

The **TRUTH** about *Sugar*



Discover Why this "Mutant" Sugar
is the #1 Danger in Your Diet

Disclaimer & Copyright

All information is for information purposes only. It is not to be construed as medical advice or instruction. Please consult your physician or a qualified health professional on any matters regarding your health or on any opinions expressed in this publication.

The information provided is believed to be accurate, based on the best judgment of the author and editors. However, you are responsible for consulting with your own health professional on matters raised within. Health-e Enterprises, LLC accepts no responsibility for the actions or consequential results of any action taken by any reader. These statements have not been evaluated by the Food & Drug Administration. Any products discussed are not intended to diagnose, treat, cure, or prevent any disease.

No part of this publication may be reproduced, distributed, transmitted, or sold in whole or in part. Thank you for respecting the time, research and energy put into this guide for your education.

All content © 2018-2020 by Health-e Enterprises, LLC. For your education only.

If you're like most people, you probably love dessert...

Gooey Brownies topped with golden Caramel... warm, soft Chocolate Chip Cookies... buttery Cinnamon Rolls dripping with Frosting... moist Chocolate Cake topped with Buttercream and a tangy Raspberry Glaze...

Just thinking about these treats is enough to make your mouth water.

But you probably feel guilty indulging in sweets... and for good reason!

Sugar causes you to gain weight and increases your risk for disease.

In fact, the Whitehall Study evaluated nearly half a million people over thirty years. They found the more sugar you eat... the higher your risk of death! And we sure eat a lot of it...

The average American consumes **156 pounds of sugar a year!** It's no wonder...

- **70 percent of U.S. adults** are obese or overweight and
- **100 million Americans** suffer from diabetes or pre-diabetes.¹

Credit Suisse reports we spend a TRILLION DOLLARS a year fighting damage caused to our health by sugar! There is no doubt... too much sugar (and other high carbohydrate foods) can be deadly.

But that's not the whole story. The truth is that...

What You Have Been Told about Sugar is Dangerously WRONG...

As you are about to discover, you have been LIED to about sugar!

These **"Sweet Lies"** may have cost you your health. They have stolen enjoyment from your diet. And they might have even taken the lives of people you love...



Who Has Been Lying to You about Sugar?



It's no surprise **industry trade groups** have told some whoppers. These groups have a sworn interest to protect profits and defend their products – at all costs!

But you have also been lied to by **government health organizations** and institutions that claim to be your guardians of health – like the **heart, cancer and diabetes associations**.

For example, did you know that the former Chief Medical & Scientific Officer of the **American Diabetes Association**, Dr. Richard Kahn, made the following statement?

***“What is the evidence that sugar itself has anything to do with diabetes?
There is not a shred of evidence that sugar per se has anything to do with getting diabetes.”***

This was not before the dawn of science... he said this in 2005! And while the ignorance of his statement is astounding, Dr. Kahn is NOT ignorant... he is deceptive!

Less than a month after he made this statement, **the ADA accepted a “multi-million-dollar gift” from Cadbury-Schweppes** – one of the largest candy and beverage manufacturers in the world.

When you consider conflicts of interest, powerful lobbies and BILLIONS of dollars at stake, it's easy to see how the government and other powerful institutions will trade your health for a buck.

But it might surprise (and possibly hurt) you to learn that...

**Your Own Doctors & the “Nutrition Experts” You Trust Online
Have Told You LIES about Sugar that Could Cost You Your Life!**

Yes, it really is that serious!

But that ends today, because you're about to learn **THE TRUTH ABOUT SUGAR!**

Below, you will learn about a so called “healthy sweetener” that is actually one of the most dangerous foods you can consume!

In fact, while many doctors and health advocates have recommended this sweetener for people with diabetes, it is actually **one of the leading causes of insulin resistance, fatty liver, metabolic syndrome and diabetes!** This “mutant” sugar **promotes heart disease.** And it increases the **growth and spread of cancer.**

The information in this report could be a lifesaver – so we encourage you to read this information carefully. And please feel free to share it with your friends and family.

To Your Health,

Kelley Herring

Founder, Healing Gourmet

Author of [Keto Breads](#) & [Keto Desserts](#)

SWEET LIE #1: Low-Glycemic Sweeteners are Healthy

You’re probably familiar with the **glycemic index**...

It’s a measure of how various foods impact your blood sugar. The scale starts at zero and goes to 100 (the reading for **glucose**). The Index was conceived by a doctor at the University of Toronto in 1981.² But it wasn’t until 2005, when *The New Glucose Revolution* became a bestseller that the concept went viral.

Now, before I go on, let me assure you that...

The Glycemic Index and the related Glycemic Load are extremely valuable tools.

These measurements directly correlate to blood sugar and insulin levels – which directly correlates to obesity and your risk for EVERY chronic disease!

But there is a **BIG PROBLEM** with how the glycemic index has been interpreted...

Glycemic Index of Various Foods	
Food	Glycemic Index
Glucose	100
Cornflakes Cereal	81
White Potato (boiled)	78
Whole Wheat Bread	75
White Rice	74
Sweet Potato	70
Green Peas	54
Sweet Corn	52
Orange Juice	50
Carrots	39
Apple	36
Lentils	32
Chickpeas	28
Fructose	19

Fructose has a lower GI than chickpeas!

Do you see **fructose** at the very bottom of the list?

Here's why that is strange...

Fructose is the **sweetest of all sugars** – yet has a glycemic index **32% lower than chickpeas!**³

So, while its true fructose has limited effect on blood sugar (immediately after ingestion) ...

This Simple Truth Led Health Authorities, Food Manufacturers, Doctors & Diabetes Organizations Down a Very Dark Path...

In the early 2000s “experts” began recommending fructose-rich sweeteners as a “healthy” ...

The big winner was **agave syrup** which enjoyed a HUGE boom in sales.

Depending on the brand, **agave is up to 90% fructose** – more than DOUBLE what's in certain grades of high-fructose corn syrup!

Due to its low glycemic index, agave was (and STILL is) touted as **“ideal for people with diabetes.”**

In 2013, the European Union ruled that **food and beverage manufacturers can make “health claims” for fructose** on their products if they use it to replace glucose and sucrose.⁴

And you’re about to find out why that’s a VERY bad idea...

Fructose doesn’t raise blood “glucose” (in the short term) – because it’s NOT glucose!

But that does NOT mean there’s no damage!

The Glycemic Index of Fructose is 81% Lower than Glucose... But what it Does Behind the Scenes is MUCH WORSE!

I’m not suggesting glucose is harmless... it’s not!

But **fructose is worse**. Compared to glucose, there are HUGE differences in how fructose affects:

- How much you eat
- How much you weigh
- Your risk for disease
- How fast you age (and even how old you look).

To understand why, you must know how it’s metabolized...

Glucose is the primary sugar in starchy foods (like rice and potatoes). Before it enters your bloodstream, starch molecules are broken down in the gut, **slowing the rush of sugar** into your blood.

Once it hits your blood, virtually every cell in your body easily converts glucose to energy.

So, glucose is **“time-released”** into your blood... and dispersed across your entire body.

But fructose is VERY different, because...

While Every Cell in Your Body Can Process Glucose... Fructose is Like a Heat-Seeking Missile for Your LIVER!

Every gram of fructose you consume is processed by your liver.

That means your capacity is extremely limited. It’s also EXTREMELY harmful in excess, because fructose is converted into three dangerous compounds:

1. **Triglycerides** – Damage liver function, increase risk of heart attack and stroke
2. **Free Radicals** – Damage genes and cells, mutate DNA, accelerate aging and disease
3. **Uric Acid** – Raises blood pressure, impairs kidney function, promotes gout

The toxic burden of these compounds can turn a healthy liver into a fatty blob of dead tissue.



And it can happen fast!

- A group of researchers at Wake Forest School of Medicine divided ten healthy monkeys (that had never eaten fructose) into two groups. One group consumed 24 percent of calories as fructose. The other consumed none. **In just six weeks liver damage in the fructose group doubled!**⁵

According to lead researcher, Dr. Kylie Kavanaugh:

“What surprised us most was how quickly the liver was affected and how extensive the damage was.”

Considering the average American teen consumes **59 pounds of fructose each year** – it’s no wonder 33% of adults and 13% of kids suffer from non-alcoholic fatty liver disease (NAFLD)!⁶

And it won’t just cripple your liver, because...

Fructose Provokes Ravenous Hunger and Makes Fat Stick to Your Body Like Glue!

Consuming glucose triggers a “**hormonal feedback loop**” that helps control your appetite. When scientists inject glucose into the brains of rats, **food-seeking behavior is suppressed**.⁷

Fructose also triggers a cascade of metabolic changes... but with the OPPOSITE effect!

One hormone impacted by fructose is leptin, which performs **two MAJOR functions**:

1. Binds to brain receptors that tell you how much to eat (and when you’re full)
2. Signals the body to burn fat to create energy.

When leptin levels are low (or when you become “resistant” to it) ...

Your brain never sends the “I’m Full Signal” so you eat, and eat, and eat. And your “Burn Fat Signal” is turned off too, so you gain, and gain, and gain!

And nothing is more adept at sparking this vicious cycle than fructose.⁸ Studies show fructose can lower leptin levels by 50% (while preventing what’s left from reaching the brain).⁹

And you don’t have to imagine what happens when these signals are broken, because this is what it looks like:



And that’s not the only hormonal damage it can do, because...

Despite the fact that “low-glycemic” fructose has minimal (immediate) impact on blood sugar and that high-fructose sweeteners are promoted as a “healthier alternative” to people with diabetes...

It appears that over time...

Fructose is the PRIMARY DRIVER of Insulin Resistance & Diabetes in the Population!

Blood “glucose” gets all the attention...

But research proves fructose is more insidious when it comes to diabetes. In fact, when researchers want to induce **metabolic syndrome** in lab mice – they feed them fructose!¹⁰

Experts now believe accumulation of **fat in the liver** – caused by fructose – is the NUMBER ONE CAUSE of insulin resistance, metabolic syndrome, pancreatic malfunction and diabetes!¹¹

- Six days of excess fructose can cause **insulin resistance**
- Eight weeks can result in **pre-diabetes**

So, what happens after decades?

You have 100 million Americans with preliminary or advanced diabetes.

And that's not where the story ends with this sneaky sugar, because...

Fructose is “HIGHLY LIPOGENIC”
Increases Fat Storage 3,900% More than Glucose!

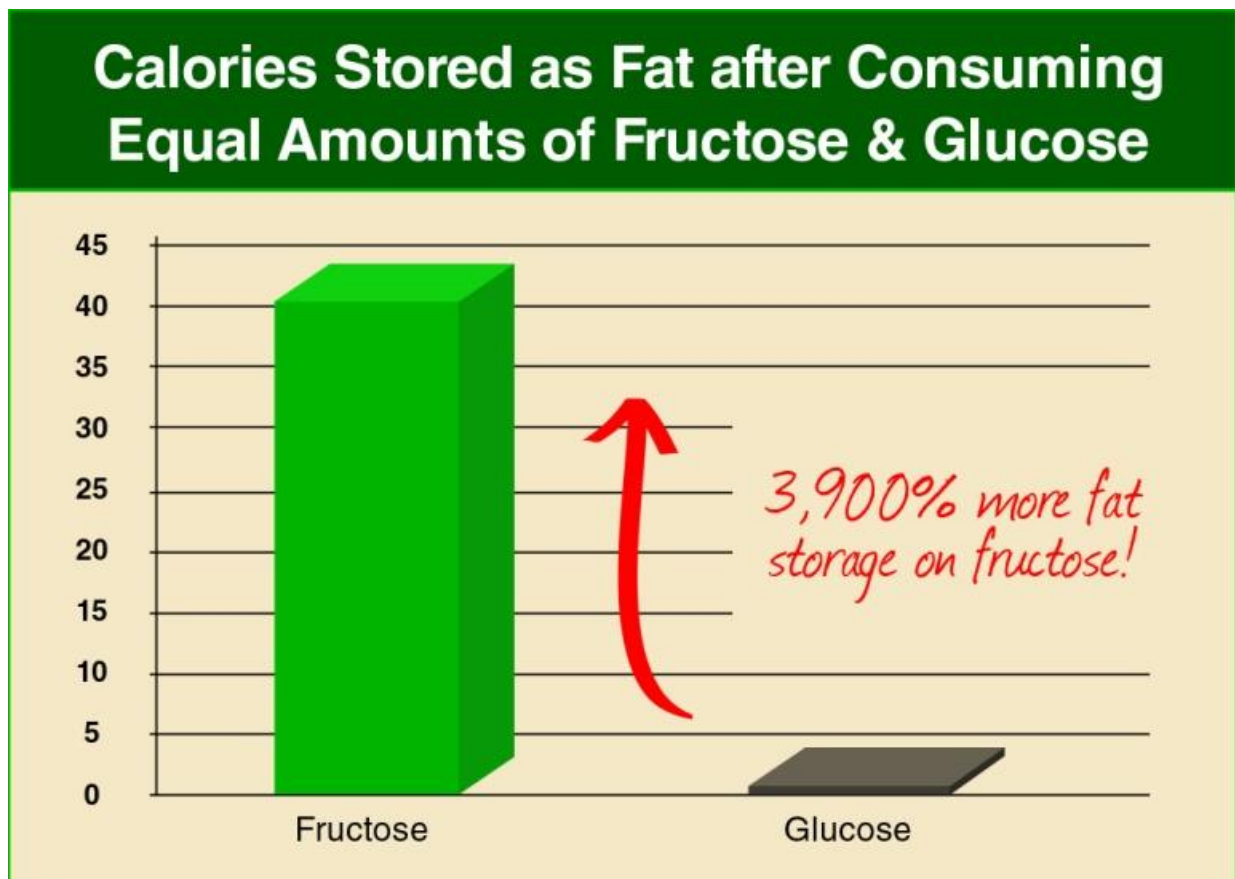
Studies show that nothing compares to the “lipogenic” potential of fructose!¹²

In plain English that means... ability to “create fat”.

A recent study examined medical students, who consumed either 120 calories of glucose or fructose.¹³

- In the glucose group, **less than one calorie** was stored as fat!
- In the fructose group, **40 calories** were stored directly as fat!

That's a 3,900% increase in fat storage!



And that's not even the worst part, because...

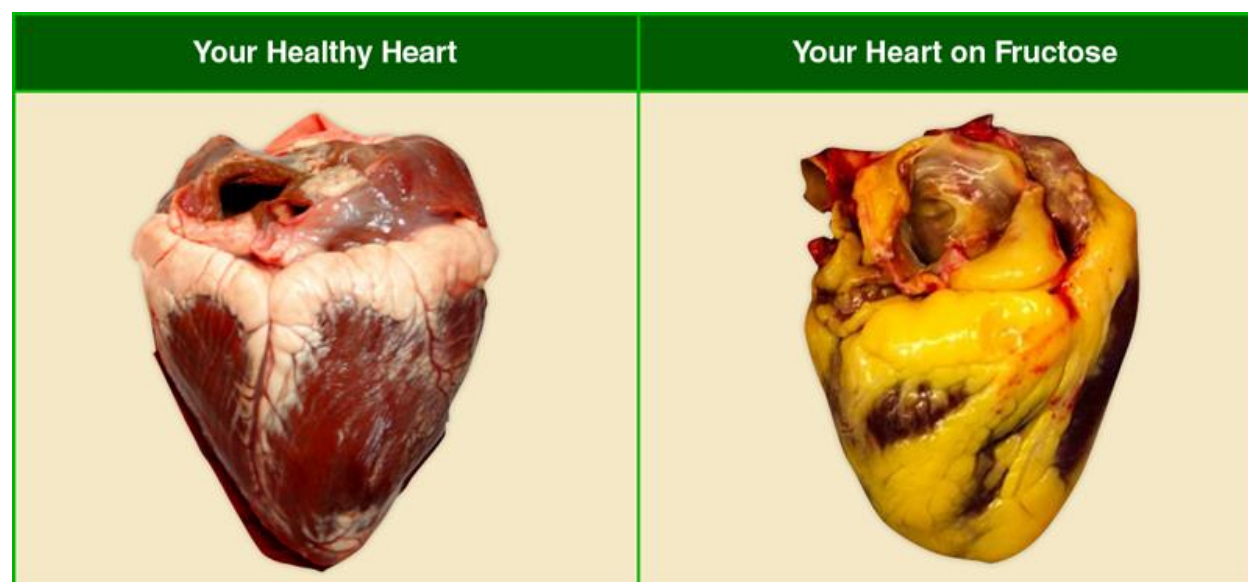
Fructose Transforms Harmless “Pinch-an-Inch” Fat into Deadly “Organ-Crippling” Visceral Fat

The fat just under your skin is known as **subcutaneous**.

For the most part, this type of fat is relatively inert and harmless.

Another kind of fat – **visceral fat** – is deposited deep inside your abdomen around your organs. Visceral fat is also highly metabolically active. It pumps out inflammatory compounds, alters hormonal function and literally cripples your organs!¹⁴

Take a look...



And fructose creates visceral fat MUCH FASTER than glucose...¹⁵

A 10-week study of adults, examined the effects of two diets with 25% of calories from fructose or glucose. While both groups gained weight, **the fructose group added 380% more deadly visceral fat!**¹⁶

So why does fructose generate visceral fat so rapidly?

A study, published in *Progress in Cardiovascular Diseases*, explains that fructose increases the stress hormone cortisol. And cortisol drives fat cells OUT of harmless subcutaneous fat... into dangerous visceral fat!¹⁷

In other words, **fructose repositions the fat on your body in a way that INCREASES your disease risk!**

And as if that's not enough...

“Our study shows the surprising speed at which humans make body fat from fructose. Once you start the process, it's hard to slow it down.”

Dr. Elizabeth Parks
Professor of Clinical Nutrition

Freaky Fructose Adds YEARS of Aging to Your Face (Promotes Glycation 900% FASTER than Glucose!)

Glycation is a process that occurs when sugars connect to proteins. The compounds that form are called **advanced glycation end-products (AGEs)**.

These “sticky” compounds create chemical bridges between molecules – a process known as **cross-linking**. It’s the same thing that happens when a flexible garden hose becomes dry and brittle after a summer in the sun.

When it happens in your body...

Your tissues harden... your arteries become inflexible... your risk goes up for EVERY disease... your skin becomes wrinkled and saggy... and you begin to look MUCH older than your years.

And while all types of sugar cause this process to occur, a study published in *Biochemistry* proves that **fructose induces cross linking 900% faster than glucose!**¹⁸

So, let’s recap what we’ve just learned about “**low-glycemic fructose**” compared to glucose...

- Increases **Fat Storage 3,900%**
- Creates **380% More Visceral Fat**
- Promotes **900% Faster Glycation**
- Lowers **Leptin 50%** (promotes hunger + shuts off fat burning)

To call fructose a “healthy alternative” to anything is a big fat whopper of a lie!

And with that, let’s move on to the next Sweet Lie.

SWEET LIE #2: “Paleo Desserts” are Healthy

Search the term “**Paleo Dessert**” and Google provides you with more than two million results!

And I’m sure you’re aware – most of these websites and food manufacturers claim their desserts and snacks are “**healthy**” ... because they cut out the **refined** sugar and replaced it with “**Paleo-Approved Sweeteners**.”

In fact, here are a few quotes from some VERY popular “experts” in the field...

- These desserts are “satisfying and totally healthy”
- They provide “all the nutritious health benefits of the Paleo Lifestyle”
- “You’re not cheating” and they “will not derail your weight loss goals in any way”
- Enjoy with peace of mind that “your body is being protected from illness and disease”

Unfortunately, these Claims are FALSE because... Most “Paleo Dessert” Recipes Still Use a LOT of SUGAR!

Let me give you a few examples...

Among the most popular “Paleo Bloggers” is a Ph.D. who claims to “distill the science behind how diet and lifestyle impact health.” And while she was previously “morbidly obese” (her words) as a result of junk food... now she wants to tell YOU how to eat!

- Among many “paleo” dessert recipes on her site – **Double-Chocolate Caramel Brownies** – is made with a full cup of honey, more than two cups of chocolate chips and 15 dates! That’s **675 total grams of SUGAR – the equivalent of 17+ cans of Coca-Cola – in one small pan of brownies!**

As a scientist who wrote her doctoral thesis on “**Progressive Liver Injury**” – she ought to know that eating a dessert like this is like allowing your liver to get mugged in a back alley!

- Or consider the **Vanilla Cake with Frosting**, featured by another very popular “Paleo” website. While they promote a primal diet low in sugar, this recipe uses two cups of honey and maple syrup combined. That’s **519 total grams of SUGAR – equal to the amount in 15 soft drinks!**
- Then there’s the popular detox blogger who claims her paleo desserts – **many of which contain over 300 grams of sugar** – will help you “detoxify.” Truth is these fructose-filled treats will put you on the fast track to a **fatty liver unable to detoxify anything!**

Is it Any Wonder Why so Many Websites Don't Provide Nutrition Data for Their Recipes?

I’ll be the first to say you should follow a diet that mimics your ancient ancestors...

But some so-called experts have taken “**paleo-approved sweeteners**” so far from their evolutionary context... they’re in another universe!

Here's the bottom line, when it comes to your health...

**There's NO METABOLIC DIFFERENCE Whether SUGAR Comes as
Syrup-Soaked Brownies... Honey-Sweetened Cookies...
Date-Filled "Energy Bars" ... or a Big Gulp from the Gas Station!**

It is all the same to your body!

And speaking of taking food from its evolutionary context, let's talk about honey...

Honey is definitely "Paleo" ... it's been consumed and revered for millennia.

But our ancestors were lucky to taste honey a few times each year. Even then, we had to climb a tree, brave hundreds of stinging bees... and share the spoils with everyone in the village.

We consume so much honey today, honest beekeepers can't keep up. And yet, demand is growing by 40 million pounds annually!

This has created an incentive for fraud. And it's why labs all over the world find "**honey**" **cut with rice, cane and corn syrup** – not to mention tainted with **antibiotics** and **heavy metals**.¹⁹

According to *Food Safety News*, an organization which analyzed 60 jars from 10 different states, "**Tests show that most store honey... isn't honey.**" For what it's worth, the only "pure" honeys they found were purchased in farmer's markets, co-ops and natural food stores.

But even if you buy direct from the beekeeper, use caution and moderation because...

**Even the "Purest" Honey is Virtually
Identical to High-Fructose Corn Syrup**

Yes, it is true that **pure raw honey** contains enzymes, antioxidants and potential anti-allergenic properties.

But as to your metabolic health, there's no difference between high-fructose corn syrup and honey.

In fact, **honey might be WORSE!**

The two most common "grades" of high-fructose corn syrup are HFCS-42 and HFCS-55. The numbers refer to the percent of fructose in each product – 42% and 55% respectively – with most of the remaining sugar as glucose.²⁰

How does this compare to honey?

A 2013 study of 20 honey samples found an average ratio of 56% fructose to 44% glucose... while some samples had a ratio as high as 64% fructose to 36% glucose.²¹

In other words, most honey has MORE fructose than "high fructose" corn syrup!

And those antioxidants and enzymes do nothing to change what this does inside your body.

For example, consider...

What Sugar (Including Honey) Does to Your Immune System

We've all heard that sugar "depresses" the immune system. But you've probably never seen it quantified the way it was in a 1973 study...²²

This study observed the effects of sugar on our immune system, using the **Leukocyte Index (LI)**. Leukocytes are white blood cells. Each one is like a tiny Pac-Man that gobbles up bacteria, viruses and other pathogens.

The LI is a measure of how many "bad guys" your leukocytes consume in one hour. If they gobble up 10 per hour, you have a Leukocyte Index of 10.

As you can see below, consuming sugar in any form – including honey – disables your white blood cells and can reduce immune function up to 45% for more than five hours!

YOUR IMMUNE SYSTEM ON SUGAR				
Reduction in Immune Function with Different Carbohydrates				
TYPE	Fasting LI	Lowest LI	Decline	Return to Normal
FRUCTOSE	15.5	8.5	45%	More than 5 Hours
SUCROSE	15.2	8.6	43%	More than 5 Hours
ORANGE JUICE	16.6	9.6	42%	More than 5 Hours
GLUCOSE	16.2	9.6	41%	More than 5 Hours
HONEY	15.9	9.6	40%	More than 5 Hours
STARCH	15.7	13.6	13%	More than 5 Hours

If you consume some form of sugar every few hours – as most people do – **your immune system never fully recovers**. This not only makes you more susceptible to colds... but to cancer and other diseases too.

I'm not suggesting you can't have an occasional teaspoon of honey in your tea. But in excess – which is easy to do when added to the other "sugars" you may consume on a daily basis – honey is just as damaging as a soft drink.

And please keep this in mind next time you see a recipe that calls for two cups of the sweet stuff...

Superfoods Don't Cut Your Immune Function by Half and
"Paleo Desserts" with 700 Grams of Sugar are NOT Healthy!

SWEET LIE #3: Saturated Fat is to Blame for Heart Disease

Fifty years ago, the biggest lie in the history of nutrition was foisted on the unsuspecting public...

Documents published in *JAMA Internal Medicine* prove that in the 1960s, an organization (currently known as the **Sugar Association**) paid Harvard researchers to conduct a review of studies on the causes of heart disease.

Of course, there's nothing wrong with an industry group paying for research...

But in this case, the sugar industry cherry picked the studies and told researchers the conclusions to draw.

The researchers confirmed they were “well aware” of the stipulations – and received \$50,000 (in today's dollars).²³

And what did the sugar industry get for their funding?

A prestigious Harvard study, published in *New England Journal of Medicine*, placing the blame for heart disease on saturated fat and cholesterol... while exonerating links to sugar.

This “research” – and the corrupt scientists who published it – influenced five decades of dietary dogma!

In fact, the leader of the study later served at the USDA, where he continued to support the processed food industry by helping draft the government's disastrous dietary guidelines.

*Funding research is ethical.
Bribing researchers to produce
the evidence you want is not.*

Marion Nestle
Professor of Nutrition & Public Health
New York University

And so began an era where sugar was positioned as little more than “empty calories” and high-sugar foods like breakfast cereal (produced by huge conglomerates) got the Heart Association Seal of Approval... while farm-fresh eggs, butter, cheese and beef (produced by American farmers) were demonized.

According to the USDA, annual consumption of fructose rose 1,000% in the years after this study!²⁴

The truth is that sugar – NOT saturated fat – is a primary cause of heart disease.

And fructose is the worst offender of all...

Triglycerides Skyrocket When You Consume Fructose... 162% Increase in Just Two Weeks!

Triglycerides are a form of fat found in your blood and a critical measure of cardiovascular health. A study published in *Circulation* shows high triglycerides can increase heart disease risk by 61%.²⁵

So how does fructose – a form of sugar – affect levels of dangerous fat in your blood?

When fructose is metabolized in the liver, triglycerides are a byproduct.

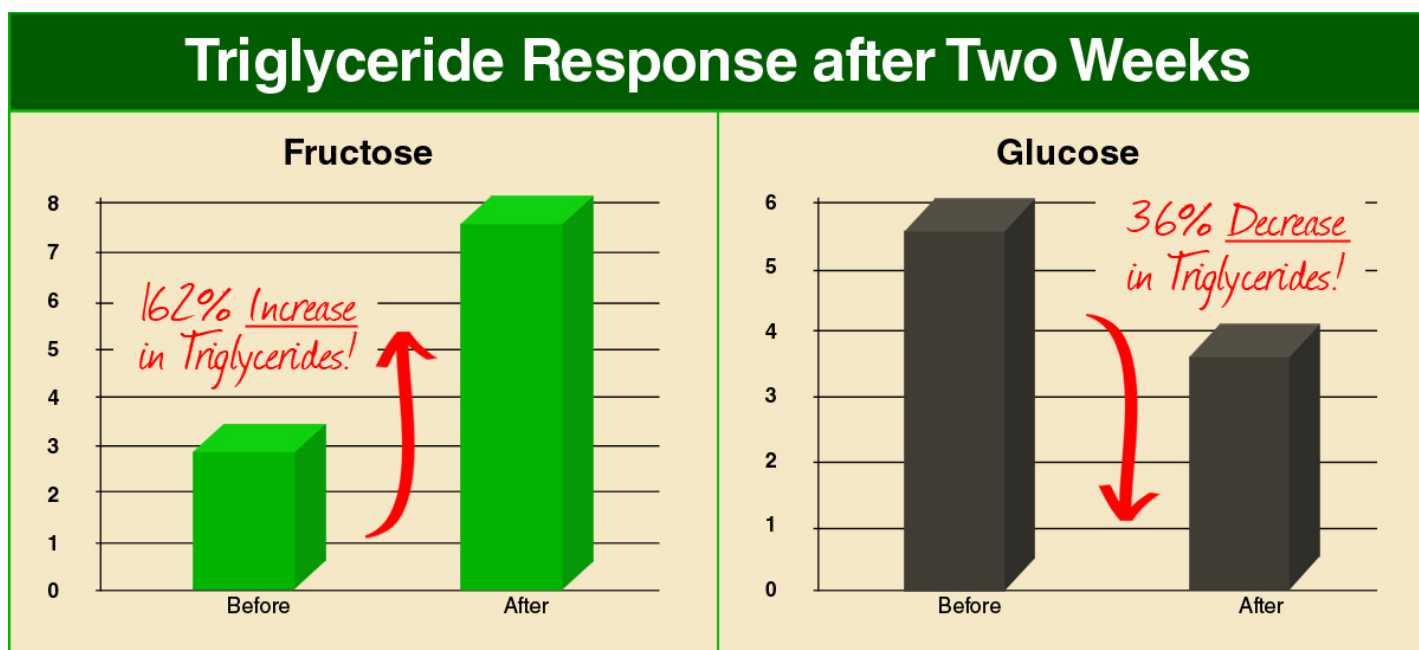
In fact, triglycerides soar on fructose... and it can happen FAST!

A study of healthy medical students showed a high-fructose diet caused triglycerides to **DOUBLE in SIX DAYS!**²⁶

And while excess glucose has its own problems, studies show it has the **OPPOSITE** effect on triglycerides.²⁷

One study, published in the *Journal of Clinical Endocrinology & Metabolism*, evaluated 48 adults on a controlled diet. The subjects consumed 25% of calories from either fructose or glucose.

During the two-week study, **triglycerides increased 162% in the fructose group** – while the glucose group experienced a **36% decrease!**²⁸



And fructose not only increases your production of triglycerides... it also **impairs removal!**²⁹

This was evidenced in an *American Journal of Physiology* study. It showed that when rats were fed a fructose-rich diet, triglyceride **production increased 20%....** while levels in the blood were **SIX TIMES higher than baseline!**

And triglycerides are not the only heart-stopping compounds formed by sugar...

Fructose Causes Millions of Free Radicals to Attack Every Tissue, Organ & System in Your Body

You've heard of "free radicals" ...

These unstable molecules are missing an electron. To make themselves whole, they "steal" electrons from healthy tissues. This causes a chain reaction of damage – known as **oxidative stress** – that can mutate your very DNA.

Cellular damage caused by free radicals is a contributor to EVERY chronic disease... from cataracts to cancer, diabetes, Alzheimer's, Parkinson's... and of course, **heart disease.**

And guess what?

Fructose sends free radicals off the charts!

Researchers at Kobe University examined the roles of fructose and glucose in the production of free radicals. When the scientists introduced glucose, free radicals increased 568%.³⁰

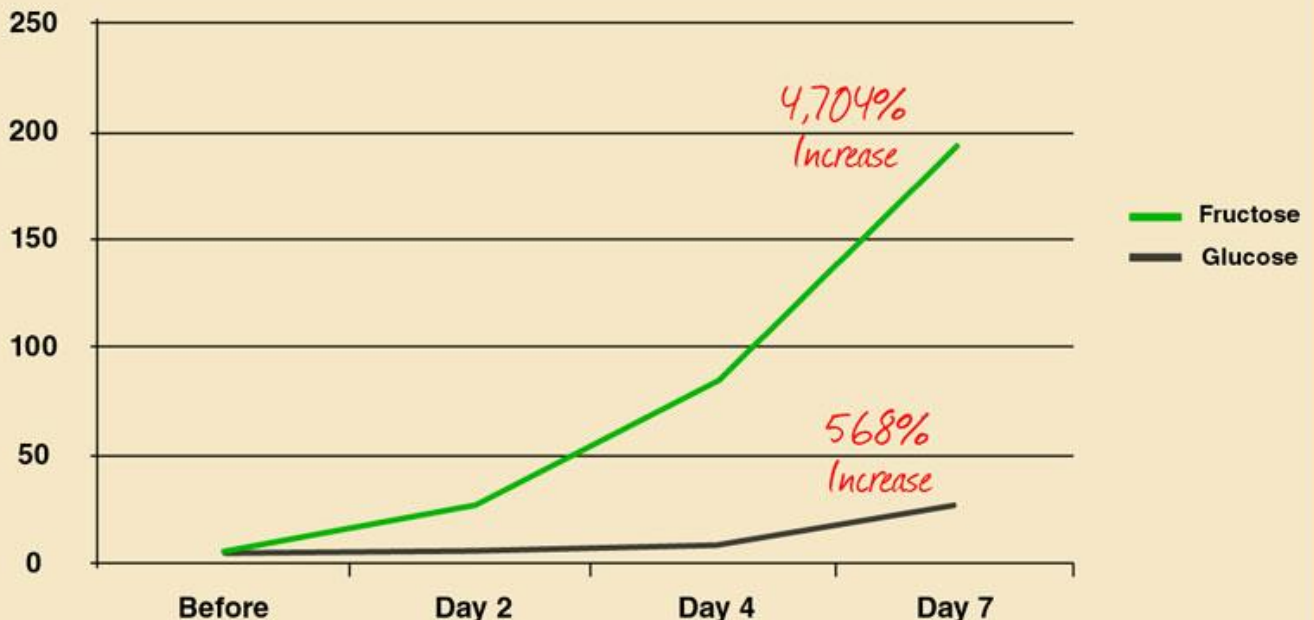
This should encourage you to reduce your sugar consumption!

But have a look at what happens on fructose...

“Fructose is a much more potent inducer of free radical processes than glucose.”

Doklady Journal of
Biochemistry & Biophysics

Fructose Triggers Free Radicals to SOAR... Increasing these Damaging “Rogue Molecules” by 4,704%!



It's no surprise the *Journal of Clinical Investigation* showed **17-times higher oxidized cholesterol levels** from fructose, compared to glucose!³¹

And speaking of cholesterol, that's not all this “mutant sugar” does to your heart...

Fructose Elevates “Heart Attack Particles” – 807% Greater Increase than Glucose!

Cholesterol has gotten a bad rap, when it comes to heart disease.

The truth is that cholesterol is vital. It helps form membranes around every cell and nerve in your body. It is also required to produce a range of critical hormones. You NEED cholesterol!

But of course, not ALL cholesterol is beneficial...

One particularly dangerous kind is **very low-density lipoprotein (VLDL)** – compounds so tiny they can slip between the cell walls of your arteries, causing inflammation, plaque... and heart disease.

And fructose provides building blocks for these deadly particles...³²

- A study published in *American Journal of Clinical Nutrition* examined the effects of a high-fructose diet on healthy males, recording an average **72% VLDL increase in one month!**³³
- Or consider **Apo-B**, which is even smaller and more dangerous. A UC Davis study showed that fructose raised Apo-B levels **807% higher than glucose!**³⁴

And what about blood pressure?

Fructose Increases Your Risk for “Extreme” High Blood Pressure by 77%

Nearly one-third of adults suffer high blood pressure. And while most doctors urge you to cut salt, they should say... “Watch the sugar!”

A review of studies in *Open Heart* shows that **dietary sugar is more strongly associated with high blood pressure than sodium**. And fructose deserves much of the blame.³⁵

You’ve already learned that the liver turns fructose into three dangerous compounds:

- 1. Triglycerides**
- 2. Free Radicals**
- 3. Uric Acid**

We’ve already covered the first two, **so what about uric acid?**

A Duke University study recorded a 33% increase in uric acid levels within 30 minutes of consuming fructose.³⁶

Uric acid is well known for triggering **painful gout, kidney stones and joint swelling**. But it also boosts a hormone that makes your blood vessels contract.

It’s no surprise a study showed that subjects who consumed the same amount of fructose the average American adolescent consumes daily... had **77% greater risk for “extreme” high blood pressure!**³⁷

Plus, a **72% increase in a critical inflammation marker** – in just five weeks!³⁸

You get the point by now...

Don’t believe the decades of lies about saturated fat and dietary cholesterol. These essential compounds do not cause heart disease. The primary risk factor is SUGAR!

Sweet Lie #4: Cancer Feeds on Glucose (So Fructose is Safer)

Cancer is the most feared of all chronic diseases. It is also one that has touched every one of us in some way. You certainly know someone who's been diagnosed. And according to the National Cancer Institute, the epidemic is only getting worse!

They estimate that in 2018:

- **15 million people** worldwide will be diagnosed with cancer, while
- **10 million people** will die from the disease.

To make matters worse, these numbers are expected to surge 50% over the next decade!³⁹

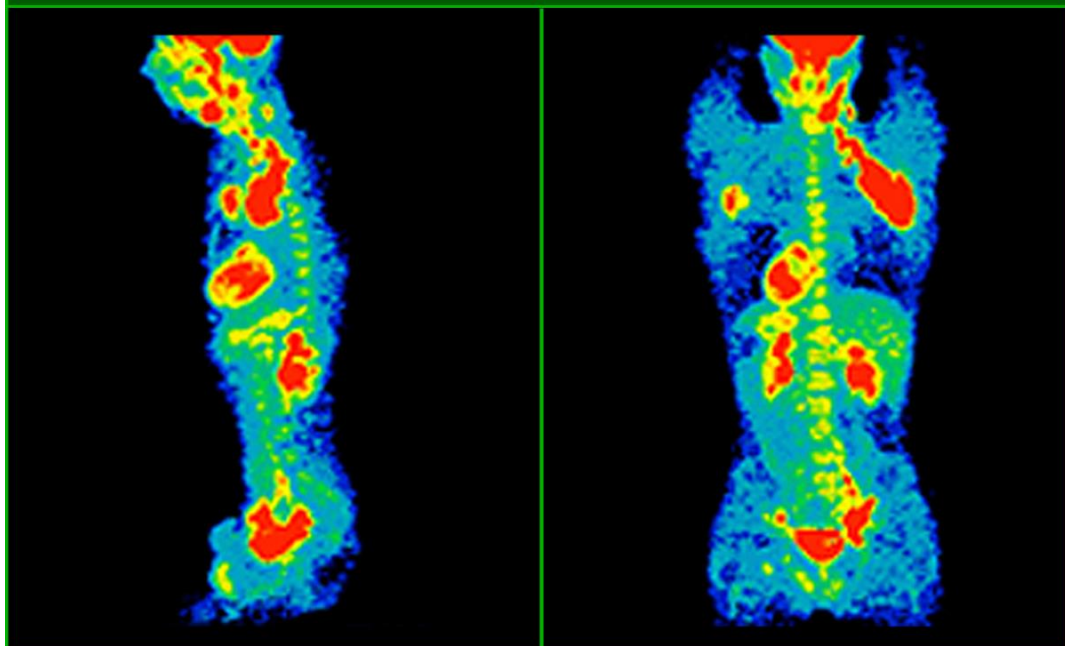
And there's no doubt that SUGAR plays a huge role in this epidemic, because...

Cancer Has a (Molecular) Sweet Tooth... But Which Sugar Does it Prefer?

Nearly 100 years ago, Dr. Otto Warburg won the Nobel Prize for his research proving that most cancer cells cannot survive without glucose.⁴⁰ Cancer cells have such a powerful "sweet tooth" oncologists use it as a diagnostic tool.

PET scans reveal places where cells rapidly consume glucose. So doctors provide patients with a sugary drink and then scan the body. Any tumors light up the image like a Christmas tree – revealing their size and location!⁴¹

Cancer Has a Powerful "Sweet Tooth" Bright Spots are Tumors Rapidly Consuming Sugar



So, it is absolutely true that “**sugar feeds cancer**”.

It is also true that about 80% of cancer cells cannot survive without GLUCOSE.

But don’t allow this simple truth fool you that fructose is “safer” when it comes to cancer, because...

Fructose Provides Cancer with Powerful “Metabolic Advantages” to Grow and Spread!

A study conducted at MD Anderson Cancer Center looked at the effects of diets high in various sugars on the growth of cancer. They found that **all forms of SUGAR and STARCH increased cancer risk.**⁴²

But fructose caused tumors to **grow faster, larger and spread more rapidly.**

And according to co-author, Dr. Lorenzo Cohen, “It was specifically fructose which was responsible.”

Taking it a step further, University of California scientists used high-tech imaging to follow sugars into cancer cells to determine what they were being used for.

They discovered that cancer cells use glucose for basic energy... while fructose provides “metabolic advantages” that promote cell division (growth of tumors) and metastasis (spread of tumors).⁴³

And if that’s not bad enough...

“Fructose is associated with more aggressive cancer behavior and may promote metastasis.”

Current Opinions in Endocrinology

“Cancer cells readily metabolize fructose to increase proliferation.”

Cancer Research

Fructose is strongly correlated with the most aggressive cancers, including of the blood, liver and pancreas.⁴⁴

When you add these facts to the other cancer-causing processes discussed in this report, including DNA mutation... inflammation... oxidation... and the creation of advanced-glycation end products!⁴⁵

The TRUTH that is fructose is among the most carcinogenic foods you can consume!

Sweet Lie #5: Carbs are Your Body's Preferred Fuel

Given the harm sugar can cause, it's surprising how common this next "sweet lie" can be...

It's one you often hear from **fat-phobic vegans** and others who promote a carbohydrate-based diet.

They tell you that...

**Glucose is your body's PREFERRED fuel and
Carbohydrates are your OPTIMAL energy source.**

This is absolutely FALSE!

And it's critical to your health that you understand why.

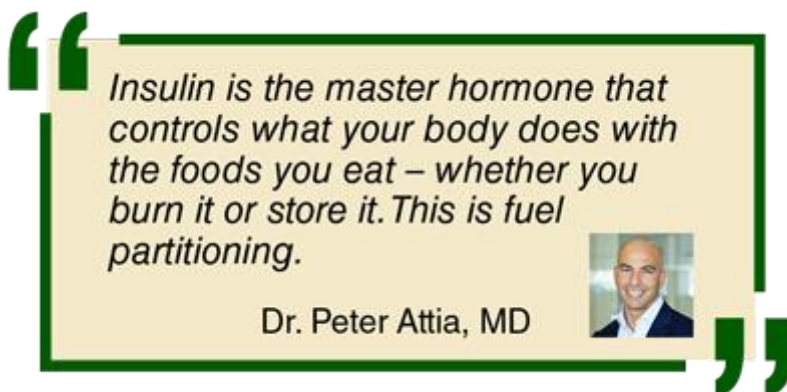
So, let's begin...

You've probably heard that **insulin is a "fat storage" hormone**... and when it's elevated "fat burning" screeches to a halt. This is true.

A study published in *Obesity Reviews* determined that even after an eight-hour fast (following a carb-rich meal) enough insulin is circulating to **reduce fat oxidation 50% from maximal rates**.

Any increase from there stops fat burning completely!

When glucose is available it will ALWAYS be used before fat... **but that does NOT mean it is your preferred or optimal fuel.**



Your body is like a hybrid car. It can run on different types of fuel (and it adapts to the one you give it the most). Your primary forms of energy are **protein, carbohydrates and fat**.

You can also produce energy from **alcohol**... but that might not be the best solution!

Your OPTIMAL fuel is determined by the answers to three questions:

1. Which fuel has the **biggest gas tank**?
2. Which fuel provides the **most miles per gallon**?
3. Which fuel **burns the cleanest**?

So, let's begin with where (and how much) energy is stored in your body.

ENERGY STORAGE IN THE HUMAN BODY

Average 155 lb individual

Fuel Type	Where it is Stored	Reserves (Calories)
Glucose	Blood & Body Fluids	80
Glycogen	Liver & Muscles	760
Protein	Muscle & Organ Tissue	24,000
Fat	Adipose Tissue	135,000

First, look at **PROTEIN**...

You have a lot of calories stored in protein. And you can easily convert it to sugar (a process called gluconeogenesis) to be used for ENERGY.

But unless you're starving... you **never** want to use protein for "energy"!

Protein is for building muscle and bone, producing antibodies, restoring organs, blood vessels and nerves, creating hormones and neurotransmitters...

These demands are FAR too valuable to sacrifice for short term energy.

So, what about **CARBS**?

Most of us have fewer than 1,000 calories stored as glucose and glycogen.

That's a VERY small gas tank!

Carbs are like kindling. They burn bright and help you get the fire started. But they burn out fast and **constant refuels are needed to keep the fire burning!**

Now, consider **FAT**...

Any trip to the mall or grocery store visually proves that the human body has almost **unlimited capacity to store fat**. And as the chart above demonstrates...

Even a person of average weight has enough body fat to power their metabolism for months!

When it comes to the size of your "gas tank" – fat wins by a mile!

Now, let's answer the next question...

What's Your Most EFFICIENT Energy Source...
Which Fuel Provides the Highest "Miles Per Gallon"?

Calories are a measure of the amount of “energy” contained in a food.

You’re probably aware that one gram of carbohydrate has four calories, while a gram of fat contains nine. By this measure, fat provides 125% more energy than carbohydrates. But calories are not the most accurate measure of energy. They must still be converted to a more basic form of fuel, known as adenosine triphosphate (ATP).

ATP is the “Energy Currency” for Every Cell... And Nothing Creates More ATP than FAT!

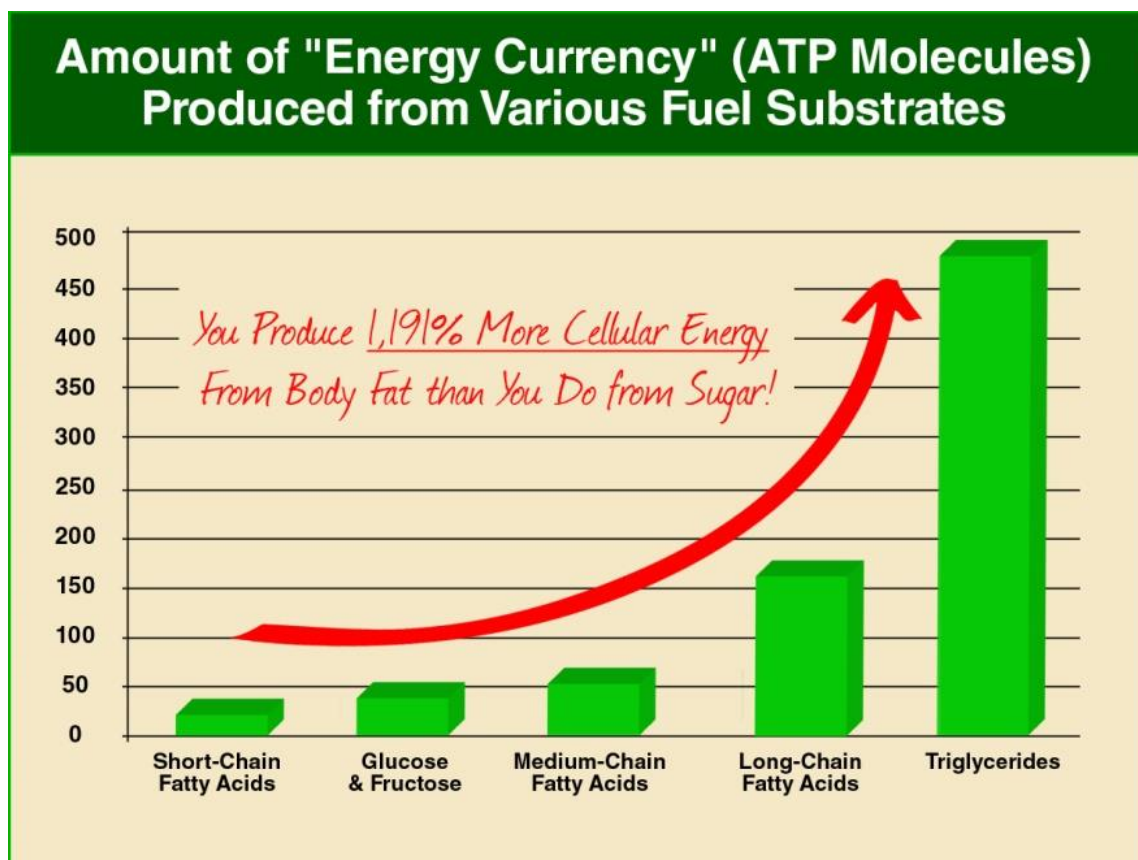
The number of ATP molecules – therefore the amount of pure cellular energy – produced from various fuels depends on how many carbon atoms are chained together in the fuel source.

- **Glucose and Fructose** produce exactly **36 ATP**
- **Medium-Chain Fatty Acids** produce an average **50 ATP**
- **Long-Chain Fatty Acids** produce an average **155 ATP**

As you can see, the average long-chain fatty acid – like those found in steak and seafood, eggs, olive oil and avocados – **produces 330% more cellular energy** than a molecule of sugar!

By this measure, fat is a FAR more efficient fuel than sugar. And it gets even better, because 95% of the flabby fat stored on your belly, butt, hips and thighs is in the form of triglycerides... and **every TRI-glyceride holds THREE long chain fatty acids.**

That means every molecule of **body fat** you burn produces **465 units of ATP!** Compare that to the measly 36 ATP you get from carbs and the answer is clear...



Considering the extreme differential...

It's obvious why the **number-one benefit** cited by people who become "fat burners" is **profoundly more energy!**
When your body is adapted to produce energy from stored fat...

- You wake up feeling refreshed in the morning
- You no longer crave a jolt of sugar or caffeine to fight afternoon drowsiness, and
- You have all the energy you need for work... play... and exercise.

Energy is currency.

The more you have... the more success you will enjoy in every aspect of life!

So, when it comes to your health, your physique (and your success), the most important question you can answer about your "hybrid" human vehicle is...

Do You Want to Be a "Sugar Burner" ... or "Fat Burner"?

If you're a **SUGAR BURNER** you train your body to run on **inferior fuel**.

You draw energy from a **tiny gas tank** and rely on **fast-burning "kindling"** that puts your **mood... hunger... and energy levels** on a constant roller coaster of peaks and valleys.

It all revolves around when you can get your next carb fix!

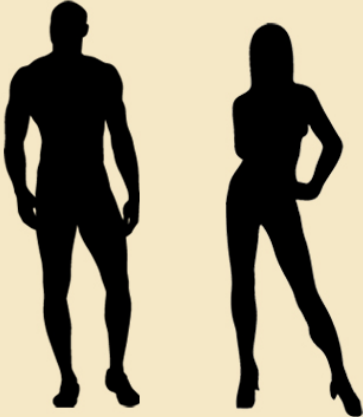

And the calories you do consume add pounds of flabby fat to your body.

When you become a **FAT BURNER** your body operates on **factory-specified fuel**.

Your cells are powered by a **huge gas tank**. And instead of kindling, you rely on dry logs that **burn hot for many hours**. Energy is high, hunger is low, mood is steady.

And your metabolism effortlessly torches ugly flab – transforming your body in record time!

Which Human "Vehicle" Would You Choose?

FAT BURNER	SUGAR BURNER
	
<ul style="list-style-type: none"> ✓ Powered by Fat ✓ Huge Fuel Tank ✓ High Energy, Low Hunger ✓ Stable Mood ✓ 465 Miles Per Gallon 	<ul style="list-style-type: none"> ✗ Powered by Sugar ✗ Tiny Fuel Tank ✗ Low Energy, High Hunger ✗ Moody & Irritable ✗ 36 Miles Per Gallon

The answer is clear... **you want to be lean, mean fat-burning machine!**

And the great news is that...

**Training Your Body to Run on Fat is EASY...
Just Eat MORE Healthy Fat... and a LOT Less Sugar!**

By restricting carbs, your metabolism adapts to find an alternative to glucose.

As you enter the state of **"nutritional ketosis"** fat burning goes into overdrive.

The healthy fats you eat – and the unsightly flab on your body – is broken down and transported to the liver, where it's converted into compounds called **ketone bodies**.

And just as they did for our Paleolithic ancestors, these "ketones" become your primary source of fuel...

In the words of Dr. Cherubino Di Lorenzo – noted researcher and neuroscientist at University of Rome – you can think of ketosis as...

"The body's own biochemical liposuction..."

The **ketogenic diet** literally programs your genes to convert stored fat to energy... so body fat melts away!

And that might not be the best part, as the doctor continues...

“Each molecule of ketone bodies produces more energy than glucose, but less oxidative stress. so the brain and the muscles work more efficiently.”

Did you catch that?

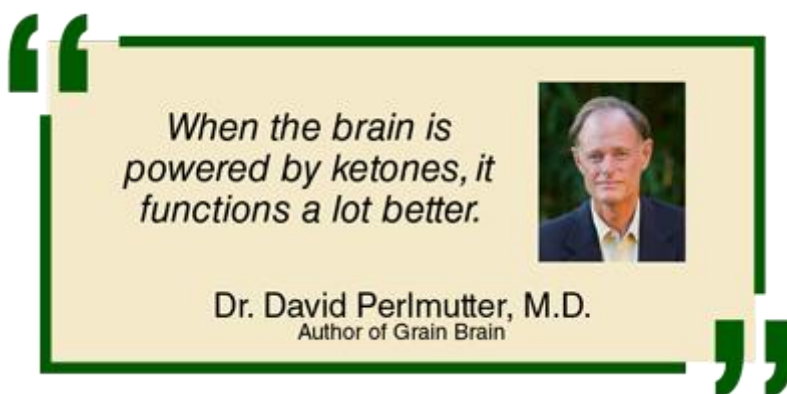
Not only do **ketones produce more “horsepower”** ... they burn cleaner too!

And that’s a VERY big deal, because running your “vehicle” on sugar promotes:

- Inflammation
- Glycation, and
- Oxidation (Free Radicals).

These destructive processes are the Pillars of Chronic Disease!

Ketones, however, are the highest quality fuel you can burn. Your muscles and organs function better on ketones. And they produce fewer harmful byproducts!⁴⁶



But it gets even better...

Remember when I said you NEVER want to use protein for energy?

Well, that’s not exactly true.

As you age, **damaged “junk” protein** and other waste accumulates in your cells. This debris reduces their function, effectively disabling your cells. So, wouldn’t it be nice if there was a way to clear out the junk?

That’s exactly what ketones do!

Ketones transport cellular waste to a part of the cell (the lysosome) ... where it is turned into ENERGY!

So not only are ketones your highest-quality fuel...

The Keto Diet Performs Deep Cellular Detox Clearing “Junk” from Your Cells & Turning it into Energy!

It’s no wonder why so many doctors and health experts recommend the keto diet for fat loss.

And the benefits certainly don’t end there...

A study in the *European Journal of Clinical Nutrition* states, “Increasing evidence has accumulated that very-low-carbohydrate ketogenic diets (VLCKD) could have a **therapeutic role in numerous diseases.**”

The keto diet dramatically reduces frequency and severity of seizures. It can improve or eliminate acne, migraines, PCOS and digestive issues. And strong evidence shows it can help **reverse diabetes... beat heart disease... fight cancer... and build a better brain!**⁴⁷

And contrary to decades of dietary propaganda, the *PURE Study* of more than 135,000 adults in 18 countries proved that a fat-fueled life promotes longevity, while high-carb diets are linked to a 25% increased risk of early death!⁴⁸

Remember this the next time you hear that glucose is your body's optimal fuel!

=====

With all this sugar bashing, I understand if you're ready to swear off desserts for good...

After all, nothing is more important than your health!

But it is not ALL bad news today... in fact, there is GREAT news!

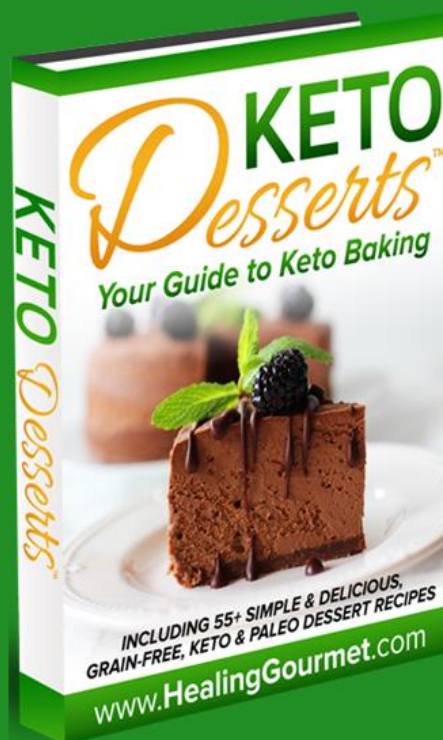
**You Don't Have to Choose Between
"Desserts" and Being Healthy...**

**You Just Have to
Choose Healthy Desserts!**

**Discover How You Can Follow a
100% Ketogenic Diet...**

**And Still Enjoy Decadent Desserts
That are TRULY Healthy and
Taste JUST Like the Real Thing!**

LEARN MORE



REFERENCES

- ¹ <https://www.niddk.nih.gov/health-information/health-statistics/overweight-obesity>
<https://www.cdc.gov/media/releases/2017/p0718-diabetes-report.html>
- ² Jenkins DJ, et al. Am J Clin Nutr. 1981 Mar;34(3):362-6.
- ³ Gaining Weight? High Fructose Corn Syrup and Obesity, by Joanne McIntyre R.D.C.S., Dee Takemoto PH.D.
<https://www.health.harvard.edu/diseases-and-conditions/glycemic-index-and-glycemic-load-for-100-foods>
- ⁴ <https://www.theguardian.com/society/2013/oct/17/obesity-experts-appalled-eu-fructose-health-claim-approval>
- ⁵ Kylie Kavanagh et al. Dietary fructose induces endotoxemia and hepatic injury in calorically controlled primates. Am J Clin Nutr, first published June 19, 2013; doi: 10.3945/ajcn.112.057331
- ⁶ Vos MB, et al. Dietary fructose consumption among US children and adults: the Third National Health and Nutrition Examination Survey. Medscape J Med. 2008 Jul 9;10(7):160.
- ⁷ Miller CC, Martin RJ, Whitney ML, Edwards GL. Intracerebroventricular injection of fructose stimulates feeding in rats. Nutr Neurosci. 2002;5:359–362.
- ⁸ Payne AN1, Chassard C, Lacroix C. Gut microbial adaptation to dietary consumption of fructose, artificial sweeteners and sugar alcohols: implications for host-microbe interactions contributing to obesity. Obes Rev. 2012 Sep;13(9):799-809. doi: 10.1111/j.1467-789X.2012.01009.x. Epub 2012 Jun 11.
- ⁹ Basciano, H, et al. Fructose, insulin resistance, and metabolic dyslipidemia. Nutr Metab (Lond). 2005; 2: 5.
- ¹⁰ Bulboaca, A, et al. [Protective effect of curcumin in fructose-induced metabolic syndrome and in streptozotocin-induced diabetes in rats](#). Iranian Journal of Basic Medical Science. v.19(6); 2016 Jun
- ¹¹ Basciano H, Federico L, Adeli K, Fructose, insulin resistance, and metabolic dyslipidemia. *Nutrition & Metabolism* 2005
 Elliott S, Keim N, Stern J, Havel P. Fructose, weight gain, and the insulin resistance syndrome. The American Journal of Clinical Nutrition, Volume 76, Issue 5, 1 November 2002, Pages 911–922
 Tappy L, Lê KA., Metabolic effects of fructose and the worldwide increase in obesity. Physiol Rev. 2010 Jan;90(1):23-46. doi: 10.1152/physrev.00019.2009.
- ¹² Sud N1, Zhang H2, Pan K1, Cheng X1, Cui J2, Su Q3. Aberrant expression of microRNA induced by high-fructose diet: implications in the pathogenesis of hyperlipidemia and hepatic insulin resistance. J Nutr Biochem. 2017 May;43:125-131.
 Parks EJ1, Skokan LE, Timlin MT, Dingfelder CS. Dietary sugars stimulate fatty acid synthesis in adults. J Nutr. 2008 Jun; 138(6):1039-46.
- ¹³ <https://articles.mercola.com/sites/articles/archive/2010/01/26/sugar-may-be-bad-but-this-sweetener-is-far-more-deadly-part-2.aspx>
<https://articles.mercola.com/sites/articles/archive/2010/01/02/highfructose-corn-syrup-alters-human-metabolism.aspx>
- ¹⁴ American Association for Cancer Research (AACR). (2013, March 6). Visceral fat causally linked to intestinal cancer. *ScienceDaily*. Retrieved January 10, 2018 from www.sciencedaily.com/releases/2013/03/130306083813.htm
 University of Illinois at Chicago. "Why is visceral fat worse than subcutaneous fat?." *ScienceDaily*. ScienceDaily, 25 April 2016.
- D Chakraborty, V Benham, B Bullard, T Kearney, H C Hsia, D Gibbon, E Y Demireva, S Y Lunt, J J Bernard. Fibroblast growth factor receptor is a mechanistic link between visceral adiposity and cancer. *Oncogene*, 2017; DOI: 10.1038/onc.2017.278
- Washington University School of Medicine. "Belly Fat May Drive Inflammatory Processes Associated With Disease." *ScienceDaily*. ScienceDaily, 14 March 2007.
- ¹⁵ Norman K. Pollock^{4,6}, Vanessa Bundy^{4,6}, William Kanto⁴, Catherine L. Davis⁴, Paul J. Bernard⁴, Haidong Zhu⁴, Bernard Gutin⁵, Yanbin Dong. Greater Fructose Consumption Is Associated with Cardiometabolic Risk Markers and Visceral Adiposity in Adolescents. *J. Nutr.* February 1, 2012 vol. 142 no. 2 251-257
- ¹⁶ Stanhope, K, et al. Consuming fructose-sweetened, not glucose-sweetened, beverages increases visceral adiposity and lipids and decreases insulin sensitivity in overweight/obese humans. *J Clin Invest*. 2009 May 1; 119(5): 1322–1334. | 3% to 14.4% = 380% increase

- ¹⁷ DiNicolantonio J, Mehta V, Onkaramurthy N, O'Keefe J. Fructose-induced inflammation and increased cortisol: A new mechanism for how sugar induces visceral adiposity. *Prog Cardiovasc Dis*. 2017 Dec 8.
- ¹⁸ McPherson J, Shilton B, Walton D. Role of fructose in glycation and cross-linking of proteins. *Biochemistry*. 1988 Mar 22; 27(6):1901-7.
- ¹⁹ <http://www.foodsafetynews.com/2011/11/tests-show-most-store-honey-isnt-honey/#.WxcD8EiUuUk>
- ²⁰ White J. Straight talk about high-fructose corn syrup: what it is and what it ain't. *The American Journal of Clinical Nutrition*, Volume 88, Issue 6, 1 December 2008, Pages 1716S–1721S
- ²¹ Ohmenhaeuser M, et al. "Qualitative and Quantitative Control of Honey Using NMR Spectroscopy and Chemometrics". *ISRN Analytical Chemistry*. 2013: 1–9. doi:10.1155/2013/825318
- ²² <http://www.zerocarbhealth.com/index.php/2016/04/25/what-fruit-does-to-our-immune-system/>
- ²³ <https://www.nytimes.com/2016/09/13/well/eat/how-the-sugar-industry-shifted-blame-to-fat.html>
- ²⁴ Bray GA, Nielsen SJ, Popkin BM. Consumption of high-fructose corn syrup in beverages may play a role in the epidemic of obesity. *Am J Clin Nutr*. 2004;79:537–543.
- ²⁵ Gaizano et al. Triglycerides and coronary disease. *Circulation*. 1997;96:2520-2525
- Tchernof A1, Després JP. Pathophysiology of human visceral obesity: an update. *Physiol Rev*. 2013 Jan;93(1):359-404. doi: 10.1152/physrev.00033.2011.
- ²⁶ <https://articles.mercola.com/sites/articles/archive/2010/01/26/sugar-may-be-bad-but-this-sweetener-is-far-more-deadly-part-2.aspx>
- ²⁷ Ernst J. et al. [Dietary Fructose and Glucose Differentially Affect Lipid and Glucose Homeostasis](#). *J Nutr*. 2009 Jun; 139(6): 1257S–1262S. doi: 10.3945/jn.108.098186
- ²⁸ Stanhope K. et al. [Consumption of Fructose and High Fructose Corn Syrup Increase Postprandial Triglycerides, LDL-Cholesterol, and Apolipoprotein-B in Young Men and Women](#). *The Journal of Clinical Endocrinology & Metabolism*, Volume 96, Issue 10, 1 October 2011, Pages E1596–E1605
- ²⁹ Kazumi T, Vranic M, Steiner G. [Triglyceride kinetics: effects of dietary glucose, sucrose, or fructose alone or with hyperinsulinemia](#). *Am J Physiol*. 1986 Mar;250(3 Pt 1):E325-30.
- ³⁰ Sakai, M. Oimomi M. [Experimental Studies on the Role of Fructose in the Development of Diabetic Complications](#). *Kobe J. Med. Sci.*, Vol. 48, No. 5 pp. 125-136, 2002
- Dicarbonyl free radical formation: Glucose: 568% | Fructose: 4,704% -- Hydroxyl free radical formation: Glucose: 167% | Fructose: 2,230% | $568+167 / 2 = 368$ | $4,704 + 2,230 / 2 = 3467$

Dicarbonyl compounds (μM)							
(Days)	before		2		4		7
100 mM glucose (n=5)	4.1±0.6	⌈ NS	5.1±1.3	⌈ P<0.01	9.2±1.5	⌈ P<0.01	27.4±8.1
100 mM fructose (n=5)	4.1±0.7	⌋	27.1±5.2	⌋	85.1±10.8	⌋	197.0±11.3
Hydroxyl radical (μM salicylate)							
(Days)	before		2		4		7
100 mM glucose (n=5)	0.27±0.01	⌈ NS	0.35±0.03	⌈ P<0.01	0.56±0.06	⌈ P<0.01	0.72±0.06
100 mM fructose (n=5)	0.27±0.02	⌋	2.07±0.09	⌋	2.64±0.11	⌋	6.29±0.92

- ³¹ <https://www.jci.org/articles/view/37385/table/4> Fasting Oxidized LDL | glucose 0.7% | fructose 12.8% | 1,728% increase

- ³² Schaefer EJ. Lipoproteins, nutrition, and heart disease. *Am J Clin Nutr.* 2002 Feb; 75(2):191-212
- V. Thirunavukkarasu, A. T. Anitha Nandhini, and C. V. Anuradha, Effect of -Lipoic Acid on Lipid Profile in Rats Fed a High-Fructose Diet, *Experimental Diabetes Research*, vol. 5, no. 3, pp. 195-200, 2004. doi:10.1080/15438600490486778
- ³³ Lê KA, Faeh D, Stettler R, Ith M, Kreis R, Vermathen P, Boesch C, Ravussin E, Tappy LA 4-wk high-fructose diet alters lipid metabolism without affecting insulin sensitivity or ectopic lipids in healthy humans. *Am J Clin Nutr.* 2006 Dec; 84(6):1374-9.
- ³⁴ Stanhope, K, et al. Consuming fructose-sweetened, not glucose-sweetened, beverages increases visceral adiposity and lipids and decreases insulin sensitivity in overweight/obese humans. *J Clin Invest.* 2009 May 1; 119(5): 1322–1334.
- Fasting apo-B | glucose 3% | fructose 27.2% | 807%
- Stanhope K. et al. Consumption of Fructose and High Fructose Corn Syrup Increase Postprandial Triglycerides, LDL-Cholesterol, and Apolipoprotein-B in Young Men and Women. *The Journal of Clinical Endocrinology & Metabolism*, Volume 96, Issue 10, 1 October 2011, Pages E1596–E1605, <https://doi.org/10.1210/jc.2011-1251>
- Lamarche B, et al. A-I and B levels and the risk of ischemic heart disease during a five-year follow-up of men in the Québec cardiovascular study. *Circulation.* 1996 Aug 1;94(3):273-8.
- Whites Seth S. Martin et al. Diabetes. Apolipoprotein B but not LDL Cholesterol Is Associated With Coronary Artery Calcification in Type 2 Diabetic Diabetes August 2009 vol. 58 no. 8 1887-1892 doi: 10.2337/db08-1794
- Walldius G, Jungner I, Holme I, Aastveit A. High apolipoprotein B, low apolipoprotein A-I, and improvement in the prediction of fatal myocardial infarction (AMORIS study): a prospective study. *Lancet.* 2001 Dec 15;358(9298):2026-33.
- ³⁵ DiNicolantonio JJ, Lucan SC. The wrong white crystals: not salt but sugar as aetiological in hypertension and cardiometabolic disease *Open Heart* 2014;1:e000167. doi: 10.1136/openhrt-2014-000167
- ³⁶ https://link.springer.com/chapter/10.1007%2F978-1-4757-1433-3_11
- ³⁷ Jalal DI, Smits G, Johnson RJ, Chonchol M. Increased Fructose Associates with Elevated Blood Pressure. *Journal of the American Society of Nephrology : JASN.* 2010;21(9):1543-1549. doi:10.1681/ASN.2009111111.
- ³⁸ Okada E, et al. Hyperhomocysteinemia is a risk factor for coronary arteriosclerosis in Japanese patients with type 2 diabetes. *Diabetes Care.* 1999 Mar; 22(3):484-90
- Ganguly P, Alam SF. Role of homocysteine in the development of cardiovascular disease. *Nutrition Journal.* 2015;14:6. doi:10.1186/1475-2891-14-6.
- Oron-Herman M, Rosenthal T, Sela BA. Hyperhomocysteinemia as a component of syndrome X. *Metabolism.* 2003 Nov; 52(11):1491-5
- ³⁹ <http://www.cancerresearchuk.org/health-professional/cancer-statistics/worldwide-cancer/incidence>
- <https://www.cancer.gov/about-cancer/understanding/statistics>
- ⁴⁰ Vander Heiden MG, Cantley LC, Thompson CB. Understanding the Warburg Effect: The Metabolic Requirements of Cell Proliferation. *Science (New York, NY).* 2009;324(5930):1029-1033. doi:10.1126/science.1160809.
- An Old Idea, Revived: Starve Cancer to Death. *New York Times*, May 12, 2016
- ⁴¹ Wuest M1, Hamann I2, Bouvet V2, Glubrecht D2, Marshall A2, Trayner B2, Soueidan OM2, Krys D2, Wagner M2, Cheeseman C2, West F2, Wuest F2. Molecular Imaging of GLUT1 and GLUT5 in Breast Cancer: A Multitracer Positron Emission Tomography Imaging Study in Mice. *Mol Pharmacol.* 2018 Feb;93(2):79-89. doi: 10.1124/mol.117.110007. Epub 2017 Nov 15.
- Jung-whan Kim, Chi V Dang. Cancer's molecular sweet tooth and the Warburg effect. *Cancer Res.* 2006 Sep 15 ;66(18):8927-30. PMID: 16982728
- ⁴² Jiang, Y. Cohen, L. et al. A Sucrose-Enriched Diet Promotes Tumorigenesis in Mammary Gland in Part through the 12-Lipoxygenase Pathway. *Cancer Research.* DOI: 10.1158/0008-5472.CAN-14-3432 Published January 2016
- ⁴³ Liu H, Heaney P. "[Refined fructose and cancer](#)." *Expert Opin Ther Targets.* 2011, Vol. 15, No. 9 , Pages 1049-1059.
- Liu H, Huang D, McArthur D, Boros L, Nissen N, Heaney A. "Fructose induces transketolase flux to promote pancreatic cancer growth." *Cancer Res.* 2010;70(15):6368-76.
- Cairns, Rob A. et al.1. An Alternative Sugar Fuels AML Cancer Cell, Volume 30, Issue 5, 660 - 662. Volume 30, Issue 5, p660–662, 14 November 2016

Port A, Ruth M, Istfan N. Fructose consumption and cancer: is there a connection? *Curr Opin Endocrinol Diabetes Obes.* 2012 Oct;19(5):367-74. doi: 10.1097/MED.0b013e328357f0cb.

⁴⁴ Dowman J, et. al. "[Development of hepatocellular carcinoma in a murine model of nonalcoholic steatohepatitis induced by use of a high-fat/fructose diet and sedentary lifestyle.](#)" *Am J Pathol.* 2014;184(5):1550-61.

Port A, Ruth M, Istfan N. Fructose consumption and cancer: is there a connection? *Curr Opin Endocrinol Diabetes Obes.* 2012 Oct;19(5):367-74. doi: 10.1097/MED.0b013e328357f0cb.

Liu H, Huang D, McArthur D, Boros L, Nissen N, Heaney A. "Fructose induces transketolase flux to promote pancreatic cancer growth." *Cancer Res.* 2010;70(15):6368-76.

⁴⁵ Gugliucci A1. Formation of Fructose-Mediated Advanced Glycation End Products and Their Roles in Metabolic and Inflammatory Diseases. *Adv Nutr.* 2017 Jan 17;8(1):54-62. doi: 10.3945/an.116.013912. Print 2017 Jan.

⁴⁶ Mercola.com Metabolic Mitochondrial Therapy. <https://articles.mercola.com/sites/articles/archive/2017/05/21/metabolic-mitochondrial-therapy-introduction.aspx>

⁴⁷ A Paoli, A Rubini, J S Volek, K A Grimaldi. Beyond weight loss: a review of the therapeutic uses of very-low-carbohydrate (ketogenic) diets. *Eur J Clin Nutr.* 2013 Aug; 67(8): 789–796.

Stafford, P et al. The ketogenic diet reverses gene expression patterns and reduces reactive oxygen species levels when used as an adjuvant therapy for glioma. *Nutr Metab (Lond).* 2010; 7: 74.

Krikorian R, Shidler M, Dangelo K, Couch S, Benoit S, Clegg D. Dietary ketosis enhances memory in mild cognitive impairment. *Neurobiology of Aging.* 2012;33(2):425.e19-425.e27.

Stafstrom C, Rho J. The Ketogenic Diet as a Treatment Paradigm for Diverse Neurological Disorders. *Frontiers in Pharmacology.* 2012;3:59.

⁴⁸ Dehghan, MD, et al. Associations of fats and carbohydrate intake with cardiovascular disease and mortality in 18 countries from five continents (PURE): a prospective cohort study. *The Lancet*, 2017, Aug 28.

STAT News. <https://www.statnews.com/2017/08/29/fat-nutrition-study/>