

Ketogenic Introduction

The Keto Diet

Body Design by Paula LLC

Contents

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 - **(ISSA) International Sports Science Association**
- Former Collegiate power lifter
- Former amateur competitive body builder
- Designed hundreds of nutrition plans for general weight loss, wellness and athletic performance advancements
- Body Design by Paula LLC

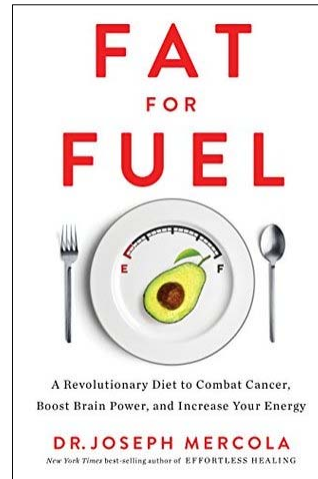


Legal Disclaimer:

- *All nutritional information presented is not intended to diagnose, cure, treat, or prevent any disease or illness*
- *All nutrition plans are strictly recommendations and to be used as general non medical advice*
- *Users are urged to seek medical approval before beginning any exercise program or nutrition plan*

What is Keto

- What are Ketones
- Who can benefit the most
- Risks of Keto
- Common Mistakes of Keto
- How do it work



Keto Confusion!!!



History of Ketogenic

History:

The Ketogenic Diet became the unquestioned best weapon in the fight against epilepsy. The diet was so effective in fact, that it has been in competition with the pharmaceutical industry since 1938, when the first antiepileptic drugs hit the market. That was until a reality shaking episode of Dateline was produced in 1994. Charley Adams.

www.charliefoundation.org/about-us/

Ketone Definition:

Ketone bodies are three water-soluble molecules containing the ketone group that are produced by the liver from fatty acids during periods of low food intake, carbohydrate restrictive diets, starvation, prolonged intense exercise, alcoholism or in untreated type 1 diabetes

Simply:

Ketosis is a natural process. It happens when there is not enough glucose in the blood

Keto Terms



Ketosis- normal ketones level in blood

Keto Adapted- body is using fat for fuel

Keto Acidosis- dangerously high levels ketone in blood

Gluconeogenesis-when protein converts into carbohydrate/glucose

History of Ketogenic

« Ketogenic Diet History »

Fasting: **Bernarr Macfadden & Hugh Conklin 1920's**

Bernarr Macfadden, an American exponent of physical culture, popularized the use of fasting to restore health. His disciple, the osteopathic physician **Hugh Conklin**, of Battle Creek, began to treat his epilepsy patients by recommending fasting.

Conklin conjectured that epileptic seizures were caused when a toxin, secreted from the Peyer's patches in the intestines, was discharged into the bloodstream. He recommended a fast lasting 18 to 25 days to allow this toxin to dissipate.

Conklin probably treated hundreds of epilepsy patients with his "water diet" and boasted of a 90% cure rate in children, falling to 50% in adults.

Later analysis of Conklin's case records showed 20% of his patients achieved freedom from seizures and 50% had some improvement.

Master class program on the theme - Ketogenic Diet: Metabolic Therapy in Treatment of Resistant Epilepsy Form: 24 November- 26 November, 2016 Page

Cite: Jain S. Management of Epilepsy with Ketogenic Diet. Indian Journal of Psychosocial Sciences, 2017 Apr; 7(1):15-20

Management of Epilepsy with Ketogenic Diet

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Introduction

Intractable epilepsy has been defined as epilepsy that failed to respond to 3 or more anti-epileptic drugs (AED). About 30% of children with epilepsy experience uncontrolled seizures or side effects due to AED (1).

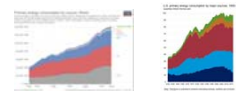
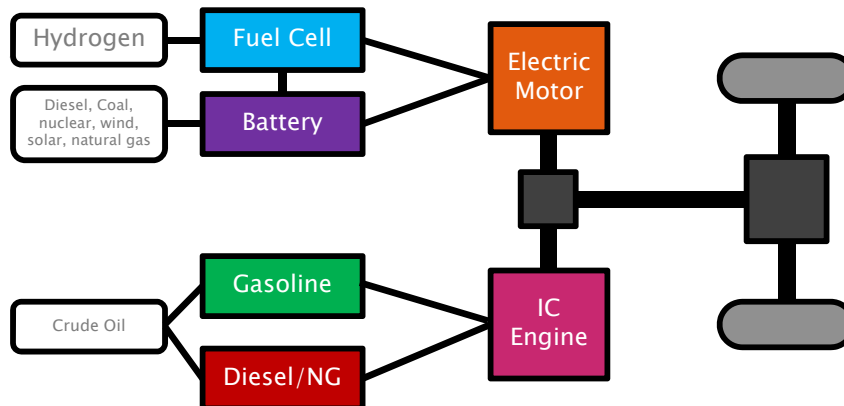
The ketogenic diet (KD) was found to be effective in treatment of intractable seizures. The KD consists of a high fat, low carbohydrate and adequate protein. The KD need to be tailored individually for every patient. Different protocols and variable dosing of KD have been used. The KD is prescribed by physician and dietitian, thereafter side effects such as acidosis, hypoglycemia, vomiting, gastro-esophageal reflux, constipation, hyper-lipidemia, renal stone, growth failure, bone density, micro-nutrient and vitamin deficiency need to be monitored.

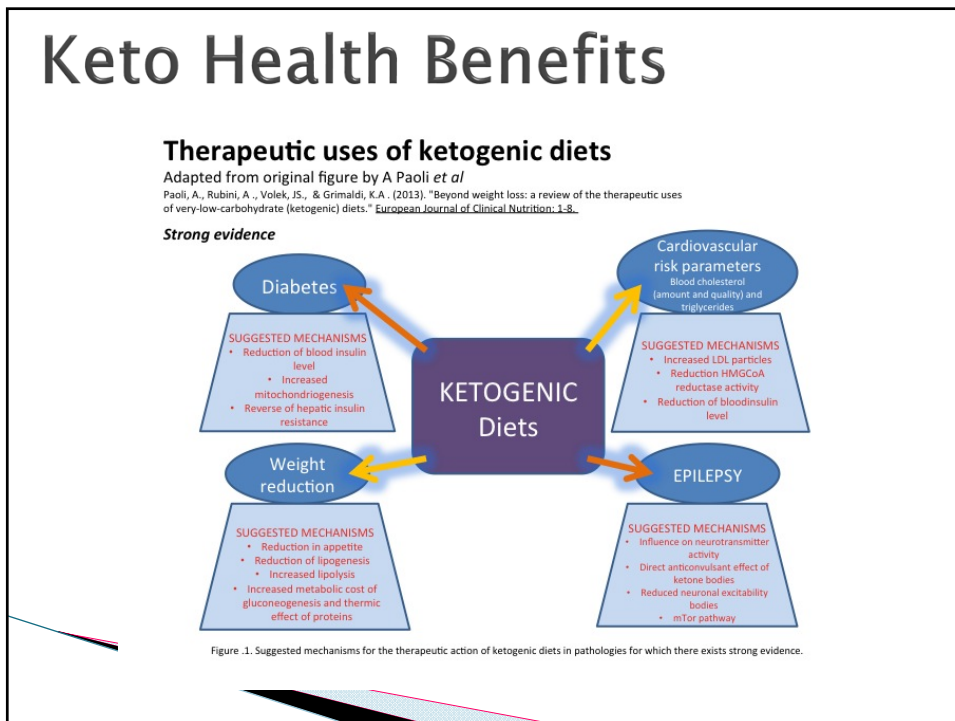
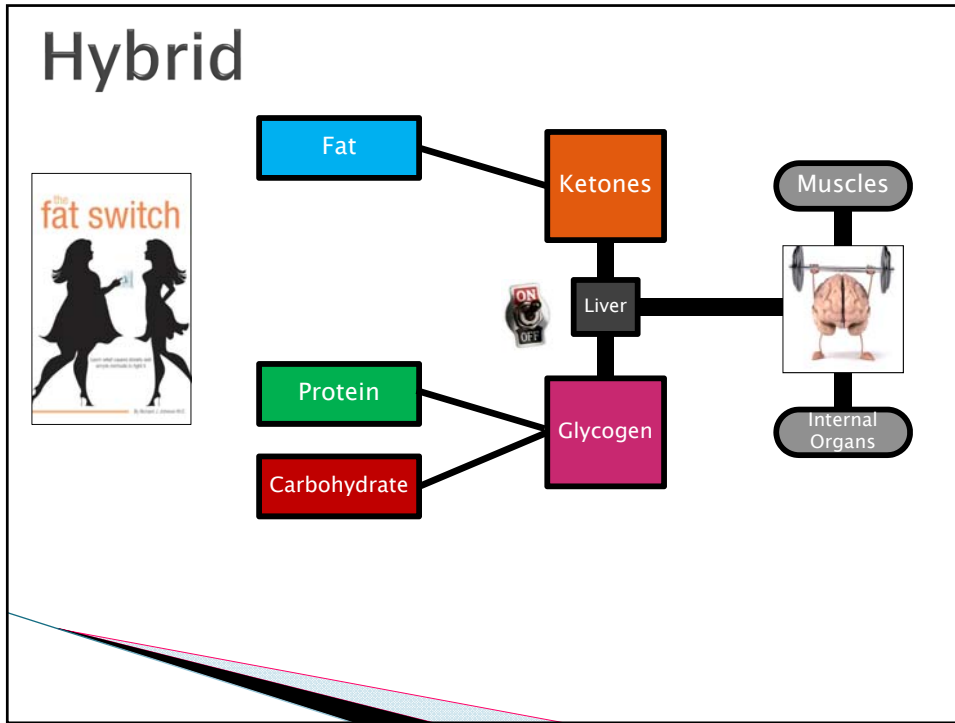
History of Ketogenic Diet in Epilepsy

Fasting has been recognized since Hippocratic era (460BC-370BC) as treatment for epilepsy. In early 20th Century, French and American physicians like Gurlita, Marie, Conklin, and Geyelin started research on fasting and starvation as treatment for epilepsy (1). It was shown that the fasting is more effective more in treating children than adolescents and its efficacy decreases with increasing age. Thereafter, Lennox and Cobb (1922) explained dehydration, acidosis, and ketosis as possible mechanism by which fasting helps in treating epilepsy.

Dr. Wilder proposed that the diet which produces ketosis could also be used in treatment of epilepsy. He termed such diet as "ketogenic Diet", which were rich in fat and deficient in carbohydrate. He found benefit of KD over starvation in providing similar efficacy, but can be used for prolonged maintenance. Later, in 1938 diabetes mellitus was discovered and thereafter research focus shifted to development

Hybrid





Keto Health Benefits

How a Ketogenic Diet affects Cancer Development:

- Cancer cells need glucose to thrive
- Carbs turn into glucose, which then feed all cells including cancer cells
- Instead of the cells using glucose for energy they absorb ketones
- By cutting the carbohydrates out of your diet the cancer cells starve

DRJOCKERS.COM

Keto-Fat benefits

KETOGENIC DIET

SHOWS PROMISE FOR TREATING:
ALZHEIMER'S
PARKINSON'S
EPILEPSY
AUTISM
DEPRESSION
MIGRAINES
CANCER

NATIONAL INSTITUTE OF HEALTH

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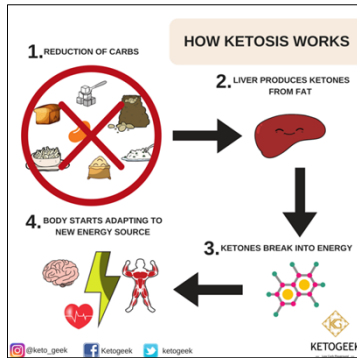
Low-Fat Diets Make You **FAT**

High-Fat diets consisting of foods such as nuts, olive oil, coconut oil, fatty fish, eggs, avocados:

- lower blood sugar
 - improve blood lipids
 - aid absorption of vitamins
 - increase metabolism
 - decrease insulin resistance
 - increase good HDL cholesterol
 - decrease inflammation
 - decrease cardiovascular disease
 - improve organ health
 - improve weight loss
-

PreventDisease.com

How Does Keto Work?



Carbohydrates are broken down into sugars by enzymes like amylase, sucrase-isomaltase, maltase, and lactase.



Proteins are broken down into amino acids by enzymes like pepsin, trypsin, and peptidase.



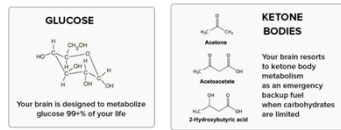
Fats are broken down into fatty acids by the enzyme lipase.

How Does Keto Work?



How Does Keto Work?

BRAIN FUEL

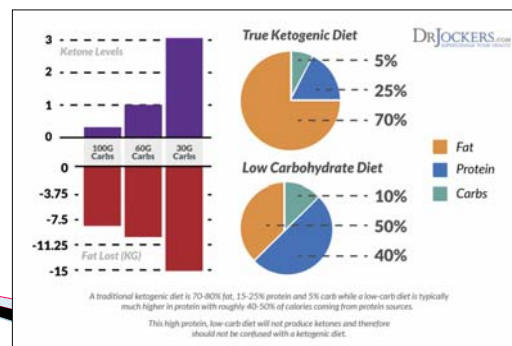
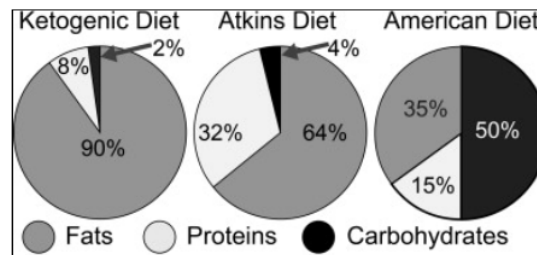


MASTERING DIABETES

GLUCOSE VS KETONES

- | | |
|--|---|
| <ul style="list-style-type: none"> ✗ Sugar Cravings ✗ Elevated blood sugar ✗ Elevated fasting glucose ✗ Irritability and fatigue ✗ Brain fog ✗ Unbalanced hormones ✗ Chronic inflammation | <ul style="list-style-type: none"> ✓ Reduced sugar cravings ✓ Full fuller for longer ✓ Mood stability and clarity ✓ Long-lasting energy ✓ Newfound motivation ✓ Balanced hormones ✓ Reduced inflammation |
|--|---|

What is the Keto Ratio



Low Carb High Fat (LCHF)

Types of Ketones

TYPES of KETONE BODIES

There are THREE types of ketone bodies that your body goes into ketosis

ACETOACETATE

CC(=O)CC(=O)[O-]

Created from the breakdown of fatty acids, either converted into BHB, or acetone.

BETA-HYDROXYBUTYRIC ACID


CC(O)CC(=O)O

Formed from acetoacetate, not technically a ketone because of its structure, but considered as one in the ketogenic diet.

ACETONE


CC(=O)C

Created as a side-product of acetoacetate, breaks down quickly, is removed from the body through breath.




URINE TESTING

- Urine strip indicates ketones by color.
- Very affordable.
- Not always reliable.



BLOOD TESTING

- Glucose meter with blood test strip monitors ketones.
- Most accurate results
- Expensive.

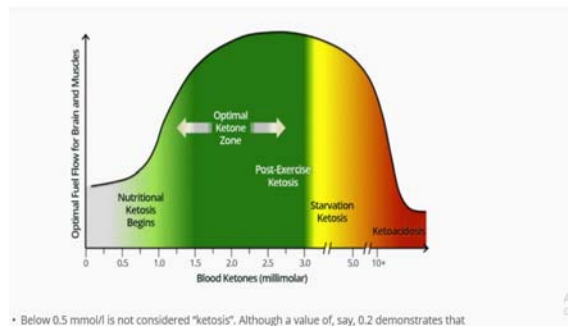


BREATH TESTING

- Ketoix breath meter measures acetone (ketones) on breath.
- Most affordable option.
- Not most reliable.

Nutritional Ketosis

- Negative ketone level:** less than 0.6 mmol
- Low to moderate ketone level:** between 0.6 to 1.5 mmol
- High ketone level:** 1.6 to 3.0 mmol
- Very high ketone level:** greater than 3.0 mmol



Risks of Keto

6 SIGNS THAT THE Keto Diet ISN'T RIGHT FOR YOU

- You're pregnant or nursing.
- You have diabetes or other serious blood sugar issues.
- You have a thyroid disorder or adrenal fatigue.
- You're underweight or nutrient deficient.
- You have a history of kidney stones or kidney disease.
- You have an enzyme defect or deficiency.

KETOSIS VS KETOACIDOSIS

THEY ARE NOT THE SAME!

KETOSIS	KETOACIDOSIS
✓ Low level of ketones in the blood	✓ Extremely high level of ketones in blood
✓ Normal process of the body	✓ Can turn the blood acidic, deadly if untreated
✓ Safe function of a low-carb, ketogenic diet	✓ Occurs in diabetics who don't take enough insulin or aren't well, people who are starving, or alcoholics

Fighting the KETO FLU with food

Symptoms	Symptoms	Symptoms
<ul style="list-style-type: none"> Headache Brain Fog Fatigue Muscle Cramps 	<ul style="list-style-type: none"> Lethargy Muscle Weakness Muscle Cramps Anxiety 	<ul style="list-style-type: none"> Low Blood Pressure Cramping Constipation Muscle Weakness
Fix: Na Sodium Himalayan Salt Bacon Bullion Salted Nuts	Fix: Mg Magnesium Dark Chocolate Almonds Spinach Avocados	Fix: K Potassium Salmon Avocados Dark Leafy Greens Mushrooms

Risks of Keto

ELECTROLYTES

DON'T LEARN THE HARD WAY!

KETO FLU SYMPTOMS =

Headaches	Muscle cramps
Lethargy	Hair Loss
Bloating	Keto Rash
Palpitations	Indigestion
Constipation	Low Energy

** the above symptoms can be reduced or avoided if you follow the guidelines below **

KEY ELECTROLYTES AND RECOMMENDED DAILY DOSAGES

Sodium - 5000-7000mg	Sea/Pink/Celtic Salts
Potassium - 1000-3500mg	Lemons, Nu-Salt, ACV
Magnesium - 300-500mg	Green Veg, Fish, Nuts

** the above amounts are in addition to electrolytes naturally in Foods **

IMMEDIATE RELIEF HACKS

PICKLE JUICE	BOUILLON DRINK	SOLE WATER
BONE BROTH	STOCK DRINK	SALT & LEMONS

TOP RECOMMENDED SUPPLEMENTS

- Pink Himalayan Salt** - a great source for Sodium and minerals
- Potassium Chloride** - is what you'll find in Low-Sodium Salts
- Magnesium Malate** - aids Muscle aches and helps with Sleep

ELECTROLYTES are NOT optional

and should be measured & tracked just like macros!

Sodium (Na) 5,000-7,000mg / day

Sodium amount is in addition to dietary sources.
 Supplement: Salt 13-18g / day (1g Salt = 388mg Na)
 Increasing sodium intake in 1-2 g increments might be necessary when living in warmer climates, during hot summer weather, doing strenuous activities, sweating, consuming alcohol, and/or drinking above average amounts of liquids.

Magnesium (Mg) 300-500mg / day

Magnesium amount is in addition to dietary sources such as spinach, chicken, beef, fish, nuts, seeds, raw cacao, olives and avocados.
 Supplement: Magnesium Citrate, Magnesium Malate or Magnesium Citrate
DO NOT USE Magnesium Oxide as it is poorly absorbed and will give you diarrhea!!

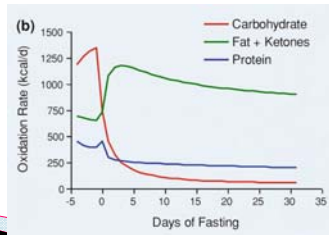
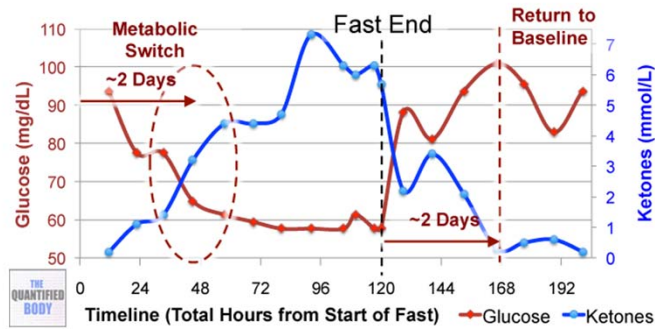
Potassium (K) 1,000-3,500mg / day

Potassium supplementation is NOT NEEDED when whole food K rich dietary sources such as fish, meat, leafy greens, winter squash, green beans, mushrooms, avocados, raw cacao and nuts are consumed regularly.
 Optional Supplements: Potassium Chloride or Potassium Citrate Powder
 Potassium Chloride 2-7g / day (1g NaSalt / NuSalt = 500mg K)
 Potassium Citrate 3-10g / day (1g Potassium Citrate = 360mg K)
 Please note this is general electrolyte guidance. See our FAQ WIKI for additional information.

WARNING: Failure to consume electrolytes per these guidelines beginning Day 1 of a Ketogenic Diet is the cause of most problems and issues as our bodies do NOT store these electrolytes unless they are first consumed.
 Typical symptoms associated with low electrolytes are: tiredness, weakness, low strength, low stamina, irritability, moodiness, irritability, headache, cramping, heart arrhythmia, dizziness and/or lightheadedness.

KETO GAINS
OPTIMAL HEALTH & BODY RECOMPOSITION

Fasting & Keto



Keto and Healthy Fats

CHANGE YOUR OIL!



GHEE vs. BUTTER

Dr. Axe FOOD & MEDICINE

	GHEE	BUTTER
SERVING SIZE: 1 TBSP		
CALORIES	112 KCAL	102 KCAL
TOTAL FAT	14 G	12 G 100%
SATURATED FAT	7.5 G	7.5 G 100%
CHOLESTEROL	26.5 MG 12.1%	31 MG 10%
SODIUM	0 MG	2 MG 0%
PROTEIN	0.04 G	0.1 G 0%
VITAMIN A	438 IU 8.7%	300 IU 7%
VITAMIN D	15 MCG 3%	7.8 IU 2%
VITAMIN E	4 MG 2%	3 MG 2%
VITAMIN K	1.2 MCG 1.6%	1.8 MCG 1%
CHOLINE	2.7 MG	2.6 MG
OMEGA 3 - FATTY ACIDS	45 MG	44.1 MG
OMEGA 6 - FATTY ACIDS	392 MG	392 MG
FLAVOR PROFILE	CLEAR, NUTTY, RICH, DEEPER FLAVOR	MILKY, WARM, CREAMY, SWEET
SMOKE POINT	492 F	350 F



AVOID THESE FOODS

X AVOID



Fruit juices & sugary soft drinks



Starches like potatoes & pastas



Whole & processed grains



Fruits



Candies & baked goods



Beans & legumes



Refined sugars

Keto Plans

TYPES OF KETOGENIC DIETS

STANDARD

Approx. 20g-50g (grams) of net carbs **PER DAY**, best for regular day-to-day lifestyles with moderate exercise.

CYCLICAL

This can be done by following the standard ketogenic diet and having one higher carb day once a week or once every 2 weeks.

TARGETED

Approx. 20g-50g (grams) of net carbs **30 MIN - 1HR** before exercises, best for athletes and high activity lifestyle.

The difference between each **KETO DIET** depends on **CARB INTAKE**

DRJOCKERS.COM
SUPERCARGE YOUR HEALTH

Debates About Keto

Keto Chocolate Chip Cookies



Keto Chocolate Chip Cookies

This recipe is from my wife Angel, who loves to make food and hence and body care recipes that support people's journey to optimal health. Check out my wife's website and Facebook page where she shares stories and posts about our life. We know that you will LOVE these keto chocolate chip cookies!



Dr. Berg Reacts to Jillian Michaels Keto Confusion

Keto vs Low Carb



Partnership With Jillian Michaels

The World's Largest Sparkling Water Brand Highlights Hydration Product Benefits in National Infomercial

NEWS PROVIDED BY **sodastream** USA

SHARE THIS ARTICLE

MOUNT LAUREL, N.J., Oct. 16, 2017 /PRNewswire/ -- Sodastream International Ltd. (NASDAQ: SODA), the No. 1 sparkling water brand in the world, today announced a new partnership with internationally renowned fitness and nutrition expert, Jillian Michaels, who will star in the company's upcoming national infomercial. The infomercial, which will debut in November 2017, will drive home Sodastream's hydration benefits for consumers - and spotlight the Sodastream Fit and the brand's newly-released Fruit Drops natural flavor essence drink mixes.

Keto Supplements

- Ketone Esters
- Exogenous Ketones
- Ketone Salts



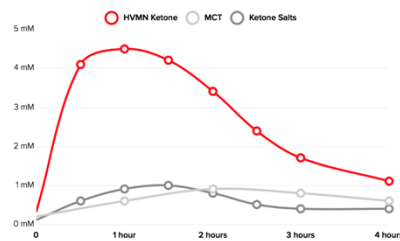
HVMN Exogenous BHB

Exogenous ketones are not produced by the body and must be consumed from an external source.



MCT Oil	Ketone Salts	Ketone Esters
<ul style="list-style-type: none"> Medium chain triglycerides don't contain BHB, but can moderately raise BHB. They contain fat molecules that are easily converted into BHB. Calorie-dense (a natural source of MCT is coconut oil). Ketosis Range: 0.5 - 1mM 	<ul style="list-style-type: none"> They consist of a mineral ion, such as sodium (Na+), potassium (K+), and BHB. Cost-effective, but can lead to excessive mineral consumption to attain the desired level of blood ketones. BHB blood concentrations are moderately raised. Ketosis Range: 0.4 - 1mM 	<ul style="list-style-type: none"> Composed of a rare ketone molecule bound to a ketone precursor using an ester bond. Deeper and faster ketosis can be obtained from ketone esters. Ketosis Range: 3 - 5mM

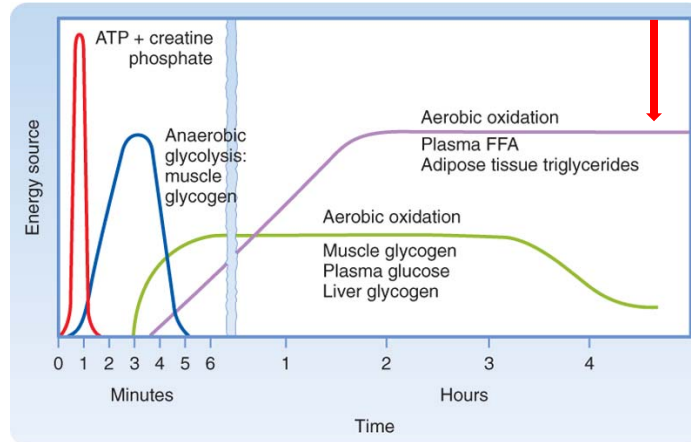
Blood Ketone Levels



Keto & Athletes

Endurance:

- Marathon runners
- Swimmers
- Cyclists



Koepfen & Stanton: Berne and Levy Physiology, 6th Edition. Copyright © 2008 by Mosby, an imprint of Elsevier, Inc. All rights reserved

Keto & Athletes

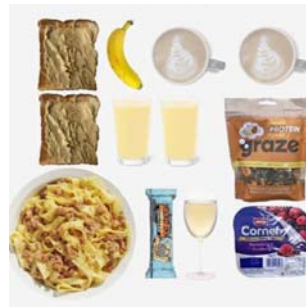
A DAY OF EATING FOR A FAT-ADAPTED ATHLETE

Breakfast	Lunch	Snack	Dinner
3 eggs	steak	handful of nuts	salmon
broccoli	rucicola or lettuce	strawberries	baked potatoes
avocado	tomato	blueberries	
	yellow bell pepper		
	olive oil		



Diet Plan Basics

“I DON’T EAT MUCH BUT I CANT SEEM TO LOOSE ANY FAT”

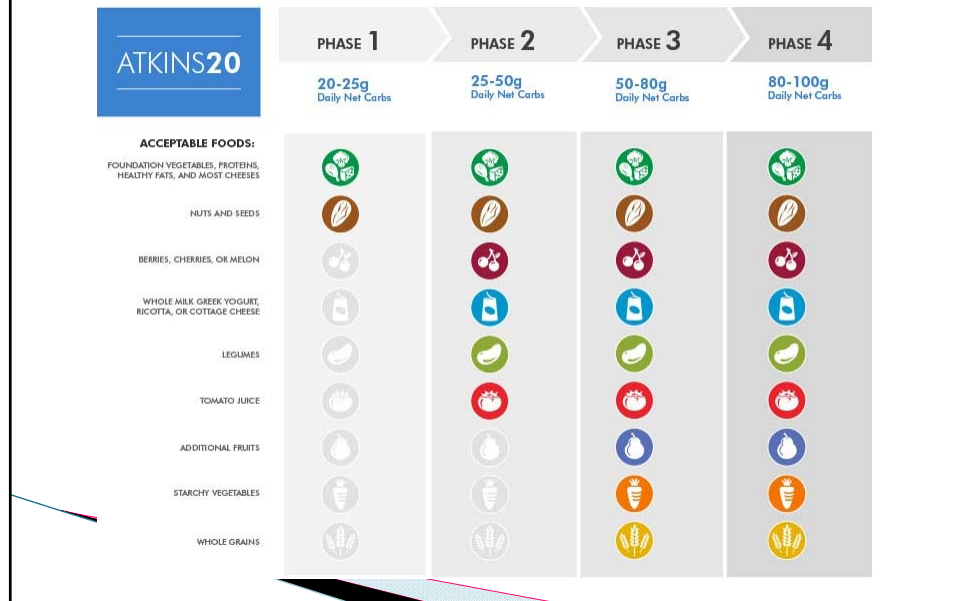


Be cautious of processed food, extracted food, grains & sugar content. Always ask “ where is the protein?”

Diet Plan Basics

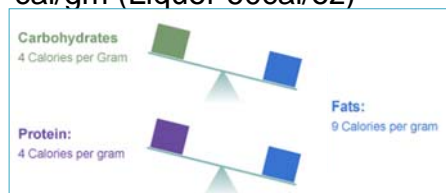
12 LOW-CARB DIETS COMPARED												
Diet	Atkins	Extra-Atkins	Bulletproof	Dukan	Keto	Scandinavian LCHF	Paleo	Slow Carb	South Beach	Whole 30	Zero Carb	Zone

Diet Plan Basics



Nutrient Values

- Macro Nutrients:
 - Fat: 9 cal/gm
 - Protein: 4 cal/gm
 - Carbohydrates: 4 cal/gm
 - Alcohol: 7 cal/gm (Liquor 60cal/oz)




- Micro Nutrients:
 - Vitamins, minerals, phytonutrients, Electrolytes
 - Calories are negligible ~zero

Nutrients-Fats




Nutrients-Fats



How many calories in
Potatoes, baked, flesh & skin

26 calories

Serving size
1 x oz

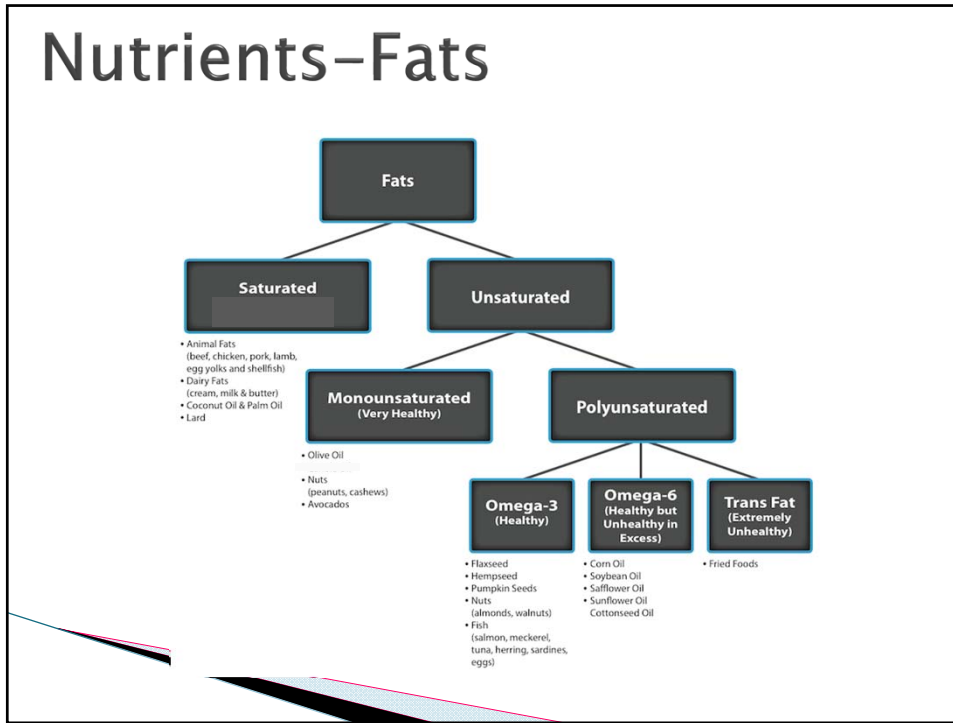


How many calories in
Potato French Fries, fried

89 calories

Serving size
1 x oz

3.4 Times



Nutrients–Fats

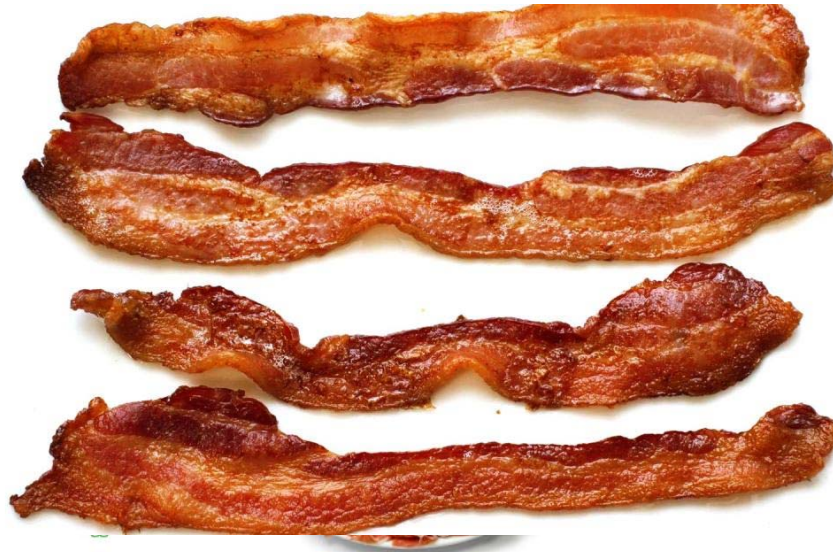
FATS HIGH IN SFAs		FISH OIL	
 - Coconut - Butter - Ghee - Animal fats (beef tallow, duck fat, etc.)	Moderate in MUFAs Low in PUFAs	Great for high heat cooking! Fats remain stable (and delicious!)	High Quality Omega-3's! - Best to get from sea food, or in small amounts from supplements.
FATS HIGH IN MUFAs		Very healthy, but be gentle	
 - Olive - Macadamia - Avocado - Nut oils	Moderate in PUFAs Low in SFAs EASILY EXTRACTED MINIMAL CHEMICALS High in antioxidants! ↓ Protects against oxidation!	- Great for salad dressings and light + low heat cooking. - Can use to drizzle over foods that are done cooking. - Moderate nut oils (except macadamia)	
FATS HIGH IN PUFAs		TOO MUCH OMEGA-6!	
 - Soybean - Canola - Corn - Vegetable oil in general - Sunflower - Safflower - Grape seed	Moderate in MUFAs Low in SFAs OXIDIZED! INTENSE CHEMICAL PROCESSING	- Very unstable to heat, light, and oxygen. - Do not use! - Avoid or limit - In most processed foods → BEWARE!	

HEALTHIER CANOLA OIL SUBSTITUTES

- 1** Coconut Oil
 Cold pressed, virgin coconut oil supports both fat loss and your nervous system.
- 2** Olive Oil
 Organic extra-virgin or cold pressed olive oil provides a host of benefits, including protecting the heart, brain, skin and more.
- 3** Ghee or Organic, Pasture-Raised Butter
 Both butter and ghee benefits come from ALA and CLA, which can promote weight loss.
- 4** Red Palm Oil
 Red palm oil in its unrefined state is high in vitamin E and beta-carotene.

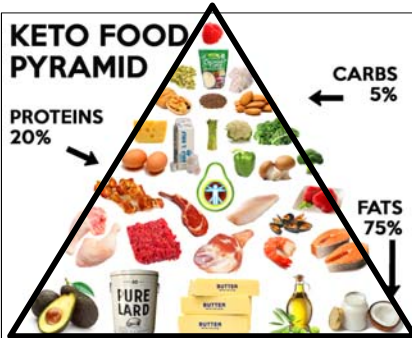
Dr. Axe

KETO—What Will Your Meals Looks Like?



Cold cuts 2

KETO—What Will Your Meals Looks Like?



Nutrients–Fat Benefits

Health Benefits of Omega-3 Fat

Healthier, stronger bones	Improved mood regulation	Reduced risk of Parkinson's disease
Reduced risk of death from ALL causes	Protecting your tissues and organs from inflammation	Brain and eye development in babies, and preventing premature delivery
Reduced risk of Alzheimer's disease	Delayed progression to psychosis among patients at high risk for schizophrenia	Protection against osteoarthritis and rheumatoid arthritis (RA) ^{6,7}
Protection against metabolic syndrome, ⁸ including obesity, fatty liver ⁹ and type 2 diabetes (by reducing inflammation and blood sugar)	Improvements in premenstrual syndrome (PMS) and dysmenorrhea ¹⁰	Lowered risk for other neurological/cognitive dysfunction, including: memory loss, brain aging, learning disorders and ADHD, ¹¹ autism and dyslexia ¹²
Reduced risk of Crohn's disease	Reduced risk of colon cancer ¹³	Reduced risk of kidney disease ¹⁴
Reduced risk of autoimmune disorders, such as lupus and nephropathy		



Ketogenic?

Which one will support ketosis? Why?

No X



Yes ✓



What was on the label of these foods?

Courtesy of Alessandro Ferretti and seekinghealth.org

Gluconeogenesis—when protein converts into carbohydrate/glucose

Ketone Food List

65%-80% FAT

•SAUSAGE (UNCURED)	•ORGANIC WHIPPING CREAM	•COCONUTS - MILK BUTTER - OIL - FLOUR
•DARK MEAT OF CHICKEN	•ORGANIC CHEESE	•COCONUT OIL
•ORGANIC PASTURED COW BEEF/STEAK	•AVOCADO	•PALM OIL
•ORGANIC BACON/ GREASE	•AVOCADO OIL (NO FRYING)	•MCT OIL
•LARD/ TALLOW	•OLIVES	•FLAX MEAL
•FISH	•OLIVE OIL	•FLAX OIL
•FISH OIL	•MACADAMIA NUT (SMALL AMOUNTS)	•CHIA SEEDS
•ORGANIC BUTTER	•MACADAMIA OIL (NO FRYING)	

15%-25% PROTEIN

•SAUSAGE (UNCURED)	•ORGANIC PORK	•FISH
•DARK MEAT OF CHICKEN	•PORK RINDS	•SEA FOOD
•ORGANIC PASTURED COW BEEF/STEAK	•ORGANIC BEEF	•EGGS
•ORGANIC BACON/GREASE	•ORGANIC CHICKEN	•LAMB
•LARD/TALLOW	•ORGANIC TURKEY	

5%-10% CARBS

•LOW GLYCEMIC VEGGIES	•ASPARAGUS	•COCONUT FLOUR
•DARK LEAFY GREENS	•MUSHROOMS	•CHIA SEEDS
•BROCCOLI	•CAULIFLOWER	•MACADAMIA NUTS
•BRUSSELS SPROUTS	•AVOCADOS	•COCONUT FLOUR

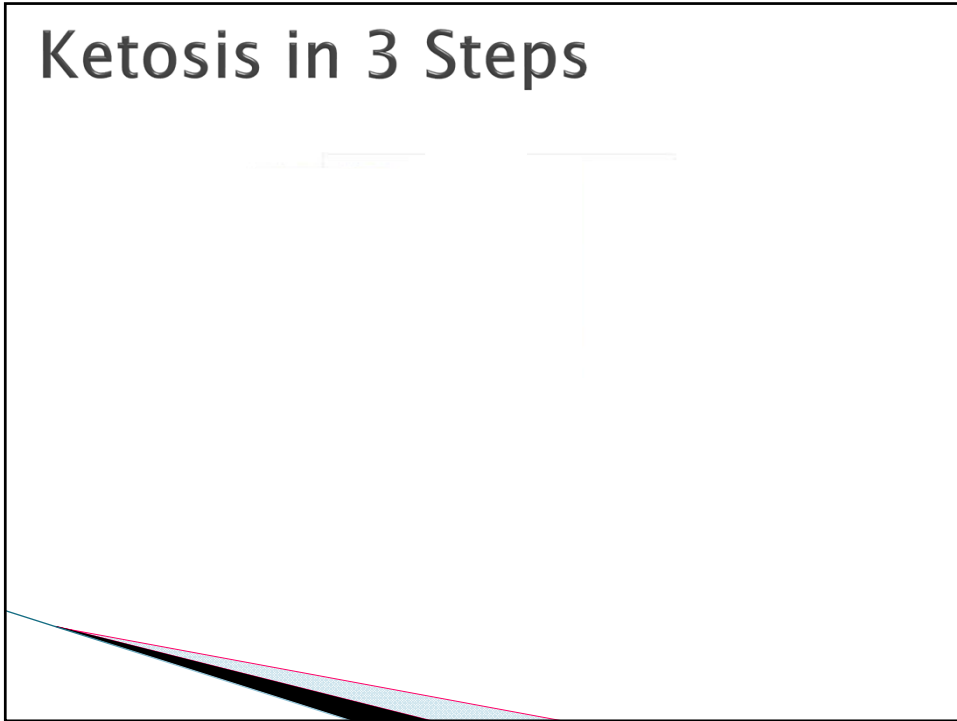
ADDITIONAL KETO SUPPLIES

CELTIC SEA SALTS - (ADD A PINCH TO FOOD)
ELECTROLYTES (OPTIONAL BRAND - TRACE MINERALS)
LA CROIX - (ADD FOR FLAVOR - MIX WITH KETO//OS)

Ketone Food List

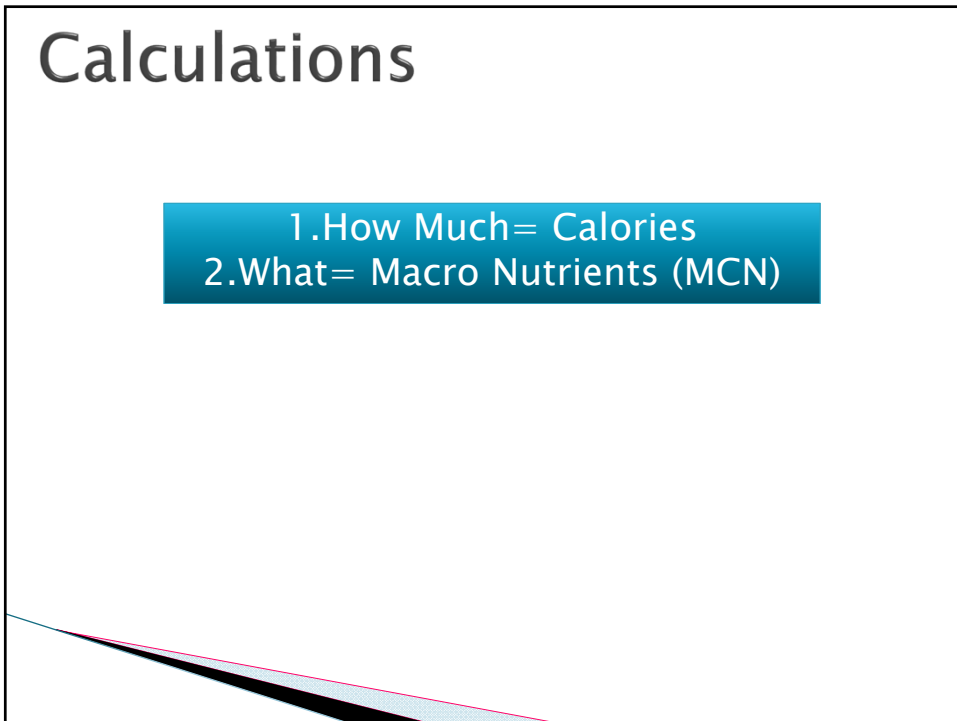
- ▶ Healthy fats 70% - 80% diets
- Protein 20 to 25 %
- Carbs 5% or no more than 20g daily
- Whole eggs
- Uncured nitrite free Natural pork bacon NO TURKEY BACON
- Ground pork
- Grass fed beef
- Salmon- WILD CAUGHT FROZEN AT KROGER
- Dark chicken
- Non lean turkey
- MCT oil
- Grass fed salted butter
- Ghee butter (for keto coffee) OPTIONAL
- Roasted salted nuts...best- pecans macadamia sunflower pumpkin seeds and almonds after keto adapted which takes upto 3 months- depending on you. No cashews.
- Green leafy vegetables 3 to 5 servings
- Avocado - 1 - 2 daily
- Pink Himalayan salt- 2 tsp daily- in addition to salting foods
- Magnesium supplement daily
- NO DAIRY
- Cream cheese
- Sour cream
- High quality cheeses.NO VELVEETA
- High quality salami
- High quality Prosciutto and provolone
- Olives in oil (stuffed garlic, stuff feta cheese)
- Pickled okra
- Kroger deli cream cheese stuffed bacon wrapped jalapeno
- Fried cabbage ok to bacon
- Unsweetened almond milk
- ABSOLUTELY NO FRUIT UNTIL FULLY KETO ADAPTED!!!!!! APPROXIMATELY 1-3 MONTHS

Ketosis in 3 Steps



Calculations

1. How Much = Calories
2. What = Macro Nutrients (MCN)



Calories–Calculation

FIT MEN COOK **INFOGRAPHIC**

HOW TO CALCULATE YOUR CALORIES

Basal Metabolic Rate (BMR) is the number of calories you would burn with NO activity.

MEN
 $BMR = 66 + (6.23 \times \text{weight in lbs}) + (12.7 \times \text{height in inches}) - (6.8 \times \text{age})$

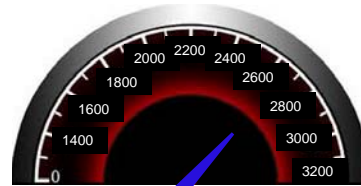
WOMEN
 $BMR = 655 + (4.35 \times \text{weight in lbs}) + (4.7 \times \text{height in inches}) - (4.7 \times \text{age})$

[TIP: use Lean Body weight (% body fat x weight in lbs) if possible]

YOUR TARGET DAILY CALORIE NEEDS

- 1 Little or no exercise: $BMR \times 1.2$
- 2 Light Exercise/sports 1-3 days/week: $BMR \times 1.375$
- 3 Medium Exercise/sports 3-5 days/week: $BMR \times 1.55$
- 4 Hard Exercise/sports 6-7 days a week: $BMR \times 1.725$
- 5 Intense exercise/sports, physical job or twice/day training: $BMR \times 1.9$

Calories Burned

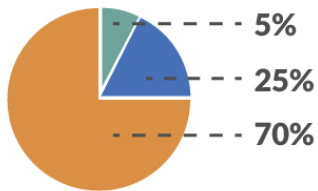


Total Daily Energy Expenditure (TDEE)

Jerry: $66 + (6.23 \times 180) + 12.7 \times 69 - (6.8 \times 54) = 1696$ (BMR)
 $1696 \times 1.55 = 2628$ cal

MCN–Calculation

True Ketogenic Diet



Caloric Goal=2628

Fat gms= $.70 \times 2628 / 9 = 204$
 Protein gms= $.25 \times 2628 / 4 = 164$
 Carb gms= $.05 \times 2628 / 4 = 33$

	68g		61 cals
	110g		99 cals
	153g		138 cals



“If it doesn't get weighed it doesn't get eaten”

MCN-Calculation

Itemized Food Plan					
Food	Amount	Units	Protein (gms)	Carbs (gms)	Fat (gms)
Meal 1					
egg whole	2	ea	12	0	10
Egg white	2	ea	12	0	0
cod atlantic-skinless	4	oz	24	0	0.8
green beans	4	oz	2	8	0.4
seeds sunflower	2	oz	11	13.6	28.2
pear	4	oz	0.4	17.6	0
white potato	4	oz	2.8	24	0



“If it doesn’t get weighed it doesn’t get eaten”

Ketosis Review

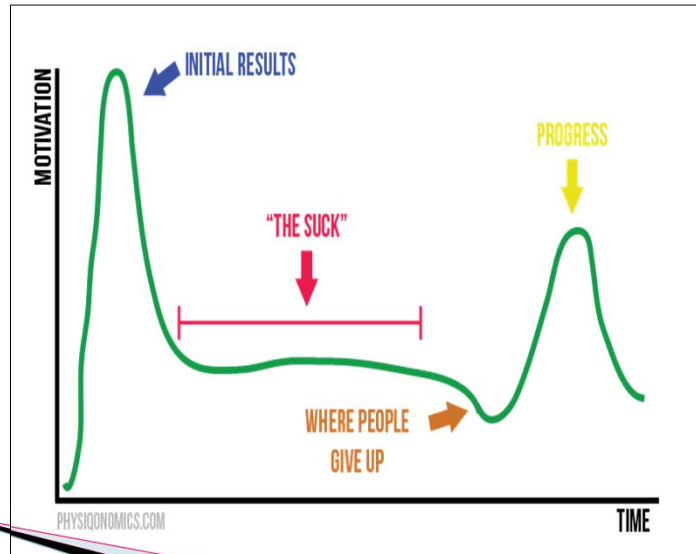


If you are in ketosis and keto adapted (body is burning fat), can you gain weight?

YES!! Why?

The amount of calories you eat versus burn, determines if you gain or loose weight, not the fuel source!!

Ketosis Review



Keto Summary

Keto Take Aways

Great for breaking the carb/sugar addiction. Long term is difficult to maintain- tendency to increase calories and cheat with non keto allowed foods, limited foods available

Athletic benefits are very specific. Good for endurance (cyclist, marathon, swimmer) average for anaerobic (resistance, explosive energy, sprinters, power lifter, CrossFit)

Fasting & exercise will help jump start the process, burns final glycogen storage

Verify with data; measure blood glucose & ketone levels.

Diet Plan Basics

4 Phases to Transition Into Healthy Eating Patterns

Elimination/Detox

Phase 1: Limit Restaurant Food to once a week
Ingredients you cannot see: Oils, Butters, Sugars, Flavor Enhancers, Preservatives, i.e. MSG

Phase 2: Minimize/Eliminate processed food, soda, juice, fried foods, breads, pastas, pizza. Nothing from a box or Implement fresh whole foods or frozen whole food

No Labels

Alignment

Phase 3: Align MCN ratio & calories with your specific goals. Need to calculate values for individual needs. Seek direction from professional trainer/nutritionist

Quality

Phase 4: Limit GMO & Implement Organic whole foods. No: Hormones, anti-biotics, pesticides, preservatives, herbicides, artificial flavors or coloring

Keto References

- ▶ Ruled.me
- ▶ Perfectketo.com
- ▶ DrJockers.com
- ▶ DrEricBerg.com
- ▶ DrMercola.com

Keto Researchers



Dominic D'Agostino, Ph.D. on Modified Atkins Diet, Keto-Adaptation, Ketosis & More
246,855 views

April 23, 2015 By Dr. Andreas Eenfeldt, M.D. in Ketosis: Ketone Bodies, Low Carb & High Fat, Salt, Weight Loss



<https://www.youtube.com/watch?v=aleIM9Tj6-c>



Office Hours: Dr. Stubbs
Answers Your Keto Questions

ketosis keto-diet office-hours
Do you have questions about ketones or ketosis?
We have answers from Dr. Brianna Stubbs, the
Research Lead at HVMN, and one of the foremost...

Keto Introduction 101 Thank You!

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