



FAT CAN SAVE YOUR LIFE

50 KETO FAT FACTS



ANNETTE BOSWORTH M.D.

FAT CAN SAVE YOUR LIFE

50 Life-Saving Facts You Need to
Know About

The KETO DIET

By Annette Bosworth, M.D.

Message from Dr. Boz [Annette Bosworth, MD]

If you're reading this, you're already aware of the Keto chatter that swept across the country and the globe.

Is it the real deal?

Does it live up to the hype?

Is this another fad diet?



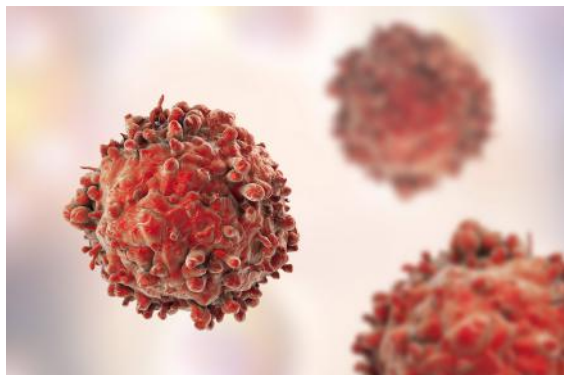
Will this high-fat frenzy distract my patients from addressing their health concerns in an honest, evidence-based approach?

When I passed my boards to become a licensed internal medicine physician, the ketogenic diet was mentioned once. My standard medical education whispered this diet one time: patients suffering from seizures who failed the standard medical options. Yep. That's it. If the seizures did not improve when taking medications like depakote or lithium, we acquiesced to this "horrible option" of a diet of 80% fat.

Two decades of practicing internal medicine have taught me several truths.

- 1) Speak science along with sentiment. Show patients you care before explaining the science behind their troubles.
- 2) Don't listen to the medical headlines in the morning. Read the research articles behind those headlines and look carefully at who their research targeted.
- 3) Listen to the patient.

My interest in the ketogenic diet began after a patient mentioned it. That same month I heard a podcast about how a diet high in fat quickly repaired patients' brains.



Within weeks, my interest became a LIFE OR DEATH subject. My mother was dying of Chronic Lymphocytic Leukemia, CLL for short. Her 71-year-old body had survived chemo twice. This time around she said, “No thank you. I’m done.”

My mom, affectionately called Grandma Rose, had limited options. Previous waves of chemo left her weak, fragile and depressed. Her prognosis was grim - with or without chemo.

I was stuck — paralyzed. Was it possible to resurrect her spirit? Her body was riddled with thousands of pockets of cancer. Her lymph nodes overflowed with cancer cells in every corner of her body. A decade of fighting cancer had robbed her bones of their density, her body of nourishment, her brain of maintenance, and her soul of hope. Reading about the power of a FAT-BASED diet teased me with the wonder of how it might help her.

Grandma Rose’s story inspired us all. I put pen to paper and shared the keto-lessons I taught her in the book, [ANYWAY YOU CAN](#). Woven throughout those lessons you see Grandma Rose’s courage to try again. She bravely trusted me to lead her away from the edge of her grave and back to a vibrant life. Watch an interview with Grandma Rose two and a half years after she almost gave up. [\[Live With Grandma Rose\]](#)

This extreme story brings to life the power of a ketogenic diet.

This ebook shares 50 facts about eating high-fat, low-carbohydrate food. This education wraps my top tips about keto into one short document. The lessons written in the following pages derailed my traditional internal medicine clinic.

During the months I discovered the power of the ketogenic diet, I stopped putting prescriptions first and started putting FOOD-CHOICE first. My mother and I “ketoed” together. Since then, my teenage sons all eat a ketogenic diet as does my husband.

My internal medicine patients struggling with chronic diseases all get this advice: Start with a ketogenic diet. From there, the symptoms get much easier for us to tackle.

Think of this ebook as the “cliff notes” to the full story about Grandma Rose found in [ANYWAY YOU CAN](#). You will find links to many of the YouTube videos and blog articles I’ve posted.

My vision is to teach 1,000,000 people about the benefits of a ketogenic diet by 2020! That’s a big goal. Join my classroom on [YouTube](#) or my website www.BozMD.com.

Grandma Rose was very sick when we first started. Her 71-year-old brain was too foggy to read or even focus for long periods of time. I designed these tools to meet students where they are at in their learning. If reading is too much, consider listening to the [audiobook](#). Honestly, it’s my favorite version of all the teaching tools. As I narrate the story, you hear the emotion I feel for my mom as I desperately taught about this lifestyle change.

Beginners start here: [ALL THINGS KETO](#). That playlist hops you through the basics of a ketogenic diet. Start with the first video. Before you know it, you'll have mastered the basics.

Use these links to help you learn. Some links connect you to blog posts. Others to videos. Others to some of my favorite tools.

Please [subscribe to my YouTube channel](#). That's how I am counting students. Click on the little YouTube bell to hear a "ring" when I post a new video. Help me reach my goal by sharing with friends and family.

This way of eating will improve your life. It might even save your life.

God bless you,

A handwritten signature in black ink that reads "Annette Bosworth MD". The signature is fluid and cursive, with the "MD" at the end being more distinct.

Dr. Boz [Annette Bosworth, MD]

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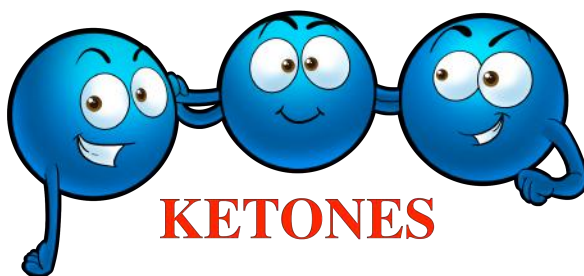
Keto Fact #50: Form a Tribe - KETO TOGETHER

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Keto Fact #1: Your Body Can Use Sugar or Fat for Fuel

Most of your body's cells have an energy conversion unit called the mitochondrion. This unit accepts two forms of fuel. It makes energy out of that fuel.

You can burn sugar, also called glucose.



You can also burn fat molecules called ketones.

Fat flows into your liver where liver mitochondria convert chains of fat into ketones. Ketones flow out of your liver and fuel your body with powerful energy.

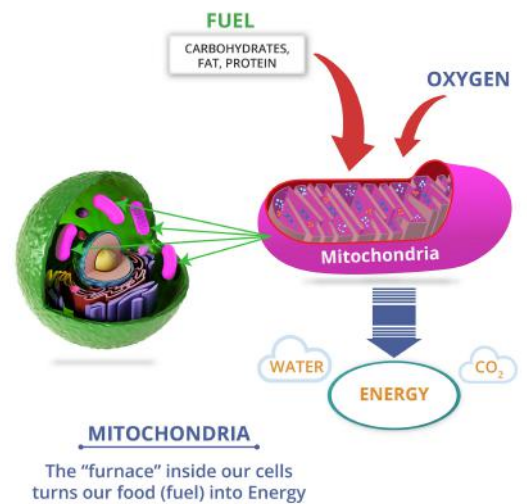


That's right. Energy from fat lasts longer and has a more stable delivery when compared to sugar.

Keto Fact #2: Our Cells Burn One Type of Energy at a Time. Sugar Outranks Fat ... ALWAYS.

Our cells CANNOT burn both sugar and fat at the same time. Your furnaces within cells can only burn one form of energy at a time.

How come? Insulin. Eat more than 20 grams of carbohydrates per day and your pancreas squirts out insulin. Insulin effuses throughout your body and locks down your fat cells. Fat cells stay locked in the presence of insulin.



Yep. Fat cells cannot empty when insulin patrols in the bloodstream. Insulin keeps your mitochondria burning sugar for fuel. Carbs go into the body. Carbohydrates turn into glucose. Insulin shouts out with commanding authority for the body to burn sugar. If your furnaces can't keep up, insulin orders the sugar to be stuffed into storage.

When your carb level drops, your cells can switch to burning ketones for energy. [Ketones are morsels of energy that come from fat.](#) Circulating glucose must be burned before your body switches to burning ketones. This switch is called 'nutritional ketosis.'

Keto Fact #3: Cancer Cells use Sugar for Energy. They Crump Without Sugar.

When you switch to eating a high-fat-low-carb diet, you rob cancer cells of their preferred food -sugar. Glucose feeds most cancers. It's easy, cheap food. Cancer cells cannot adapt to the environment of low in sugar. Healthy cells can by way of ketones. Cancer cells grow best with abundant supplies of carbs.

[Cancer cells don't know what to do with ketones](#). They can't churn ketones into fuel to help them divide and grow. They need glucose. By eating less than 20 grams of carbohydrates per day, you make life for that cancer cell tough. Yep. Deprive those cancer cells of abundant fuel and watch them fail.

No wonder the prestigious cancer institute M.D. Anderson encouraged cancer patients to cut out carbs days before undergoing cancer treatments.

When patients switch their cells to burning ketones instead of sugar, their chemo works even better than expected.



Simone BA, Champ CE, et al. Selectively starving cancer cells through dietary manipulation; Methods and clinical implications. Fut. Oncol, 2013.

Regular	SHAPE	Irregular
Small & proportional to cell	NUCLEUS	Large - requires much fuel
Systematic & predictable. Cells divide when told	GROWTH	Uncontrolled: Cell divides without permission
Constant with other cells	COMMUNICATION	None with other cells
Not hidden. Immune system protects	VISIBILITY	Invisible to Immune System
Only makes blood vessels when repair is needed	BLOOD SUPPLY	Constantly makes new blood vessels to grow quickly
Loves Oxygen	OXYGEN	Hates Oxygen
Stimulates repair and growth	HYPERBARIC OXYGEN	Kills / Damages the cell
Glucose can be used by cells. It enters cell through transporter	GLUCOSE	Craves glucose. Enters cell by slipping through cell membrane
Very Efficient- >95%	ENERGY EFFICIENCY	Wastes energy - low efficiency (<5%)
Alkaline - higher pH	CELL ACID/BASE	Acidic - low pH
Ketones or glucose-flexible	PREFERRED FUEL	Only glucose
Adapts to ketones when carbohydrates are restricted. Protects cells from increased stress.	MITOCHONDRIA	Cannot adapt when carbohydrates are restricted. Cell dies.

Keto Fact #4: Ketosis Can Boost Chemotherapy's Effects

Cancer inflames the body. Cancer treatments inflame the body even more as cancerous cells die. Chemo treatments pack a stronger punch with ketones circulating in the bloodstream. Ketosis chemistry helps out healthy cells and stresses out cancer cells. The longer ketones percolate, inflammation throughout the body lessens. This chemistry adds a bonus of declining inflammation throughout the body.



Patients eating high-fat low-carb lower their blood sugars and start pumping ketones into their bloodstream. This lowered blood sugar puts stress on those cancer cells. Glucose is the easy fuel for cancer cells. Ketones outsmart those cancer cells. The healthy cells adapt to using ketones for fuel while cancer cells die off.

Leading veterinarians at the [KETOPET SANCTUARY](#) used a Keto-diet for dogs with cancer. When they added radiation and hyperbaric oxygen the dogs survived while cancer lost. Yes. The cancer cells failed miserably.

That combination strangled cancer cells ... almost too well. The cancer cells died so quickly their kidneys had trouble keeping up. Dead cancer cells flooded the kidney with debris. This plugged up their kidneys.

Talk about an excellent problem to have if you have cancer!

Keto Fact #5: Ketosis Reduces Brain Fog

Do you get distracted? Does your attention flicker on and off? Fix this by feeding your brain the good stuff -- Ketones!



Scattered or sluggish brains suffer from brain fog. Brain fog refers to shrinking mental performance. “Doc, I can’t seem to focus.” “Doc, my brain is in slow-gear.” “Doc, I am so tired all the time.”

[A ketogenic diet feeds a starving brain.](#) Ketones promote fast, focused brain function. Three weeks into feeding your brain ketones and you will never go back.

Increase the fat you eat while decreasing carbs. Soon, every nerve in your body performs better. The fat layer surrounding each nerve insulates the messages that travel down those “wires.” The better your fatty-insulation, the better the message travels through that nerve. Deliver a steady supply of fat to your body and the nerves will repair one millimeter at a time.

Too many carbs and all repairs halt. Before long the nerve's insulation looks moth-eaten. An electrical cord with holes "leaks" out energy along the way. Too much wasted electrical energy and the message weakens as it travels down the wire. The same happens to your nerves.



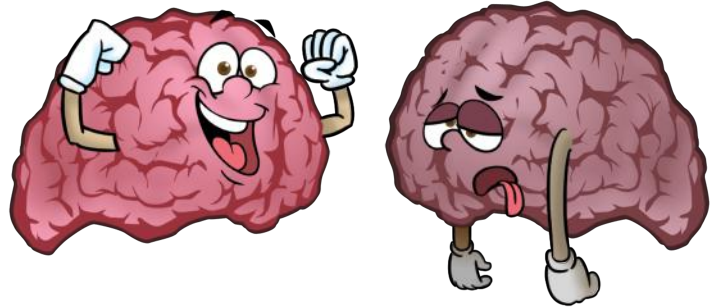
Improved transmissions of the signals going through your nervous system. Six months of ketosis and you will find fresh insulation around many nerves.

Result? Smartypants! You will feel more alert and focused for hours.

Keto Fact #6: Switching to Fat-Energy Helps the Worst Brains

Whose brains suffer the most?

ANSWER: Brains with seizures.
Even worse, kids' brains with seizures.



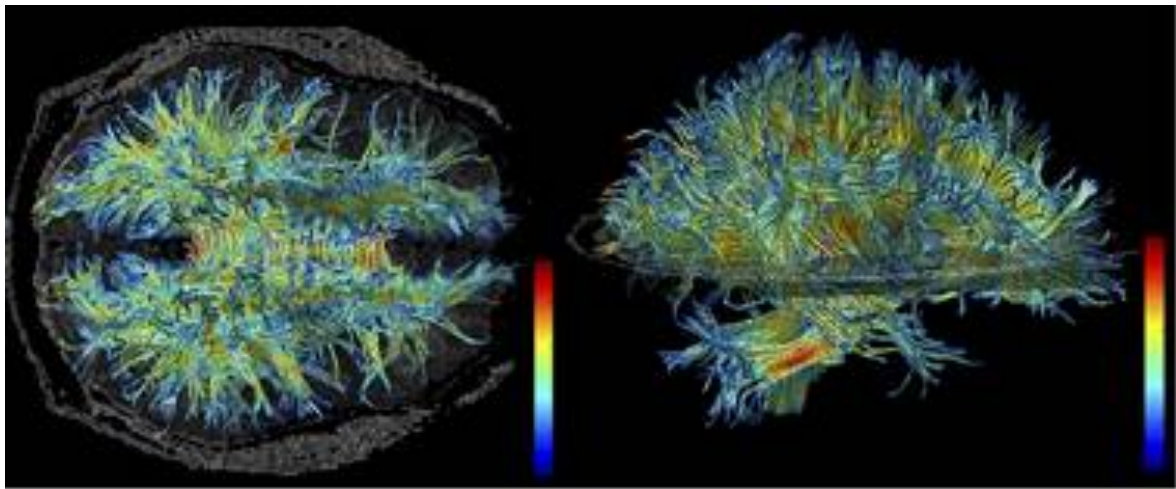
Before anti-seizure medicine doctors prescribed a high-fat low-carb diet. Yes. This is not new. Keto diets date back to the ancient Greeks as the treatment for epilepsy.

[Fasting burns the glucose up](#) and switches the system to burning fat. The presence of ketones shifts the brain-chemistry to stop the fits. Today we use a high-fat low-carb diet to treat these kids. Usually the ketogenic is offered only after they fail a trail of prescription medication. Check out the [CHARLIE FOUNDATION](#) for more information on how a ketogenic diet is used in kids with seizures.

Keto Fact #7: Ketogenic Diets Protect Brains

Autopsy records teach us about diseases of the brain. Ketosis kids from the 1950-1960s started eating keto to stop their seizures.

Decades later, their autopsies revealed preserved brains. Unlike other seizure patients, these brains flaunted beautiful brains.



The brains of epileptics often show extensive damage due to repeated seizures. The autopsy reports of keto-epileptics compared to non-keto flaunted remarkable results. Their brains aged with far fewer defects when eating [keto for a lifetime](#).

Keto Fact #8: Ketones Improve Mental Performance

US Navy SEALs show off their mental performance on keto.

This US Navy research showed improved mental performance under high stress.

[Ketosis improved the SEAL's ability to hold their breath underwater.](#) Ketones also protected their brains from seizures while SCUBA diving. Research of mental performance of the Navy SEALs looked at soldiers with not ketones, ketones produce from a ketogenic diet and exogenous ketones.

Exogenous ketones are ketones made in the chemistry lab, mixed into a powder and consumed. I call these “ketones-in-a-can.”

Soldiers demonstrated a superior performance when ketones circulated in their bodies. Their mental processing, reaction time, and breath-holding all held greater marks when compared to times when they did not have ketones in their circulation. The source of their ketones was not as important as the presence of ketones! That was surprising to me. If they made the ketones in their liver by eating low carbohydrates and high fat, they performed better. If they drank ketones-in-a-can, they performed better.

After learning this information, the only sports drink I give my sons is

EXOGENOUS KETONES

1. I use them
2. My Children Use Them
3. I used them in my Mom's care

supplemented with [exogenous ketones](#). For more on exercise and ketones, [watch this video](#).



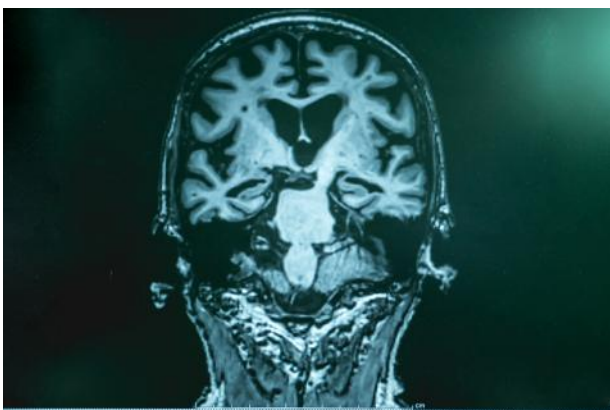
Keto Fact #9: Ketosis Reduces Brain Plaques

Ketosis can help reduce the number of neurofibril tangles or ‘brain plaques.’ Brains with lots of inflammation age more quickly and link to many serious brain problems like Alzheimer's, Parkinson's, and [depression](#).

One measurement of chronic inflammation is the number of brain plaques found at autopsy. Often, brains with Alzheimer's' are riddled with plaques.

How do we keep plaques from forming in the brain? Keep the inflammation away. That means stop boxing, don't get a concussion, and sweep away any long-standing inflammation [built up by not sleeping enough](#).

Several days into [ketogenic eating](#), your brain feeds from ketones. The fat-based fuel lasts longer and delivers a steady supply of energy. This differs from glucose-based fuel that shoots energy up, then crashes down.



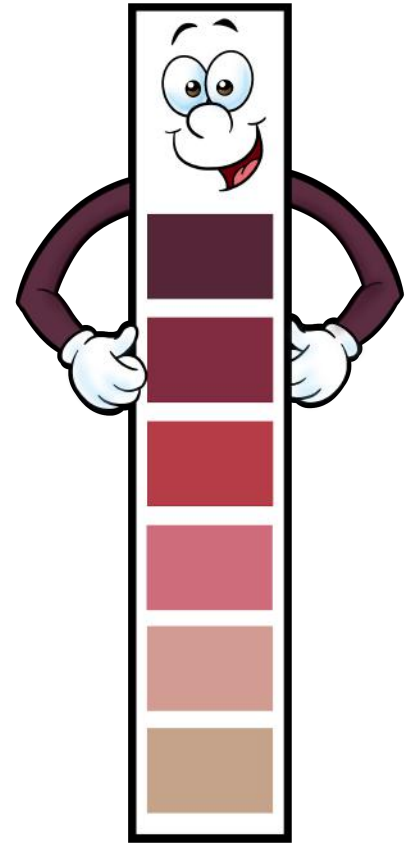
Practice ketosis for years and watch your brain fire messages faster with fewer mistakes.

Keto Fact #10: Are You Producing Ketones?

Unlike other weight loss methods, you can test to see if you did this diet right. Unlike a paleo diet or a Beach-Bikini diet, you can prove to yourself that you're producing ketones.

Pee on a ketone strip. If it turns pink, you did it. A [pink urine ketone strip](#) means you have had ketones in your circulation. Ketones only enter into your urine if you had them in your blood.

Liver cells switch their mitochondria to producing ketones when you eat mostly fat. Overeat carbs, and they stop. Eat too much protein and ketone production stops. Eat 80-95% of your calories from fat, and you will produce ketones. That's a fact.



Take notice when your cells first produce a ketone. Pee tests are very accurate for the presence or absence of ketones. [This video explains why this is so important.](#)

Once your body adapts to burning ketones, you won't spill as many ketones into your urine. Use ketone strips to measure your production. Think of the urine ketone strips as YES or NO. The urine strip should not be trusted for "how much" once your body has adapted to produce ketones.

Blood ketones kits measure the exact level of ketone fuel in your circulation. Much like blood glucose kits, the instant feedback proves very useful. Immediate results

without going to a doctor or lab empower patients to understand their body's chemistry. Use urine ketone strips to begin.

Consider [spending the money for blood testing](#) if you struggle to lose weight, or have a curiosity about how your system responds.

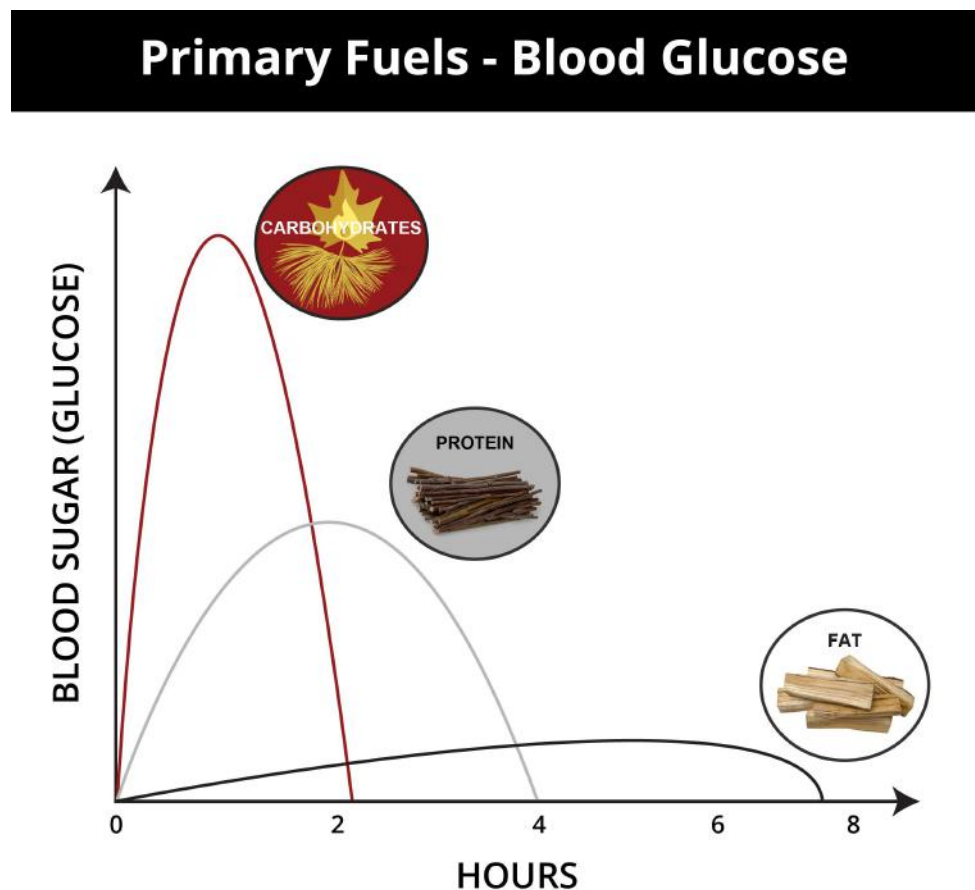
Keto Fact #11: Ketones Burns Longer & Stronger

Ketones produce strong and steady energy for your body. [Sugar or glucose produces a flash of energy.](#)

Have you ever tried building a campfire out of pine needles or dried leaves? Flames from that fire burst into hot crackles and then quickly dwindled away. Sugar produces the same short-lived energy. Carb-fuel doesn't last long. Your energy peaks, and then crashes. The rise and fall of blood sugars ping the signal to eat. To fuel your body with carbs, you must feed the fire often throughout the day. If you miscalculate the dose of sugar, your body shakes and your brain gets crabby.

When your body burns fat-fuel, at first the energy pales when compared to sugar-fuel. Stick to it. Measure your ketones to make sure you produced them. Each day your body recruits more mitochondria to burn fat. No more crashes of energy.

Your stamina
for focus,



concentration and healthy living rises over the next weeks. Fat-fuel lasts longer. It also builds upon yesterday's results.

Hunger comes from blood sugars going up and down. Up and down. Peak, and crash. Stop the cycle. Eat mostly fat. Keep the carbs less than 20.

Another added bonus: Time. I failed to appreciate how much time I spent focusing on food before going keto. Soon, you may find you forgot to eat.

Keto Fact #12: What's Your Insulin Level?

If you want to reap the benefits of ketosis, watch your insulin. Insulin blocks ketones from burning. [Insulin insulates](#). When insulin soars, it blocks all the exit doors to your fat cells. No fat cell releases fat when insulin is around. Insulin shuts down your cells' fat burning system.

RULE OF THUMB: Eat less than 20 grams of carbs every 24 hours. Anything higher triggers insulin production. If you've carried an extra 20 pounds for more than a couple of years, keep artificial sweeteners to a minimum. They also will block your body's ability to churn ketones.

Why? Often those fake-sweeteners spark your body to produce insulin. Yep. Even though they don't have calories or carbs, your body still makes insulin when you use them. Insulin blocks your ketone motor. You can kiss ketosis (and its benefits) good-bye.

When predicting diabetes or heart disease, Insulin within your body soars high long before your glucose. For a great summary of the impact of insulin, [watch this video.](#)

Keto Fact #13: Reading Food Labels Can Keep You in Ketosis

[Make a habit of reading food labels.](#) The number of grams of carbs you eat daily predicts ketone production. Use a free app on your smartphone to help. I like [STUPID SIMPLE KETO DIET APP](#). Several good apps are out there. Find one. Use it. Carbs lurk in many of your favorite foods.



Testing with urine ketone strips confirms if you've made ketones over the past several hours or not. If the stick does not turn pink, you've bounced out of ketosis hours ago. Testing keeps folks accountable to their body's chemistry. Your body will shift as you lower the carbs. If you bounce out of ketosis, you've had too many carbs.



Keep your carbs and protein low. How low? That depends upon many factors. How old are you? How overweight are you? How long have you been overweight? Have you had children? So many variables!

Make sense of where your system is at by

- 1) Measure your Ketones. Urine is a good option. Blood is best.
- 2) Count your carbs. Use the app to help you learn where carbs hide in your food.

Keto Fact #14: Total Carbs. Not Net Carbs

Total Carbs versus Net Carbs: Food labels often show carb content in two ways.

- 1) TOTAL CARBS: Total carbs reflect all the carbs found in that food.
- 2) NET CARBS: Calculate net carbs by subtracting the fiber and the sugar alcohols from the total carbs.

Dietary fiber lowers the amount of food you absorb. Fiber holds nutrients in the intestines and limits absorption. Fiber may hold onto that nutrients from start to finish. If fiber clings to that morsel of nutrients the whole trip through your guts, you will flush it down the toilet. Soluble fiber is sold as psyllium and may be familiar to you under its brand name, Metamucil. Mixed this fiber into your mashed potatoes and you will lower how fast you absorb those carbs. Most still get absorbed.

Fiber has been sold to the public as a way to subtract carbs from the packaged food. I don't recommend this. Too often I find the patients that slip out of ketosis are playing games with fiber. Be careful. Choose foods based on total carbs.

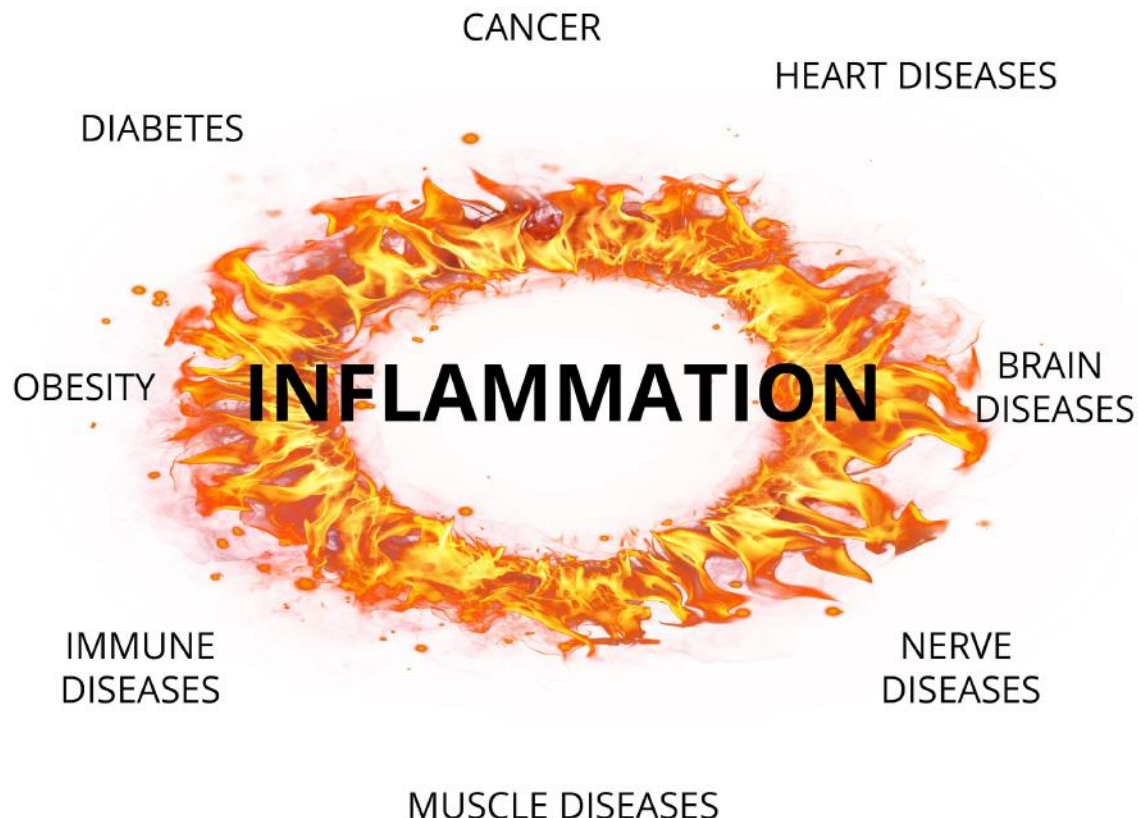
Sugar alcohols in the form of artificial, albeit natural, sweeteners sabotage many patients. They advertise their minimal impact on blood sugars. Yet, many patients stop losing weight when they play these net-carb-games. [Stick to 20 TOTAL carbs daily](#), and you won't go wrong.

Keto Fact #15: High Carb Diet Inflames Your Body

How can a high-carb diet lead to health problems like hypertension?

Simple: [inflammation](#).

When you overeat sugar, your body becomes inflamed. At first, the inflammation is small. Years of excess carbohydrates add unwanted water to your body. This fluid puts extra pressure on your blood vessels. Add more and more fluid to your bloodstream. That's how you get high blood pressure.



Keto Fact #16: Carb-Rich Diets Flood Your Body with Toxic Water

Make no mistake, when you eat a lot of carbs, you load your body up with water. Carbs break down to glucose in your blood. The surface of each glucose molecule ‘hooks’ water molecules. Hundreds of water molecules for every glucose. No wonder, people on carb-heavy diets pack on extra weight. Much of this is water weight. This excess water has a toxic effect: inflammation.

Lots of people switching to a keto diet go through a period where they lose a lot of weight very quickly. If patients are caught off guard, [this rapid weight loss can feel like they have the flu](#). It is mostly water weight.

Most patients feel better with less weight, even if the first 10-pounds are all water. Burn ketones for longer and the fat loss follows the water loss.



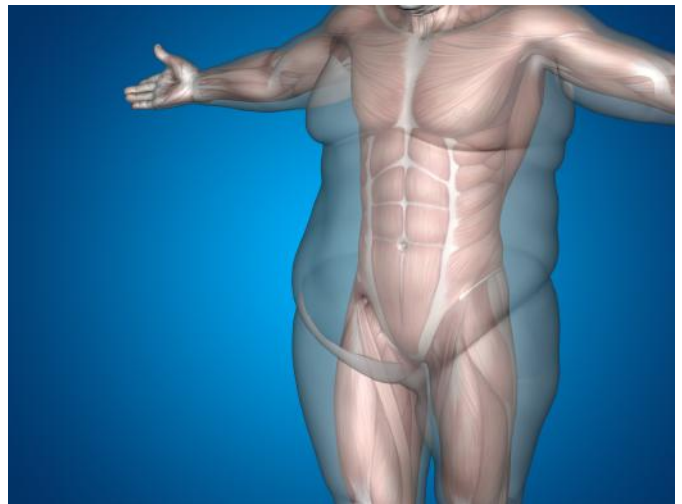
Keto Fact #17: Ketones Help Shed Weight Quickly

Once you reach ketosis, your body learns to efficiently burn ketones for fuel. Ketones come from the fat you eat and the fat you've stored inside fat cells. When [starting a ketogenic diet](#), I instruct patients to eat mostly fat. Don't look at the calories.

Fueling the body from fat shifts your chemistry. This chemistry shift opens the doors to your stored fat. By week 2 of the ketogenic diet, your body can grab fat from the food you eat OR the stored fat. BINGO! The result? Weight loss.

Many people who adopt the keto diet start to lose weight quickly because of the amount of water weight they flush out. Soon they begin to look more toned as their body sheds the layer of fat covering their muscle mass. If you're curious about the [keto diet and exercise, read this blog article I wrote](#).

Keto Fact #18: Ketosis is NOT Ketoacidosis



One objection to this high-fat diets is the fear of ketoacidosis. Ketoacidosis is bad news. The body fills up with tons of sugar and even more ketones. That it can lead to death.

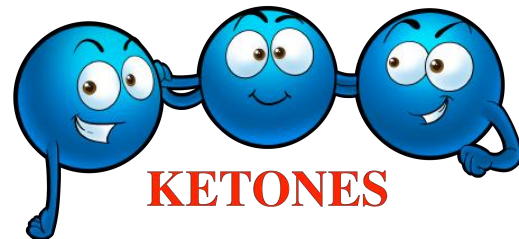
[Ketoacidosis happens when someone cannot produce insulin.](#) Do you produce insulin? If you don't, you know. You must inject insulin if you don't make it yourself. Yes. This is also known as Type 1 Diabetes.

People who produce insulin are protected against ketoacidosis. Their insulin protects against this. Insulin puts the breaks on ketone production.

Without insulin, your system gets flooded with sugars that can't get into the cells. Without sugar, the mitochondria reach for fat-fuel called ketones. Insulin stops those mitochondria from producing ketones. Without the insulin-brake, your liver makes ketones in high gear.

Ketosis = Safe. Ketosis is the presence of ketones in the blood.

Ketoacidosis = Dangerous. Ketoacidosis is the excess of ketones in the blood. So many ketones are found in the blood that your blood becomes too acidic. Not good.



Keto Fact #18: [Ketones-In-A-Can are BHB](#)

Are you struggling to stop the cravings from carbs? Did you fall off the wagon for keto and want to get back into ketosis the fastest. Use [Ketones-In-A-Can](#).

Ketones-In-A-Can come from a chemistry lab. Ketones called beta-hydroxybutyrate are abbreviated with the letters BHB. These BHB ketones are made into a powder when chemically bound to sodium, potassium, or magnesium.

The fastest way to reset into ketosis is to use the supplements of BHB. Having a glass of wine or celebrating with sugar can result in no ketones in my system. When this happens, I use BHB supplements to rapidly return to a ketosis state. This shuts down my cravings for sugar while fueling my body with ketones for the next 4 hours.

My favorite recipe is to mix a half scoop of powder with 1/4 cup of heavy cream and blend in a little ice. I sip my way back to ketosis in 15 minutes.

In addition, I use BHB as the sports-drink my sons. Unlike sugar, the ketone fuel does not peak and crash. Ketones deliver a steady energy that won't leave them craving more sugar.

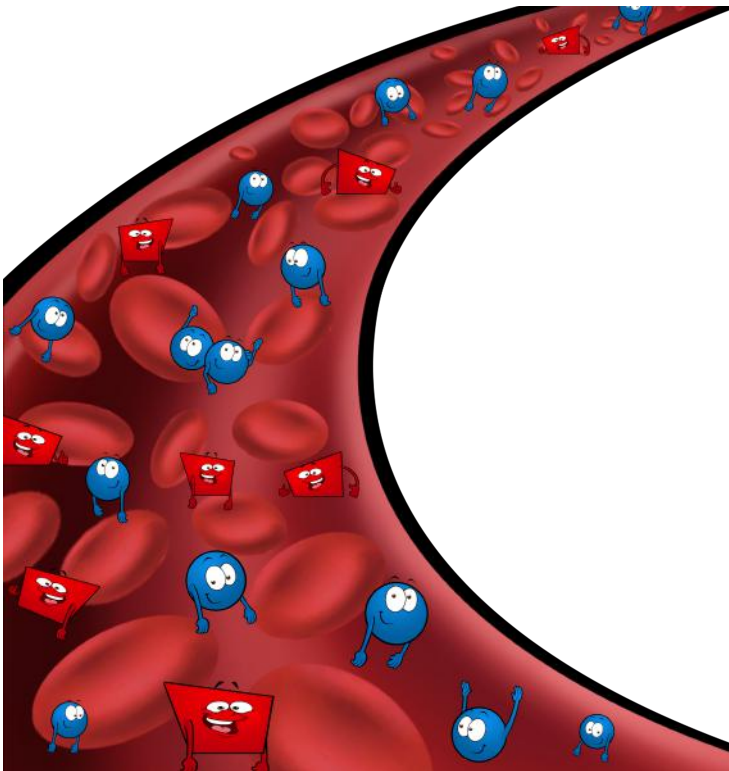


Keto Fact #19: Ketosis = Steadily Lowers Sugars.

Ketoacidosis = Very High Blood Sugars.

Ketoacidosis happens when someone cannot produce insulin.

Without insulin, the sugar in your blood cannot enter into the cells. What's inside the cell that's so important? Your mitochondria. These little furnaces burn ketones or glucose for fuel.



Without insulin, the glucose stays locked outside the cell. This happens while ketones slip into the cells gaining access to the 'furnaces.'

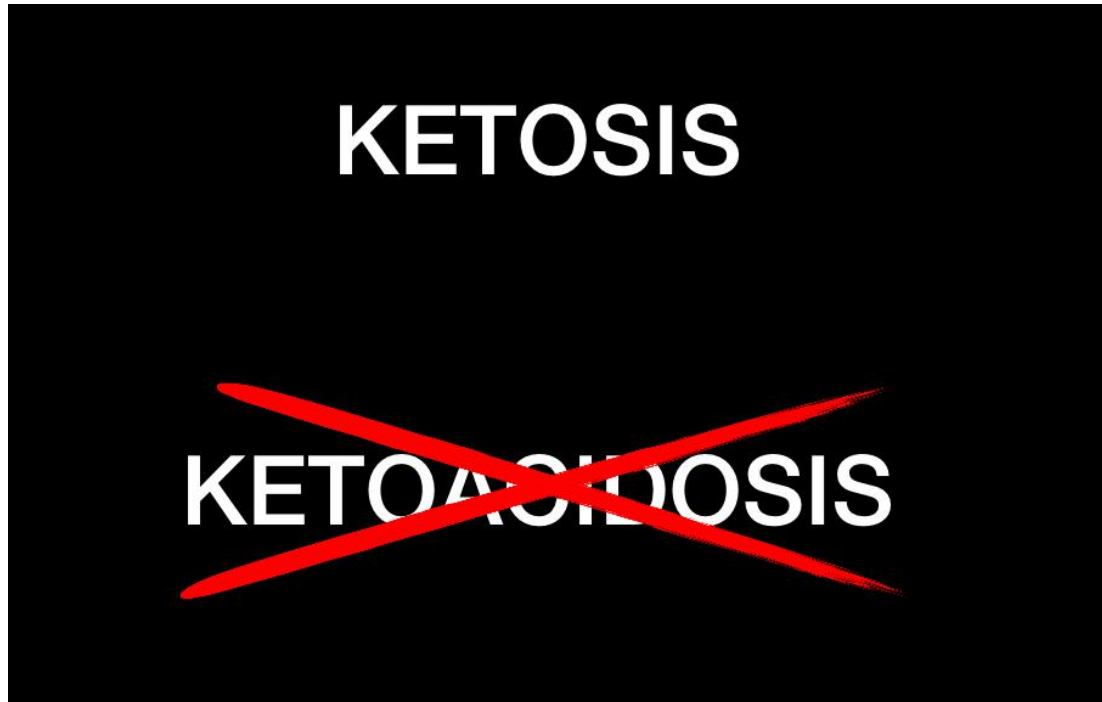
The longer insulin is absent, the higher the sugars go and the higher the ketones go. Too many ketones and the acidic level of your blood rises. DANGER. It is KetoACIDosis.

Insulin puts the breaks on ketone production. Without insulin, your system gets flooded with sugars and with ketones. Before the advent of injectable insulin, patients living without insulin starved to death. They could eat. But their glucose could not enter into their cells. The sugars floated around in their bloodstream forever being denied access.

Ketosis is not the same as ketoacidosis.

Ketosis = Safe.

[Ketoacidosis = Dangerous.](#)



Keto Fact #20: Your Body NEEDS Fat to Live

Unlike carbohydrates, your body needs fat for survival. Your brain, nervous system, and hormone systems all depend on fats to thrive. In fact, without fat, your body would die. You won't die without carbs. It may feel that way at first, but you do not need carbs to live.

Stop eating fat and soon your hormones will wilt. Without fat, you can't trigger the hormones that activate your immune system, your sex drive, or your brain hormones.

Your body especially depends on one type of fat -- Omega 3 fatty acids. Omega-3 fats assist in cell communication, blood clotting, muscle contractions, relaxation of arteries, and fighting inflammation.

Essential for You to Live

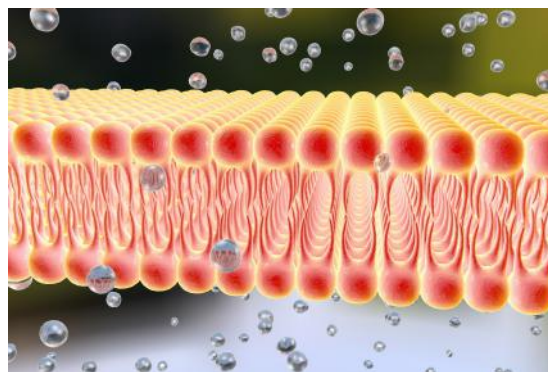
1. WATER
2. ENERGY (your fuel)
3. MINERALS/ELEMENTS:
MAJOR ELEMENTS include calcium, phosphorus, potassium, sulfur, sodium, chlorine, and magnesium.
TRACE ELEMENTS: Trace elements are a little harder to find. These include iron, iodine, copper, zinc, manganese, cobalt, chromium, selenium, molybdenum, fluorine, tin, silicon, and vanadium.
4. AMINO ACIDS:
Isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, tyrosine, valine
5. FATTY ACIDS:
Linoleic, linolenic
6. VITAMINS:
WATER SOLUBLE: Thiamine (B1), riboflavin (B2), pyridoxine (B6), cobalamine (B12), niacin, pantothenic acid, folic acid, biotin, lipoic acid, Vitamin C
FAT SOLUBLE: Vitamins A, D, E, K
7. MISCELLANEOUS:
Inositol, choline, carnitine

Harper AE. Defining the essentiality of nutrients. In Shils ME et al, eds. Modern Nutrition In Health and Disease. Baltimore, William & Wilkins 1999, pp. 3-10

Keto Fact #21: Cancer Begins When Your Fat Supply Sinks

Every cell wall weaves together using fat molecules. Cells made without enough fat turn out defective. Wrinkled. Wrinkled cells lack the plasticity to perform their best. Without proper fats in your diet, you make a defective cell.

Defective cells make more defective cells. They replicate their defects over and over. [Copy after copy of defective skin cells makes for wrinkled skin.](#) Copy after copy of defective kidney cells makes for poor kidney function. Thousands of copies of faulty cells lead to increased errors like those found in cancer cells.



High-fat Low-Carb diets make pretty cells. Plump, flexible, nourished cells. Ketogenic diets squeeze out inflammation and nasty free-radicals. The chemistry found in a ketogenic diet promotes the production of gorgeous, perfect cells. These pristine cells replicate into exact copies.

Eat high fat with less than 20 carbs per day.



Keto Fact #22: Fat Signals Your Brain That You are Full. Carbs Don't.

SATE: (v). To feel satisfied or full. Sate.

The sensation of feeling full, sated or satiated, signals you to stop eating. Our body triggers this feeling of fullness by eating fat. Not by eating carbs. As fat enters the first section of your intestines, [a hormone called cholecystekinin squirts into the mix](#). This signals your brain to STOP EATING.

People eating high-fat, low-carb food feel sated. This feeling of fullness grows stronger the more time they bathe their cells in ketones. Often they eat one or two meals a day. When eating low-fat food, they ate three times a day PLUS a couple of snacks.


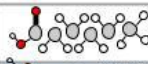

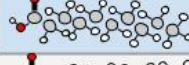
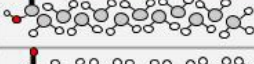







When first going keto after years of low fat, the body produces a whisper of hormones like cholecystokinin. At first, they trickle out a wimpy amount of fat-based hormones like cholecystokinin. The steady delivery of fat for the first time in years awakens these cells out of hibernation. Slowly their body restores the healthy delivery of these fat-based hormones.

On a carb-rich diet, insulin peaks and crashes. As the insulin swings, so does their blood sugars. Up and down the numbers go. This sparks hunger, cravings and mood swings. Break that cycle with high fat and strengthen your body's message to FEEL SATED.

Keto Fact #23: MCT= Medium Chain Triglycerides

If this is the first keto book you have ever read, you may not have heard of these three magical letters: MCT. MCT stands for Medium Chain Triglycerides. [MCT supplements are the types of fats that your body converts into ketones.](#) MCT supplements feed your liver with the perfect fats to make ketones.

What is the perfect fat? A fat that is 8 or 10 carbons in length. We call the C8 or C10 fats. MCTs absorb through this special entrance in your intestines. In fact, all fats with 10 links in their chains or shorter fit through the trapdoor. These fats rapidly convert into ketones. All other fats use the standard absorption process trickling through

Length of Fat Chain		Name	Type of Fat	% Found in Coconut Oil	Molecular Structure
Small Chains	C4	Butyric	Saturated	None	
	C6	<u>Caproic</u>	Saturated	0.5%	
Medium Chains	C8	<u>Caprylic</u>	Saturated	7.8%	
	C10	<u>Capric</u>	Saturated	6.7%	
Long Chains	C12	Lauric	Saturated	47.5%	
	C14	Myristic	Saturated	18.1%	
	C16	Palmitic	Saturated	8.8%	
	C16	Palmitoleic	*MUFA	None	
	C18	Stearic	Saturated	2.6%	
	C18	Oleic	*MUFA	6.2%	
	C18	Linoleic	**PUFA	1.6%	
	C20	Arachidic	Saturated	0.1%	
*MUFA: MonoUnsaturated Fatty Acids **PUFA: PolyUnsaturated Fatty Acids					

your lymph system for 2-3 hours before entering your circulation. Your liver rapidly turns MCTs into ketone energy that you can use immediately.

Here is a good [brand of MCT to try](#). Beware: start slowly. Lick the spoon on the first dose. Then slowly increase as your intestines get used to the substance.

Keto Fact #24: [Autophagy - Eat Thyself](#)

Autophagy removes debris found inside your body's cells. All those years of poorly fed brain cells, sleep deprived hearts, smoking in your early years, and becoming fatter makes for lots of crusty cells. The debris within your tissue has been there for years. If you are overweight, this debris has been around for as long as those extra pounds have insulated you. PLUS ten years. Brain autopsies tell the tale.

Proteins build up in a damaged brain. This damaged brain leads to Parkinson's, Alzheimer's disease and dementia. The beginning of these problems don't start with your genetics; they begin with inflammation.

After ten years of constant inflammation, your gray matter's genetics can trigger all sorts of brain diseases. The chemistry produced by the combination of fasting and high ketones reverses the inflammatory grime. This chemistry decreases the swelling of the brain.

RATIO:
GLUCOSE ÷ KETONES

Less than 80: Weight Loss
Might Get Autophagy

Less than 40: Immune System
Solid chance of Autophagy

Less than 20: Cancer
Best chances for Autophagy

How do you get autophagy? MEASURE IT. The best guess for know if you are in autophagy is to look at your blood ketones and your blood glucose at the same time. Use this chart below. Best time to check numbers is the VERY FIRST thing in the morning.

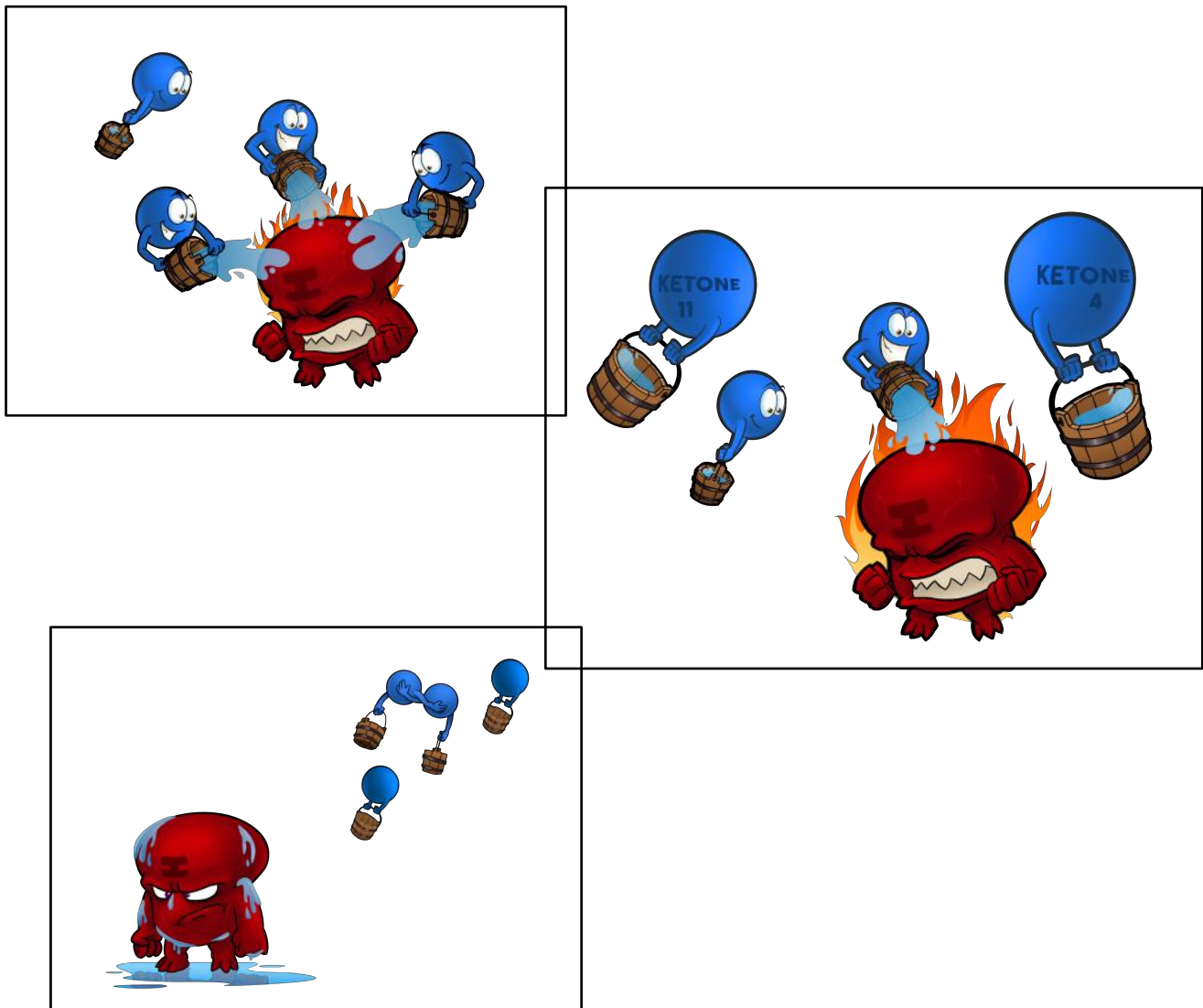
For a complete breakdown of this chart watch these 2 videos:

- 1) [Video #1](#)
- 2) [Video # 2](#)

Keto Fact #25: Ketosis Fights Inflammation

[Ketones reduce inflammation 100 times better Non-Steroidal Anti-Inflammatory Drugs](#) (NSAID) like ibuprofen. Ketones are ten times stronger than prescription steroid meds at reducing inflammation.

The next time an old knee pain growls at you, reach for ketones instead of ibuprofen. A shot of steroids into the knee melts the pain away ... but it only lasts a few weeks before the inflammation returns. Producing ketones addresses the pain at the root problem. To eat carbs in the presence of pain is to feed the pain. Eat fat. No carbs. The price is right and the results last as long as the carbs stay away.



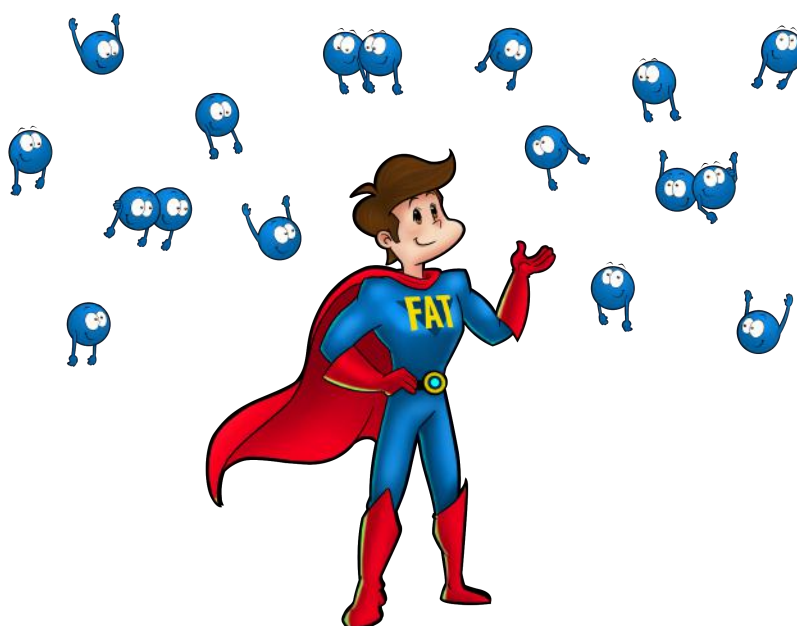
Keto Fact #26: Repair Rates are Faster in the Presence of Ketones

On a carb-rich diet, your blood overflows with glucose. Switch to a ketogenic diet and soon you will find less and less inflammation. Who cares? Your joints and tendons care. This inflamed, water-filled system causes stiff joints, achy muscles, and slower healing rates. With less swelling in those areas, the body can repair injuries from last week and the last decade. It won't start if inflammation hangs around.

Start now. Remove that inflammation by reducing your glucose. Don't guess if your glucose has reduced. Check it.

You don't need a prescription from the doctor to check your blood glucose or your blood ketones. You need the courage to poke your finger. Use this glucometer for the best results. I have tried many monitors. This one is my favorite: <http://bit.ly/2QKGmKG>

Check out this video where I talk about [fasting and monitoring your glucose](#).

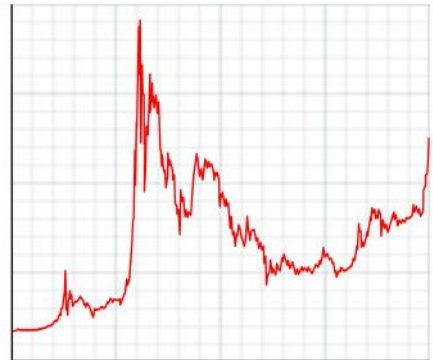


Keto Fact #27: Ketosis Boosts Production of Inflammation-Fighting Hormones

Your body produces an inflammation-fighting steroid called cortisol. [These hormone starts out as fat](#). Flip your body chemistry to ketosis and watch your cortisol levels reset to healthy levels.

Cortisol should rise and fall with your stress-signals within your system. A body under continued stress triggers the cortisol production to help with the stress. A low-fat diet delivers ineffective amounts of cortisol. Chronic stress combined with a low-fat diet makes a deadly combination. Patients feel tired, depressed, and pack on the pounds. All of this relates back to messed up cortisol delivery.

Rush to your doctor with lots of inflammation, and she will prescribe your cortisol-in-a pill: prednisone. I've done that many times. This band-aid will help for a few days. It also warns all healthcare providers, "This person's system is not well."



Nutritional ketosis supplies your body with enough fat to produce optimal cortisol. Your body will then rid its system of inflammation. Skip the prednisone. Produce a ketone.

Keto Fact #28: Ketones May Exit Through Your Breath

Begin peeing ketones, and soon your [breath smells weird](#). [What's that about?](#)

You are breathing out fingernail polish remover. Yep. Acetone in the breath makes that funky smell. The presence of ketones sparks your mitochondria to use this “new” fuel. When first in ketosis, your body makes too many ketones for your cells to use. Your system will adjust to demands, but at first, there are too many ketones to use. During this phase, the lungs and kidneys remove them through the kidneys and lungs.

Meanwhile, your lungs and kidneys handle all the extra ketones by wasting them. [Your kidneys throw ketones into your urine](#), while your lungs breath them out. Yes. Your lungs convert one of the ketones in your blood to acetone, and you exhale the waste-product out.

Don't worry. This doesn't last forever. It goes away once your body adapts to your needs.



Keto Fact #29: Ketones Reduces Migraines

Swell your brain cells and what happens? A Migraine. Migraines arise from sections of the brain that swell. Some people get them from a smell that triggers swelling. Others suffer when their sleep is too short.

Migraines throb away causing severe pain for hours. This affects the lifespan of the swollen brain cells. Too many migraines and we our brains get damaged. Stop that. Stop the inflammation. How? You guessed it. Produce ketones.

Switching to a [ketogenic lifestyle removes inflammation throughout your body - including your brain cells](#). Your body flushes out excess water reducing the microscopic swelling. At first, my patients notice little difference.

M I G R A I N E

Pulsating

Hours it can last: 4 -72

Unilateral

Nausea or vomiting

Disabling

Don't expect overnight migraine relief when you go keto. Flushing water from your brain and nervous system happen last. First, the water and swelling drain out of your arms and legs. Next, your liver and digestive system improve. Over several months, inflammation disappears from your skin and joints. Finally, your brain lets go of chronic swelling.

My migraine patients report the best results by six months of ketones. Get to the root of those migraine problems, reduce inflammation and stay there.

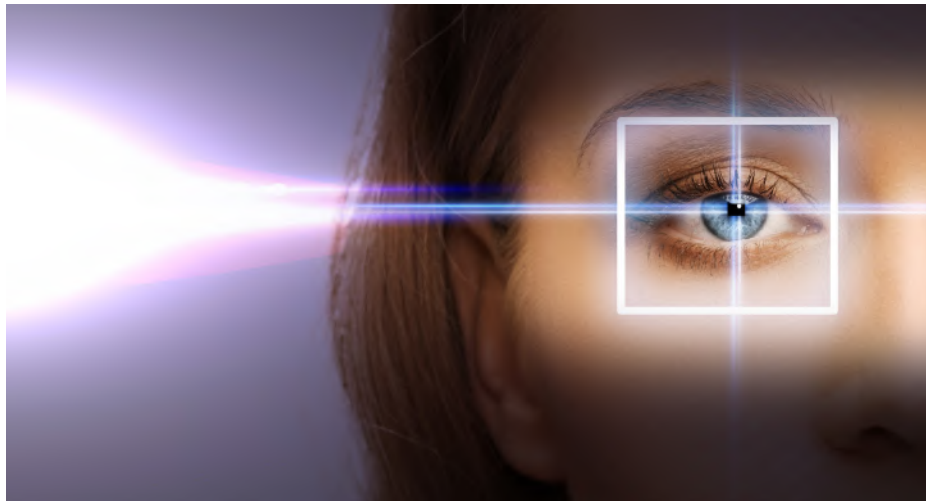
Keto Fact #30: Ketosis Improves Eyesight

A high-carb diet swells up your whole body - including your eyes!

Three weeks into attending keto-group and one of my 67-year-old patients said, "Doc, I can see so much better. This diet doesn't affect that, does it?"

It sure does. Ketosis reduces that inflammation even in your eyes. This allows the picture you see to have less interference. The signal through your optic nerve into your brain should not bump into inflammation. If it does, your vision blurs or appears clouded.

Improve the efficiency of that message by removing that unnecessary swelling. The colors brighten up and the picture sharpens when ketones circulate.



Keto Fact #31: Ketosis Enhances Your Taste

Many patients report a nice burst in the flavor of food after two to three weeks in ketosis. Bathe your system in ketones and many body-systems improve. One improvement sweeps through the brain weeks into this enhanced nourishment. A well-nourished brain squirts increasing amounts of dopamine during times of pleasure. Dopamine is known as our happiness hormone. Pleasure from food marks one of our greatest joys.

Taste also improves after a well-needed reset of their palate. Years of excess sugar flooding their taste buds left those signals overwhelmed. The way to fix that abused pleasure cycle is to stop. Stop stimulating the message of sweetness. The reset takes several weeks.

Eating low carb stops the sweetness-dopamine as long as you stay away from all sweeteners. Keto also results in less volume of food.

The tendency to eat less when fueling the body with fat happens naturally. Their hunger fades in the second or third week. Only a little effort prompts them to stop eating because the clock says so. They switch to eating only when hungry.

Despite eating less, patient reports a rewarding eating experience that grows with time.

Keto Fact #32: Fruit is Evil. Avoid Fruit as Much as Possible

[Fruit is keto-kryptonite](#). Beware of fruit if you're reaching for ketosis and want to stay there. Fruits burst with sugar. Yes. It is natural. But still triggers insulin. Insulin blocks ketones. When patients play the "natural card," I rebut, "It's natural to eat it off the tree once a year."



Avoid dried fruits too. Advertisers sold them as great sources of fiber. But that's a dirty trick. Dried fruits pack even more sugar per bite than fresh fruit. Drying process removes the water leaving more concentrated sugar. Even a small amount of dried fruit loads the body with sugar.

The only 'fruit' worth eating in ketosis is an avocado. Avocado is so packed with fat and versatile that it can be your 'go to' keto 'fruit.'

"Doc, what do you eat to get vitamin C if you don't eat fruit?" Answer: Organ meat like liver, or vegetables such as broccoli, Brussels sprouts, cauliflower, bell peppers, spinach, and cabbage.

Keto Fact #33: Booze Stops Ketones

Booze stops ketone production almost as fast as insulin. Set aside alcoholic drinks filled with carbs like beer or sugary daiquiris. Whiskey, vodka, rum, and gin are distilled alcohol. They contain NO carbs.

That should be keto, right? NOPE.

Look back at our medical literature from the 1920s before injectable insulin. Patients lacking insulin, called type 1 diabetics, died from starvation if they consumed carbohydrates. Instead, they used a high-fat diet to survive. That worked unless their ketone production got too high. Insulin stops ketone production. Without insulin, doctors used distilled alcohol to slow down excess ketone production in patients without insulin.

Like carbohydrates and fat, alcohol fuels the motors inside cells. Carbs turn into glucose-fuel. Fat turns into ketone-fuel. Alcohol stays alcohol. When the alcohol churns through the mitochondria, the ketones stop producing energy.

Unlike carbohydrates, alcohol doesn't need insulin. Add carbs to the alcohol and BAM! Insulin and alcohol apply the brakes to ketone production.

This video shares a few thoughts on [triggers, hangovers, and ketones](#).

Keto Fact #34: Your Blood Holds One Spoonful of Sugar

Your body circulates approximately 7 liters of blood throughout your arteries and veins. [Within those 7 liters](#), you can stuff 7 grams of sugar. That's all your blood can hold. Add more than that and you trigger insulin. Insulin stores the extra sugar for later.

Seven grams of sugar equals ONE rounded spoonful of sugar! Once you squirt out insulin, you can kiss ketosis good-bye. That sugar stays in storage until your insulin sinks back to normal. Eating carbs several times per day can mean the sugar you store today will be locked down for years. Stop carbs and unlock your stored sugars.

Watch what happens to your blood sugars by fasting 10 hours of every day. Calm down. You sleep for 8 of those ten hours. [Fasting with ketogenic eating shifts your body's chemistry the fastest.](#)



Keto Fact #35: Insulin Makes You Fat

Insulin is essential for life. Eating carbohydrates multiple times per day has left us with too much insulin. Insulin allows entrance of sugar from your bloodstream into your cells.

[Insulin does two other things:](#)

1) Insulin locks fat inside your fat cells. Insulin stops fat cells from releasing any stored energy inside.

2) Eat too many carbs and insulin shoves excess glucose into your fat cells. That's right; it turns sugar into fat. Regardless of how you cut it, insulin makes you fat.



The solution? Eat fat. Fat does not trigger insulin. Use fat as a fuel instead of sugar. Over time, your insulin levels will drop, and your fat cells will release that stored energy. In other words, weight loss.

This sounds backward.. so I will write it one more time:

Eat carbs to get fat.

Eat fat to get lean.

[Don't count calories on a ketogenic diet. Count Carbs.](#)

Keto Fact #36: Limit Protein to Stay Keto

There are too many so-called 'Keto Diet' books out there that tell people to load up on BOTH fat and protein. This is wrong. A ketogenic diet is a high FAT diet. Not a high protein diet.

When you load up on both fat and protein, your body continues producing insulin. Even with your carbs under 20 grams per day, insulin production occurs. Insulin shuts down ketones.

I teach patients this rule. Look up what your ideal body weight is. I am 5'3". My perfect body weight hovers around 125 pounds. Divide that ideal weight in pounds by 2.2. [This converts pounds to kilograms.] $125 / 2.2 \sim 56$

That is the number of grams of protein I should stay under to stay in ketosis. This approach works well.

Chicken breasts outsell all other parts of the chicken at the meat counter. If you're keto, chose the chicken wings or legs. Keep the skin on. This high-fat diet requires you choose the fattiest parts of the bird.

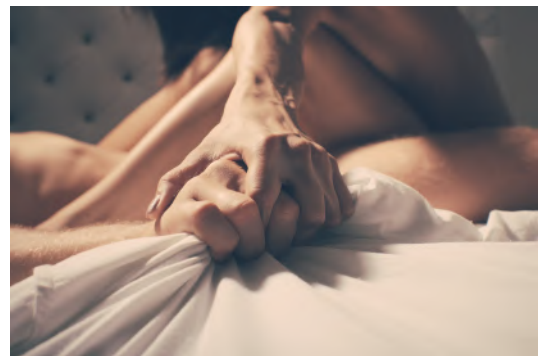
Eating the chicken breast sounds healthy. Many of my health-conscious patients automatically reach for this part of the bird. Watch out. That chicken breast holds lots of protein, and hardly any fat. Excess protein kills ketosis.

Keto Fact #37: Eating KETO Increases Sex Drive

A keto diet delivers a cocktail of rich nutrients. These nutrients help restore depressed or problematic hormone levels.

Women with normal estrogen levels report a surge in this hormone within the first month of going keto. When I wonder about a woman's estrogen level, nothing beats menstruation to teach me about their level. [Expect a menstrual cycle in the first few weeks of ketosis](#). After 6-8 weeks patients report increased libido. Why does this happen?

Our body's fat cells link closely to the production of estrogen and testosterone. Estrogen and testosterone begin as a fat. The name of that fat: cholesterol.



Cholesterol marks the origin of many other steroid hormones such as progesterone, cortisol, and aldosterone. Ketosis converts body fat to energy. This process boosts fat-based-hormone production as well.

I believe the increase in sex drive also happens for a different reason: ketosis' boosts brain function. Ketones strengthen your mental function the longer you continue.

Libido and sex drive happen in your brain. While hormones play a significant role, your sex drive sinks if your brain isn't working well.

Keto Fact #38: Ketones Improve Sleep Quality

Sleep remains a top reason patients seek medical help. If the quality or quantity of your sleep stinks, soon your body complains. Those complaints grow louder and more extreme the longer you struggle to sleep well.

My keto-adapted patients sleep longer and awaken more refreshed. This deep, restorative sleep transforms them into the best advertisers for keto.

Our brain is 70-80% fat. Every circuit winding through our brain glistens with an insulation layer of fat. On high carb, high sugar food the quality of your brain's fat decreases. Years of high blood sugars result in moth-eaten insulation throughout the brain.

During periods of deep sleep, you repair and 'wash' your brain. [Without deeps sleep, your brain collects debris that slows your brain-signals.](#)

A high carb diet floods your body with insulin and consequently with “water.” Simply put, “water” and “electricity” don’t mix, especially in your brain. This boggy, inflamed tissue disrupts brain processing. Your thinking suffers, and so does the quality of your sleep!

Keto Fact #39: Ketosis Improves Your Skin

The skin you see on your face is not alive. It's made up of skin cells your body made 2-3 months ago. Your body makes new skin cells at the base or 'bottom' of your skin layers. These cells migrate outwards until they reach the top of your skin-the dead layer.

If you want healthy, glowing skin, improve the quality of the skin cells you make today. Skin free of pimples or wrinkles boasts perfection at the cellular level. Improve the cells at the base of your skin layer and watch your age reverse over the next 2-3 months.

[Ketosis can improve your skin by eliminating inflammation](#). What are the effects of removing skin inflammation at the base? First, your pimples fade. No matter your age, ketosis prevents pimples from popping out of your skin. Next, the redness, inflammation, and irritation fade.

Produce ketones for 90 days in a row and watch your skin come alive. That youthful radiance originates from cells made from high fat. Well-made skin cells flex allowing the cell membrane to stretch and squish as needed. Only cells made in the presence of no inflammation and high fat perform this well.

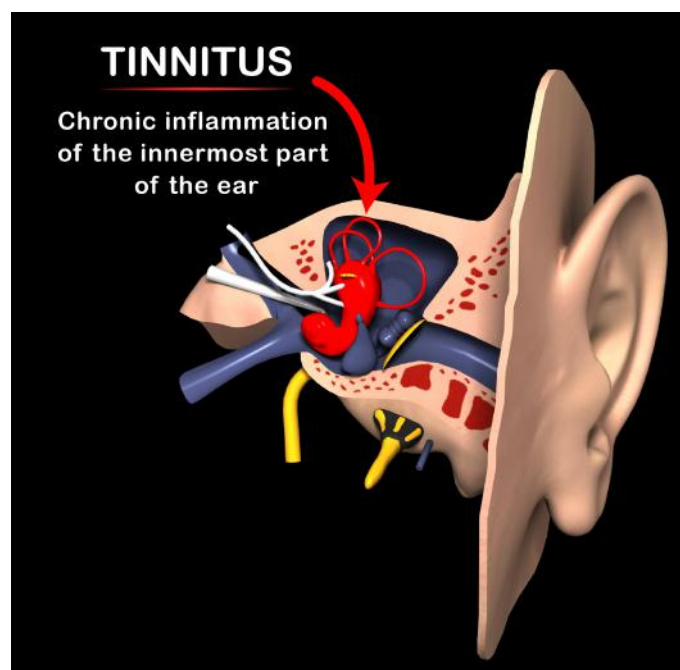


Keto Fact #40: Keto Can Relieve Tinnitus

Tinnitus is the fancy term for a constant buzzing or ringing in the ears. Tinnitus is almost always linked to a chronic inflammation within the ear. Extra water molecules inside the inner parts of the ear conduct vibration. The vibration stops when the inflammation disappears.

How did water get stuck there? Inflammation. Get rid of tinnitus by getting rid of the extra fluid.

In addition to losing 25 pounds, one of my patients reported the disappearance of the ringing in her ears two months after going keto. I reached out to two other patients who had suffered from chronic ear-ringing and suggested they try the diet. They agreed to [transition into ketosis](#) for several weeks. At their 90-day follow up, one had a complete reversal of her tinnitus. The other patient reported several consecutive days without the noise. He had not enjoyed that level of quiet in over five years!



Keto Fact #41: Gastric Surgery Patients Might Struggle at First

The following nutrients are no longer absorbed correctly after gastric surgery:

- Thiamin, Pyridoxal Phosphate, Folate
- Vitamin A, Vitamin K, Vitamin D, Vitamin B12
- Omega 3 and Omega 6
- Magnesium, Phosphorus, Potassium
- Selenium, iodine
- Zinc, Copper, Iron

[Gastric surgery](#) removed the section of their gut that's responsible for absorbing iron and many of the listed compounds above. After surgery, these nutrients slowly decrease. Years later, gastric bypass patients live with brain fog, low energy, thinning hair, and slower disease recovery. This malnourishment is PREDICTABLE and PREVENTABLE.

Going keto adds back a diet high in nutrients. Unfortunately these patients must restore these nutrients before their bodies start to enjoy the benefits of keto. [Their bowels are not used to that much fat](#). Their brain-hormones and energy-hormones will take several weeks of keto-eating before they feel the burst of healthy hormones.

My advise for them: Don't give up. Stay the course. Measure your blood ketones and glucose.

Keto Fact #42: Oral Health Improves with Ketosis

Adding ketones to your saliva improves the health of your teeth and gums. Once your body adapts to ketosis, you will naturally find ketones in many secretions. Eat a ketogenic diet and your saliva will populate with ketones. Eat a diet high in sugar, and find increased glucose in your saliva.

The mouth-bacteria that flourish in high glucose cannot thrive with the switch to ketones. Flipping glucose to ketones in the oral cavity promotes a totally different environment. Watch the bacteria in your mouth plummet when you trade out glucose for ketones.

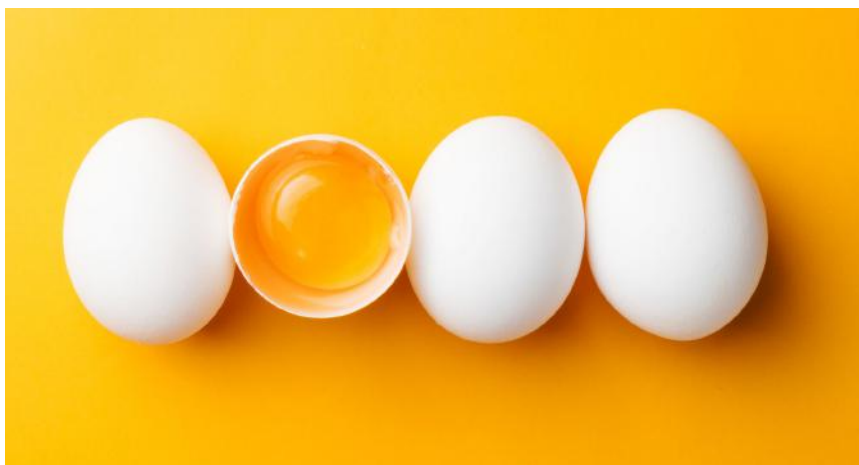
Keto Fact #43: Eat Whole Eggs on Keto

If you're having a tough time adjusting to a keto meal plan, you are hardly alone. Many people struggle to reach for the foods high in fat. Years of low-fat eating left them scared to eat fat. Fearful of eating fat.

One handy food that wins in the keto world is the egg. The whole egg. If you can't decide what to eat, the egg has got you covered. It's effortless to cook. Prepare it sunny side up, boiled, baked, poached, or Benedict-style. When patients ask what to eat on a keto diet, I reply, "Bacon and eggs. When you grow bored of eggs, come back for more questions." Add Muffalata to your [shopping list](#) and find a whole new world of egg recipes. Muffalata turns eggs into a divine meal. (Affiliate link: <https://amzn.to/2QZqZiB>)



How awesome is this shell-encased fat bomb? The long-standing weight loss system, Weight Watchers, recently announced that eggs are now a “zero point” food. Even Weight Watchers agrees. The whole egg gets a solid gold endorsement.



Keto Fact #44: Stop Counting Calories

STOP COUNTING CALORIES. CHEMISTRY FIRST.

Fueling your body's cells with fat instead of sugar starts with stopping. Stop counting those calories. Yes, you read that right. Stop looking at the calorie section of every food label. [START FOLLOWING THE KETO RULES.](#)

Instead of calories, focus on chemistry. [The calorie-in minus calorie-out equation](#) falls short until you fix your chemistry.

The first chemistry to hone is ketone production. Shift your system to fat burning and your chemistry will flip to ketosis. Once you burn your first ketone you've started to shift chemistry. Keep it up. Soon you will notice that your body signals you loud and clear when it is time to stop eating.

After several weeks of solid ketone production, I encourage patients to check their morning fasting blood sugars. This means poking your finger and using a glucose monitor. Don't shy away. It really makes a big difference. The learning patients have after a week of checking blood sugars is priceless. They begin to study their chemistry.

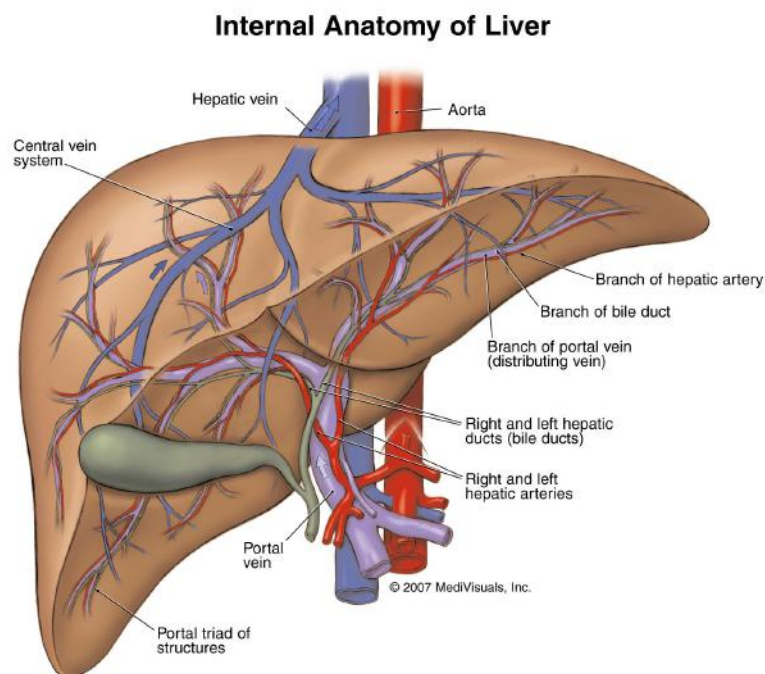
The [morning fasting glucose results should be less than 100 mg/dl](#). The best progress happens with glucose numbers in the 70s-80s. When your chemistry is right, weight loss follows.

Keto Fact #45: Ketosis Empties Your Liver

Your body makes ketones in the liver. Before that happens, your body burns up circulating sugar in your bloodstream. Next, your body burns through the stored sugar in your liver. Stored-sugar called glycogen waits for the bloodstream to be low on sugar. Once the sugars fall, glycogen releases a fresh supply of sugar until the liver is empty.

[How long does this take to empty your liver?](#) That depends. We need to know how much energy your body is asking for. We also need to know the size of your liver. The largest livers aren't found in my alcoholic patients. The livers found in my alcoholics take second place to fatty livers of my obese patients.

The longer patients have carried around their weight, the bigger they have stretched their liver. The bigger the liver, the longer it takes to empty their storage.



Keto Fact #46: FASTING -It's the Fastest Way to Keto

If you don't want to [wait weeks to fuel your body from ketones](#), fasting can do the trick. Your body's chemistry switches over to fat-burning fastest if you simply stop eating. Period.

I don't recommend this. Transitioning from a high carb diet to fasting can be very hard for most people. In many of my chronic carb-addicts, it can be dangerous. There's an easier way.

Start with a ketogenic diet. Limiting your carbohydrates to 20 or less provides an easier transition. This is especially true if you've been overweight for years. Produce ketones for several weeks. Your body will become more efficient at using fat for fuel. Before you know it, you will naturally find yourself fasting for 12 hours between meals.

[Intermittent fasting](#) becomes a breeze when ketones are your go-to fuel.

My number one video on YouTube [teaches the secrets about Autophagy](#). You are going to want to learn more about that magical word.

Keto Fact #47: Fasting = Time Restricted Eating

Intermittent Fasting refers to limiting the time when you eat. Once patients experience the glory of not feeling hungry, I introduce [intermittent fasting](#).

I encourage patients to begin eating two meals per day within a 12-hour “window.” The key to success: The window opens when the sun rises. That’s when the 12-hour timer begins. Match your time-restricted-eating to your circadian rhythm.

Your circadian rhythm sparks your metabolism to awaken your body. This begins your “motor” for the day. You cannot shift this part of the eating-window.

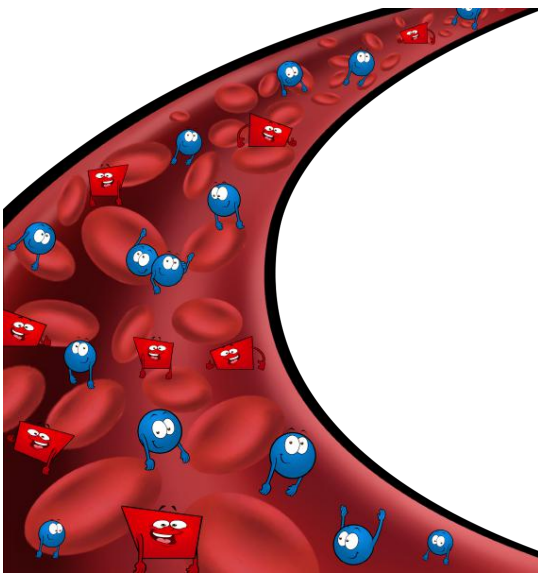
Limit your eating to the next 12 hours. Once the window closes, only consume water. Practice eating with the pattern of twelve hours ON. Then twelve hours OFF.

As you practice, you will grow stronger in your skills to limit eating. Your body will grow healthier too.

That’s the power of ketosis chemistry.

Keto Fact #48: You Produces Glucose, Even if Keto-Adapted

If you're healthy, your body never goes 100% ketogenic. There will always be glucose in your system. That's right. Even if you have stopped eating all carbs, you still find glucose in your bloodstream.



The term keto-adapted refers to the ability to switch between ketones and glucose. When you first shrink your carbs to less than 20 grams per day, your cells need to adapt. They must adjust to this new source of fuel. It's been years since most have fueled from a ketone. You must waken the "cell parts" to switch the motor from glucose to ketones. This adaption is keto-adaption.

Once the cell parts for ketone wake up, you can use them readily. The cell can now go back and forth between fuels. Keto-adaption does not mean 100% of the cells burn ketones. The body will always have some cells burning glucose while others burn ketones. The exception occurs when the body does not have insulin. Only then does the body start to rev up every single cell to burn ketones. This is life-threatening and is called ketoacidosis. Thankfully most every one produces insulin. If they don't, we are privileged to have injectable insulin.

If we stop eating carbs, where does the glucose come from? Gluconeogenesis. This is process your body uses to make glucose from fat or protein. Isn't our body amazing?

Keto Fact #49: Prepare for Social Pressures to Eat

The greatest struggle to stay keto comes from the social pressure of friends, co-workers, and family. Most folks don't know about the importance and power of ketones. Prepare for this. If you are new to keto, you can drain all your energy trying to teach others. Use tools like this free ebook, or send them to my favorite teaching tool, [ANYWAY YOU CAN](#)



Here are some one-liners to say in a pinch:

- 1) "I am allergic to carbs." This line works so well. Usually, it takes a few deliveries before folks fire back questions. The truth is, our bodies were never supposed to have so many carbs. You can say with a strong voice of confidence that your body rejects extra carbs.
- 2) "I ate too many carbs in the last decade. Now it's time to reverse them out of storage."
- 3) "Would you like me to test your glucose?" Get that glucose monitor out. There is nothing like a drop of blood to ward off bossy co-workers. Offer to check their glucose number. You will shoo some away with the question. You might make a keto-convert if you check their sugar. If it is above 100, gently caution them that they are aging their bodies faster than normal.

Keto Fact #50: Form a Tribe - KETO TOGETHER

The way we eat has many aspects to it. Social. Mental. Physical. Psychological. Don't keto alone. Find a friend. Walk through this journey together.



Use this [FOOD GUIDE](#) to help you get started. It's designed to help you make good food choices today. Then, gradually move to BETTER keto choices and finally the BEST keto foods. Hang in on the fridge at work or at home.

The decisions get easier once you get started. I know the success of my mother happened in large part because I did it with her. I wrote and recorded the lessons in the book [ANYWAY YOU CAN](#) because my mom was dying from cancer. She needed understandable keto lessons.

Start a support group. Invite others to walk through this change together. Use the playlist called [ALL THINGS KETO](#) on my YouTube channel as your weekly support group lesson. Meet weekly and watch one or two videos. You will both be healthier. Along the way, you will attract others into this change. The information is free and the gift of health is priceless.

The success is guaranteed as long as you produce ketones.

It is that simple.