (2 cc IM):**
 - Vitamin B 12, Methionine, Inositol, Choline – These amino acids promote weight reduction by increasing fat metabolism and through the Krebs Cycle.
- ❖ **Glutathione (600-1000 mg in 5 cc NSS IV Push)**

And More

- **Behavioral Support:**
- Each week we assign a “homework” assignment consisting of goal setting, dietary and supplement recommendations, exercise goals and spiritual inspiration.
- **Detoxification:**
- In certain cases a “detoxification” strategy is needed to remove any difficulty in weight loss.
- **Sleep:**
- Rescue Remedy Sleep or a combination of Vitamin D3 5000 IU, Melatonin 3-6 mg, and Magnesium taurate 400 mg, may be prescribed for sleep issues.

Mind/Body Connection

SPIRIT

BODY

you

SOUL

MIND

The Mind/Body Connection

"Unlock the Power of Mind-Body Connection: Dr. Clearfield's 8 Weekly Steps to Achieve Optimal Health."

1. **Week One** - *Set Realistic Goals with Action Steps*: Identify and set achievable goals for improving family relationships, spiritual contributions, physical and nutritional goals, educational objectives, and financial stability.
2. **Week Two** - *Rate Your Life Happiness Index*: On a scale from 1 to 10 (10 being perfect), rate your life happiness index in the following categories: Diet, Exercise, Life Plan, Love of Work, Romance, and Finishing What You Start, Children, Family, Financial Planning, Music/Dance/Art, Hobbies, Adventure/Risk, Down Time/Relaxation, Giving Back/Charity Work and Gratitude.

The Mind/Body Connection

"Unlock the Power of Mind-Body Connection: Dr. Clearfield's 8 Weekly Steps to Achieve Optimal Health."

3. **Week Three** - *The Big Question*: If we meet back in 6 months or 5 years, what would have to happen in your life for you to feel great about it? Think about what accomplishments, achievements, and goals you want to be proud of when we reunite. How can you start making progress towards these goals now?
4. **Week Four**-*Set Goals for the Next Week, Month, and Year*: *Creating goals in various categories can help keep you focused on different areas of your life that need attention. Consider setting goals related to Family relationships, Spiritual Contributions, Physical and Nutritional goals, Educational Objectives, and Financial Stability. Week four's exercise can be an effective way to plan and focus your energy toward achieving a desired outcome in each area.*

5.

The Mind/Body Connection

"Unlock the Power of Mind-Body Connection: Dr. Clearfield's 8 Weekly Steps to Achieve Optimal Health."

5. **Week Five-Your Bucket List:** What experiences do you want to have before moving on?
6. **Week Six-Six Month Vision-**Six weeks ago, when you did your Life Happiness Scale assessment, you were in a different place in life. Your goals and aspirations seemed impossible to achieve. Yet here we are. Write a letter to yourself describing the changes that have occurred since we started this program and where you hope to be six months from now?
7. **Week Seven-Five Year Vision-**Write a letter to yourself. How have the parts on your Life Happiness Scale Changed? What do they look like now? Address an Envelope and Place It in A Safe Place. Review it in 5 Years to Compare Your Desires with Your Reality.
8. **Week Eight-Next Generation Goals:**
 - a. Write Down 5 new goals to pursue in the next eight weeks, months, years
 - b. Identity 2 Actions You Have Learned to Support Others
 - c. Identify Three New Patterns That Will Help You Stay on Track and Continue Reaching Your Goals
- 9.

The Mind/Body Connection

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 - c. Identify Three New Patterns That Will Help You Stay on Track and Continue Reaching Your Goals

Rinse, Repeat and Send on to a Colleague

References for The New Face of Weight Loss

1. Banting, William, "A Letter of Corpulence," Hanson, 59, Pall Mall, Kensington, England; P.1 (1869)
2. Banting, William, "A Letter of Corpulence," Hanson, 59, Pall Mall, Kensington, England; P.1 (1869)
3. <http://www.lowcarb.ca/corpulence/>
4. Bray, George A., "Commentary on Banting's Letters," Obesity Research, Vol 1, No. 2 March 1993, p. 148-151.
5. John P.H. Wilding, D.M., Rachel L. Batterham, M.B., B.S., Ph.D., "Once-Weekly Semaglutide in Adults with Overweight or Obesity" [March 18, 2021](#) N Engl J Med 2021; 384:989-1002 DOI: 10.1056/NEJMoa2032183
6. National Center for Health Statistics. Health, United States, 2008 With Chartbook Hyattsville, MD: 2009.
7. U.S Department of Agriculture, Human Nutrition Information Service, August 1992, Leaflet 572.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5507106/pdf/AMS-13-27238.pdf>

References for The New Face of Weight Loss

8. <https://www.testing.com/tests/c-reactive-protein-crp/>
9. Bowden RG, Wilson RL, Deike E, Gentile M. Fish oil supplementation lowers C-reactive protein levels independent of triglyceride reduction in patients with end-stage renal disease. *Nutr Clin Pract*. 2009 Aug-Sep;24(4):508-12. doi: 10.1177/0884533609335376. Epub 2009 May 21. PMID: 19461006.
10. Gorabi, A. M., Abbasifard, M., Imani, D., Aslani, S., Razi, B., Alizadeh, S., Bagheri-Hosseiniabadi, Z., Sathyapalan, T., & Sahebkar, A. (2022). Effect of curcumin on C-reactive protein as a biomarker of systemic inflammation: An updated meta-analysis of randomized controlled trials. *Phytotherapy Research*, 36(1), 85– 97.
<https://doi.org/10.1002/ptr.7284>
11. De Stefano A, Mannucci L, Tamburi F, Cardillo C, Schinzari F, Rovella V, Nisticò S, Bennardo L, Di Daniele N, Tesauro M. Lp-PLA2, a new biomarker of vascular disorders in metabolic diseases. *Int J Immunopathol Pharmacol*. 2019 Jan-Dec;33:2058738419827154. doi: 10.1177/2058738419827154. PMID: 30706739; PMCID: PMC6360470.
12. <https://www.walkinlab.com/products/view/myeloperoxidase-antibody-mpo-blood-test>
13. <https://health.gov/our-work/nutrition-physical-activity/dietary-guidelines/previous-dietary-guidelines/2015>
14. <https://www.nowleap.com/understanding-diet-induced-inflammation/>
15. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5507106/pdf/AMS-13-27238.pdf>
16. <http://aven.amritalearning.com/index.php?sub=99&brch=289&sim=1433&cnt=3271>

References for The New Face of Weight Loss

17. Kratz, M., Micronutrient Deficiencies: Why Nutrition Matters, *Nourished by Science*, March 2022
<https://nourishedbyscience.com/2022/03/22/micronutrient-deficiencies-why-nutrition-matters-part-a/>
18. Freire, Rachel. "Scientific evidence of diets for weight loss: Different macronutrient composition, intermittent fasting, and popular diets." *Nutrition* 69 (2019): 110549 .
19. Nichols GA, Hillier TA, Brown JB. Normal fasting plasma glucose and risk of type 2 diabetes diagnosis. *Am J Med.* 2008 Jun;121(6):519-24. doi: 10.1016/j.amjmed.2008.02.026. PMID: 18501234.
20. Birjais, R., Mourya, A.K., Chauhan, R. *et al.* Prediction and diagnosis of future diabetes risk: a machine learning approach. *SN Appl. Sci.* 1, 1112 (2019).
<https://doi.org/10.1007/s42452-019-1117-9>
21. <https://my.clevelandclinic.org/health/diagnostics/22393-homocysteine-test#:~:text=A%20homocysteine%20test%20is%20a,higher%20risk%20for%20cardiovascular%20disease.>
22. <https://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/>
23. <https://www.spectracell.com/micronutrient-test-panel>
24. Kagal U. A, Hogade A. P. Effect of High Carbohydrate Diet on Complete Freund's Adjuvant Induced Inflammation in Rats. *Vivo Biomed Pharmacol* | 2019;12(3)

References for The New Face of Weight Loss

25. J Am Coll Nutr. 2015;34 Suppl 1:14-21. doi: 10.1080/07315724.2015.1080105.
26. chrome-extension://efaidnbnmnnibpcajpcglclefindmkaj/https://www.fammed.wisc.edu/files/webfm-uploads/documents/outreach/im/handout_elimination_diet_patient.pdf
27. Institute for Functional Medicine, 2013
28. Konijeti, Gauree G et al. "Efficacy of the Autoimmune Protocol Diet for Inflammatory Bowel Disease." *Inflammatory bowel diseases* vol. 23,11 (2017): 2054-2060. doi:10.1097/MIB.0000000000001221
29. chrome-extension://efaidnbnmnnibpcajpcglclefindmkaj/<https://healthcareblocks-storage-mybodysite.s3.amazonaws.com/storage/userFiles/pdf/William%20Clearfield%20DO%20-%20AIP%20Yes%20Foods.pdf>
30. <https://rejuvenatereno.mybodysite.com/>
31. <https://www.beyondceliac.org/celiac-disease/non-celiac-gluten-sensitivity/>
32. <https://www.popzeropopcorn.com/blogs/health/naturally-gluten-free-foods>
33. <https://www.popzeropopcorn.com/blogs/health/naturally-gluten-free-foods>
34. <https://www.beyondceliac.org/gluten-free-diet/getting-started/download-the-getting-started-guide/?submissionGuid=a810f8a6-2cde-4337-a297-fa3a5d409494>

References for The New Face of Weight Loss

35. Bakhach M, Shah V, Harwood T, Lappe S, Bhesania N, Mansoor S, Alkhouri N. The Protein-Sparing Modified Fast Diet: An Effective and Safe Approach to Induce Rapid Weight Loss in Severely Obese Adolescents. *Glob Pediatr Health*. 2016 Jan 22;3:2333794X15623245. doi: 10.1177/2333794X15623245. PMID: 27335996; PMCID: PMC4784653.
36. Bakhach M, Shah V, Harwood T, Lappe S, Bhesania N, Mansoor S, Alkhouri N. The Protein-Sparing Modified Fast Diet: An Effective and Safe Approach to Induce Rapid Weight Loss in Severely Obese Adolescents. *Glob Pediatr Health*. 2016 Jan 22;3:2333794X15623245. doi: 10.1177/2333794X15623245. PMID: 27335996; PMCID: PMC4784653.
37. Matura S, Okashi M, Chan HC, et al. Physiochemical and immunological characterization of an HCG-like substance from human pituitary glands. *Nature*. 1980;286:740-741.
38. Tennant F. Human Chorionic Gonadotropin in Pain Treatment. *Pract Pain Manag*. 2009;9(5).
39. Odell WD, Griffin J. Pulsatile secretion of human chorionic gonadotropin in normal adults. *N Engl J Med*. 1987;817;1688-1692
40. <https://www.goodto.com/wellbeing/diets-exercise/woman-s-own-apple-diet-65558>

References for The New Face of Weight Loss

41. Pesta DH, Samuel VT. A high-protein diet for reducing body fat: mechanisms and possible caveats. *Nutr Metab (Lond)*. 2014 Nov 19;11(1):53. doi: 10.1186/1743-7075-11-53. PMID: 25489333; PMCID: PMC4258944.
42. <https://drclearfield.net/reno-weight-loss-treatment/mini-fast/>
43. Axe, J., 7 Benefits of a Bone Broth Fast: Stronger Gut, Skin + More, <https://draxe.com/nutrition/bone-broth-fast/> September, 2022
44. <https://drclearfield.net/reno-weight-loss-treatment/mini-fast/>
45. Joseph, M., “Keto vs. Paleo-How Do These Popular Diets Compare?” <https://www.nutritionadvance.com/keto-vs-paleo/>
46. https://eighty20nutrition.com/what_is_paleo/
47. <https://www.upandalive.com/paleo-basics/>
48. <https://www.express.co.uk/life-style/diets/1188295/weight-loss-diet-macros-what-are-keto>
49. <https://www.amazon.com/Ketogenic-Diet-Cookbook-Beginners-Delicious-ebook/dp/B01H4EAVNU?asin=B01H4EAVNU&revisionId=817fce27&format=1&depth=1>
50. Kaplan LM. Pharmacologic therapies for obesity. *Gastroenterol Clin N Am*. 2010;39:69-79.
51. <https://www.drugs.com/drug-interactions/phentermine.html>

References for The New Face of Weight Loss

52. Moradi S, Kerman SR, Mollabashi M. The effect of topiramate on weight loss in patients with type 2 diabetes. *J Res Med Sci*. 2013 Apr;18(4):297-302. PMID: 24124426; PMCID: PMC3793374.
53. Younger J, Parkitny L, McLain D. The use of low-dose naltrexone (LDN) as a novel anti-inflammatory treatment for chronic pain. *Clin Rheumatol*. 2014 Apr;33(4):451-9. doi: 10.1007/s10067-014-2517-2. Epub 2014 Feb 15. PMID: 24526250; PMCID: PMC3962576.
54. Greenway, Frank; Whitehouse, M.J; Guttadauria, Maria; Anderson, James (2008). "Rational Design of a Combination Medication for the Treatment of Obesity". *Obesity* 17: 30-39.
55. Apovian, Caroline; Aronne, Louis; Rubino, Domenica; Still, Christopher (2013). "A randomized, Phase 3 Trial of Naltrexone SR/Bupropion SR on Weight and Obesity-related Risk Factors (COR-II)". *Obesity* 21: 935-943
56. https://ldnresearchtrust.org/sites/default/files/LDN_Side_Effects_Results_Jan_2021_1.pdf
57. Tek, Cenk. "Naltrexone HCl/bupropion HCl for chronic weight management in obese adults: patient selection and perspectives." *Patient preference and adherence* vol. 10 751-9. 4 May. 2016, doi:10.2147/PPA.S84778

References for The New Face of Weight Loss

58. Martinez, E., Subcutaneous Naltrexone Therapy, Lecture Notes AMMG, April 10, 2022, Miami, Fla.
59. John, P.H., Wilding, D.M., Batterham, R., “Once Weekly Semaglutide in Adults with Overweight or Obesity” March 18, 2021, N Engl J Med 2021: 384:989-1002 DOI:10.1056/NEJMoa2032183
60. John, P.H., Wilding, D.M., Batterham, R., “Once Weekly Semaglutide in Adults with Overweight or Obesity” March 18, 2021, N Engl J Med 2021: 384:989-1002 DOI:10.1056/NEJMoa2032183
61. Novo-Nordisk investor presentation
62. JP Wilding et al. N Engl J Med 2021;384:989-1002
63. <https://reference.medscape.com/drug/ozempic-rybelsus-wegovy-semaglutide-1000174#4>
64. <https://reference.medscape.com/drug/ozempic-rybelsus-wegovy-semaglutide-1000174#5>
65. John P.H. Wilding, D.M., Rachel L. Batterham, M.B., B.S., Ph.D., Salvatore Calanna, Ph.D., Once-Weekly Semaglutide in Adults with Overweight or Obesity DOI: 10.1056/NEJMoa2032183

References for The New Face of Weight Loss

66. Kushner RF, Calanna S, Davies M, Dicker D, Garvey WT, et.al., Semaglutide 2.4 mg for the Treatment of Obesity: Key Elements of the STEP Trials 1 to 5. *Obesity* (Silver Spring). 2020 Jun;28(6):1050-1061. doi: 10.1002/oby.22794. PMID: 32441473; PMCID: PMC7318657.
67. Yuko Tashiro, Kengo Sato, Takuya Watanabe, Kyoko Nohtomi, Michishige Terasaki, Masaharu Nagashima, Tsutomu Hirano, - "A glucagon-like peptide-1 analog liraglutide suppresses macrophage foam cell formation and atherosclerosis." - *Peptides*, 2014/01/10, DOI 10.1016/j.peptides.2013.12.015
68. John P.H. Wilding, D.M., Rachel L. Batterham, M.B., B.S., Ph.D., "Once-Weekly Semaglutide in Adults with Overweight or Obesity" March 18, 2021 *N Engl J Med* 2021; 384:989-1002 DOI: 10.1056/NEJMoa2032183
69. *Ibid*
70. <https://www.lifeextension.com/magazine/2014/ss/ampk>
71. Yassin K, Huyen VT, Hoa KN, Ostenson CG. Herbal extract of gynostemma pentaphyllum decreases hepatic glucose output in type 2 diabetic goto-kakizaki rats. *Int J Biomed Sci*. 2011 Jun;7(2):131-6.

References for The New Face of Weight Loss

72. Huyen VT, Phan DV, Thang P, Hoa NK, Ostenson CG. Antidiabetic effect of *Gynostemma pentaphyllum* tea in randomly assigned type 2 diabetic patients. *Horm Metab Res.* 2010 May;42(5):353-7.
73. Gauhar R, Hwang SL, Jeong SS, et al. Heat-processed *Gynostemma pentaphyllum* extract improves obesity in ob/ob mice by activating AMP-activated protein kinase. *Biotechnol Lett.* 2012 Sep;34(9):1607-16.
74. Nguyen PH, Gauhar R, Hwang SL, et al. New dammarane-type glucosides as potential activators of AMP-activated protein kinase (AMPK) from *Gynostemma pentaphyllum*. *Bioorg Med Chem.* 2011 Nov 1;19(21):6254-60.
75. Samuel MA, Voinescu PE, Lilley BN, et al. LKB1 and AMPK regulate synaptic remodeling in old age. *Nat Neurosci.* 2014 Aug 3.
76. Gao Z, Yin J, Zhang J, Ward RE, Martin RJ, Lefevre M, Cefalu WT, Ye J. Butyrate improves insulin sensitivity and increases energy expenditure in mice. *Diabetes.* 2009 Jul;58(7):1509-17. doi: 10.2337/db08-1637. Epub 2009 Apr 14. PMID: 19366864; PMCID: PMC2699871.

References for The New Face of Weight Loss

77. Tanja Gaschott, Dieter Steinhilber, Vladan Milovic, Jürgen Stein, Tributyrin, a Stable and Rapidly Absorbed Prodrug of Butyric Acid, Enhances Antiproliferative Effects of Dihydroxycholecalciferol in Human Colon Cancer Cells, *The Journal of Nutrition*, Volume 131, Issue 6, June 2001, Pages 1839–1843, <https://doi.org/10.1093/jn/131.6.1839>
78. Schröder, C., Eckert, K. & Maurer, H. R. (1998) Tributyrin induces growth inhibitory and differentiating effects on HT-29 colon cancer cells *in vitro*. *Int. J. Oncol.*13:1335–1340.
79. Säemann MD, Böhmig GA, Osterreicher CH, Burtscher H, Parolini O, Diakos C, Stöckl J, Hörl WH, Zlabinger GJ. Anti-inflammatory effects of sodium butyrate on human monocytes: potent inhibition of IL-12 and up-regulation of IL-10 production. *FASEB J.* 2000 Dec;14(15):2380-2. doi: 10.1096/fj.00-0359fje. PMID: 11024006
80. Egorin MJ , Yuan ZM , Sentz DL , Plaisance K , Eiseman JL. Plasma pharmacokinetics of butyrate after intravenous administration of sodium butyrate or oral administration of tributyrin or sodium butyrate to mice and rats. *Cancer Chemother Pharmacol* 43: 445–453, 1999.

References for The New Face of Weight Loss

81. Marco Aurélio Ramirez Vinolo, Hosana G. Rodrigues, William T. Festuccia, et al., Tributyrin attenuates obesity-associated inflammation and insulin resistance in high-fat-fed mice, *American Journal of Physiology-Endocrinology and Metabolism* 2012 303:2, E272-E282
82. Lin HV , Frassetto A , Kowalik EJ , Nawrocki AR, et al., Butyrate and propionate protect against diet-induced obesity and regulate gut hormones via free fatty acid receptor 3-independent mechanisms. *PLoS One* 7: e35240, 2012.
83. Marco Aurélio Ramirez Vinolo, Hosana G. Rodrigues, William T. Festuccia, et al., Tributyrin attenuates obesity-associated inflammation and insulin resistance in high-fat-fed mice, *American Journal of Physiology-Endocrinology and Metabolism* 2012 303:2, E272-E282
84. Miyoshi M , Sakaki H , Usami M , Iizuka N , Shuno K , Aoyama M , Usami Y. Oral administration of tributyrin increases concentration of butyrate in the portal vein and prevents lipopolysaccharide-induced liver injury in rats. *Clin Nutr* 30: 252–258, 2011
85. Lawson EA. The effects of oxytocin on eating behaviour and metabolism in humans. *Nat Rev Endocrinol.* 2017;13:700–9. doi: 10.1038/nrendo.2017.115

References for The New Face of Weight Loss

86. Ferguson JN, Young LJ, Hearn EF, Matzuk MM, Insel TR, Winslow JT. Social amnesia in mice lacking the oxytocin gene. *Nat Genet.* 2000;25:284–8. doi: 10.1038/77040.
87. Jørgensen H, Knigge U, Kjaer A, Warberg J. Serotonergic involvement in stress-induced vasopressin and oxytocin secretion. *Eur J Endocrinol.* 2002;147:815–24. doi: 10.1530/eje.0.1470815
88. Blevins JE, Baskin DG. Translational and therapeutic potential of oxytocin as an anti-obesity strategy: insights from rodents, nonhuman primates and humans. *Physiol Behav.* 2015;152(Pt B):438–49. doi: 10.1016/j.physbeh.2015.05.023
89. Chaves VE, Tilelli CQ, Brito NA, Brito MN. Role of oxytocin in energy metabolism. *Peptides.* 2013;45:9–14. doi: 10.1016/j.peptides.2013.04.010
90. Szulc P, Amri EZ, Varennes A, Panaia-Ferrari P, Fontas E, Goudable J, et al. High serum oxytocin is associated with metabolic syndrome in older men: the MINOS study. *Diabetes Res Clin Pract.* 2016;122:17–27. doi: 10.1016/j.diabres.2016.09.022.
91. Qian W, Zhu T, Tang B, Yu S, Hu H, Sun W, et al. Decreased circulating levels of oxytocin in obesity and newly diagnosed type 2 diabetic patients. *J Clin Endocrinol Metab.* 2014;99:4683–9. doi: 10.1210/jc.2014-2206

References for The New Face of Weight Loss

92. Sclafani A, Rinaman L, Vollmer RR, Amico JA. Oxytocin knockout mice demonstrate enhanced intake of sweet and nonsweet carbohydrate solutions. *Am J Physiol Regul Integr Comp Physiol*. 2007;292:R1828–33. doi: 10.1152/ajpregu.00826.2006.
93. Maejima Y, Iwasaki Y, Yamahara Y, Kodaira M, Sedbazar U, Yada T. Peripheral oxytocin treatment ameliorates obesity by reducing food intake and visceral fat mass. *Aging (Albany NY)* 2011;3:1169–77. doi: 10.18632/aging.100408
94. Altirriba J, Poher AL, Caillon A, Arsenijevic D, Veyrat-Durebex C, Lyautey J, et al. Divergent effects of oxytocin treatment of obese diabetic mice on adiposity and diabetes. *Endocrinology*. 2014;155:4189–201. doi: 10.1210/en.2014-1466.
95. Zhang H, Wu C, Chen Q, Chen X, Xu Z, Wu J, et al. Treatment of obesity and diabetes using oxytocin or analogs in patients and mouse models. *PLoS One*. 2013;8:e61477. doi: 10.1371/journal.pone.0061477.
96. Lawson EA. The effects of oxytocin on eating behaviour and metabolism in humans. *Nat Rev Endocrinol*. 2017 Dec;13(12):700-709. doi: 10.1038/nrendo.2017.115. Epub 2017 Sep 29. PMID: 28960210; PMCID: PMC5868755.

References for The New Face of Weight Loss

97. Lawson EA. The effects of oxytocin on eating behaviour and metabolism in humans. *Nat Rev Endocrinol*. 2017 Dec;13(12):700-709. doi: 10.1038/nrendo.2017.115. Epub 2017 Sep 29. PMID: 28960210; PMCID: PMC5868755.
98. *ibid.*
99. [HTTPS://WWW.ABC.NET.AU/SCIENCE/ARTICLES/2013/07/26/3811053.HTM](https://www.abc.net.au/science/articles/2013/07/26/3811053.htm)
100. NG FRANK, ET. AL. Metabolic studies on a synthetic lipolytic domain of human growth hormone. *HORM RES* 2000;53:274–278
101. HEFFERNAN M, ET. AL., *ENDOCRINOLOGY* 142(12):5182–5189
102. AOD 9604–ADVANCED OBESITY DRUG WITTERT GARY, ET. AL. AOD9604, AN ORALLY ACTIVE PEPTIDE FOR THE TREATMENT OF OBESITY: RESULTS OF A PHASE 2B STUDY. *DIABETES*; JUN 2005; 54, SCITECH PREMIUM COLLECTION PG. A440
103. STIER H, ET AL., SAFETY AND TOLERABILITY OF THE HEXADECA PEPTIDE AOD9604 IN HUMANS. *J ENDOCRINOL METAB* • 2013;3(1-2):7-15

References for The New Face of Weight Loss

104. KWON DR AND PARK GY. Effect of intra-articular injection of AOD9604 with or without hyaluronic acid in rabbit osteoarthritis model . ANNALS OF CLINICAL & LABORATORY SCIENCE, VOL. 45, NO. 4, 2015
105. ERIN EILEEN FAWCETT , The skeletal effects of a growth hormone-derived peptide (AOD9604) in the aged rat model of postmenopausal osteoporosis., 2004 DEPARTMENT OF LABORATORY MEDICINE AND PATHOBIOLOGY, UNIVERSITY OF TORONTO
106. <https://clinicaltrials.gov/ct2/show/NCT03865953?term=LAT8881&draw=2&rank=1>
107. <https://clinicaltrials.gov/ct2/show/NCT04153409?term=LAT8881&draw=2&rank=2>
108. John P.H. Wilding, D.M., Rachel L. Batterham, M.B., B.S., Ph.D., “Once-Weekly Semaglutide in Adults with Overweight or Obesity” March 18, 2021 N Engl J Med 2021; 384:989-1002 DOI: 10.1056/NEJMoa2032183
109. Doggrell SA. Tesofensine--a novel potent weight loss medicine. Evaluation of: Astrup A, Breum L, Jensen TJ, Kroustrup JP, Larsen TM. Effect of tesofensine on bodyweight loss, body composition, and quality of life in obese patients: a randomised, double-blind, placebo-controlled trial. Lancet 2008;372:1906-13. *Expert Opin Investig Drugs*. 2009;18(7):1043-1046. doi:10.1517/13543780902967632
110. Eyth E, Naik R. Hemoglobin A1C. [Updated 2022 Mar 15]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK549816/>
111. <https://www.virtahealth.com/blog/paleo-vs-keto-whats-the-difference>

Thank You



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