

# THE “SUPER STARCH” SOLUTION

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THE ALL-DAY ENERGY DIET



**If** he blows this one thing, you are toast...

And nearly every doctor, dietitian, and health expert gets it wrong!

How do I know? Because what I've uncovered and tested with my own clients is nothing short of amazing.

**In this report, I'm going to show you:**

- The science behind how this odd starch improves your health and helps you lose weight...
- Which foods are loaded with this starch, and...
- How much of it you should be eating on a daily basis.

I'm actually shocked that it's still not yet common knowledge, especially for diabetics who need it the most.

My name is Yuri Elkaim. I'm a New York Times bestselling author, renowned nutritionist, and I've helped more than 500,000 to amazing health over the past 15 years.

Even then, I'm unaware of any diabetic or other client that has come to me and said that their doctor or dietitian has recommended they eat more of the mysterious super starch I'm about to tell you about on this page.

Eating this "super starch" may not sound like a big deal at first, but when it comes to diabetes and burning fat, it's huge...

As you're about to discover, this could be one of the simplest and most powerful tactics you employ to...

## **Stop diabetes and gut problem DEAD in their tracks**

And for some reason, no one is talking about it!

Instead, the common advice is to eat fewer carbohydrates, especially white-refined ones that spike your blood sugar and place huge demands on your body's insulin.

Yes, this dietary advice is important but I'm here to let you know that not all carbs are created equal.

And the deceptive WHITE STARCH – called “resistant starch” (RS) - is most certainly in a class of its own. Here is just some of the science that shows the eye-popping diabetes-fighting powers of this rarely-discussed super starch:

## Prevents your kidneys from falling apart

As you probably know, type 2 diabetes is a leading cause of kidney disease. Due to excess urination that occurs with diabetes, a significant loss of vitamin D is often seen as the kidneys become damaged.

And because of its vital role in bone health, heart health, and so much more a vitamin D-starved body is a ticking bomb.

However, a brand new 2014 study out of Iowa State University has shown that this mysterious white starch could save your kidneys and vitamin D status...and dramatically improve blood sugar control.

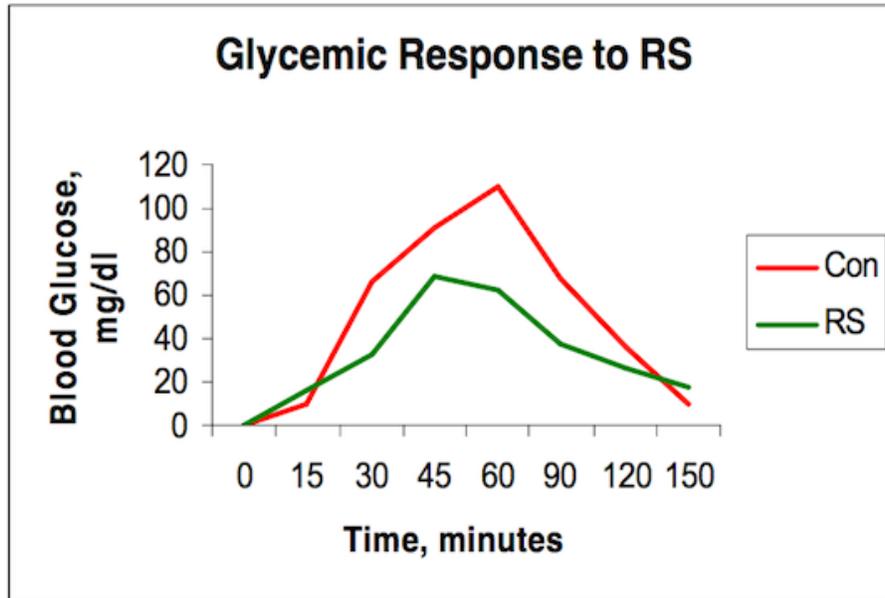
In this study, diabetic overweight subjects were fed either the control diet (cornstarch) or one in which cornstarch was replaced with RS for 6 weeks. The findings revealed that the RS group reduced high blood sugar by 41% and prevented urinary loss of vitamin D!

## Drops blood sugar to healthy levels

Research from the journal Diabetes Care showed that sneaking just 5 grams of this super starch into a daily muffin helped overweight subjects lower and stabilize their blood sugar levels much more effectively than those who did not receive the super starch.

Since sugary, wheat-loaded muffins are notoriously bad for diabetics (and most people, in general), these results are nothing short of amazing.

Here's a graph from one study showing the lowered glycemic response (ie. blunted blood sugar spike) after eating a meal with resistant starch (RS) vs. a control starch (Con):



Plus, subjects fed resistant starch had lower post-meal glucose responses to food even 24 hours later, meaning that the beneficial effects of resistant starch may carry over into non-resistant starch meals up to a day later!

How does resistant starch reduce blood sugar response to otherwise “spikey” foods?

Here are 3 mechanisms:

- Through reduced release of glucose from resistant starch.
- Through increased the release of the satiety hormone, GLP-1 (glucagon-like peptide 1).
- GLP-1 stimulates the release of insulin.

But it gets better because RS also...

**Improves insulin sensitivity so that your cells soak up vital nutrients...even excess blood sugar**

A 2005 study in the American Journal of Clinical Nutrition showed that adding just a few tablespoons worth of this super starch improved insulin sensitivity by 33% after just 4 weeks!

The researchers also noted that fat accumulation was lower after the 4 weeks of receiving this super starch on a daily basis.

## Stops cravings so that you don't eat uncontrollably

Excessive hunger, especially sugar cravings, is a hallmark sign of type 2 diabetes because your body is constantly trying to maintain adequate blood sugar levels.

I'll bet your doctor even gave you a piece of his mind when you were diagnosed with diabetes...

You're eating too much! You need more self-control.

You swore you'd lose weight, and you did for a while.

Your blood sugar probably came down, too. But then...even though you were eating less, you gained all your weight back and then some...making your blood sugar inch up again. So they upped your medication dose and urged you to "stop eating so much"...

But you weren't to blame! It's your doctor who probably packed those extra pounds under your belt, because mainstream diabetes treatments nearly always make you FATTER!

It should come as no surprise that eating all the time (especially the wrong foods), increases your risk of gaining weight and suffering from additional problems related to excess body fatness.

But don't worry – there's more good news:

Resistant starch has consistently been shown to increase satiety after a meal and reduce cravings for more food so that you don't feel like eating everything in sight. And it does so by activating two important satiety hormones – gut hormone peptide YY (PPY) and glucagon-like peptide 1 (GLP-1).

Not only does this amazing starch LOWER blood sugar and insulin and help you more satisfied after a meal, it also lowers the amount of dangerous cholesterol and triglycerides floating around in your blood. It also reduces fat storage.

When you tally up all these diabetes-fighting health benefits, this starch certainly is one of the most amazing foods that you've NEVER heard about....until now!

## Meet “Resistant Starch”

Let’s be clear about something...

This is not a new type of carbohydrate that I’ve personally invented in a lab. This is a healthy starch that **has been around since the beginning of time**. Our earliest ancestors ate large amounts of it in their natural, indigenous diets, yet today, it’s almost disappeared in our overly refined and super processed food supply.

When you think about “starch,” what comes to mind?

Glucose. Carbs. Elevated blood sugar. Insulin spikes. Glycogen depletion. Basically, we think about starch that we (meaning our host cells) can digest, absorb, and metabolize as glucose (for better or worse).

Officially, resistant starch is *“the sum of starch and products of starch degradation not absorbed in the small intestine of healthy individuals.”*

Instead of being cleaved in twain by our enzymes and absorbed as glucose, resistant starch (RS) travels unscathed through the small intestine into the colon, where colonic gut flora metabolize it into short chain fatty acids – namely butyrate, which you’ll learn about later in this report.

**Thus, this starch is “resistant” to digestion and actually serves as an ideal prebiotic food for the healthy bacteria in our gut. When our gut bacteria then digest RS, they produce short chain fatty acids, like butyrate, which have numerous benefits to our health, including repairing leaky gut and cooling inflammation!**

There are four types of resistant starch:

RS Type 1 – Starch bound by indigestible plant cell walls; found in beans, grains, and seeds.

RS Type 2 – Starch that is intrinsically indigestible in the raw state due to its high amylose content; found in potatoes, bananas, plantains, type 2 RS becomes accessible upon heating.

RS Type 3 – Retrograded starch; when some starches have been cooked, cooling them (fridge or freezer) changes the structure and makes it more resistant to digestion; found in cooked and cooled potatoes, grains, and beans.

RS Type 4 – Industrial resistant starch; type 4 RS doesn't occur naturally and has been chemically modified; commonly found in "hi-maize resistant starch."

It's almost certain that different RS types have somewhat different effects on our gut flora, but they all act to benefit your gut and overall health.

## Where Do We Get It?



The richest food sources of resistant are raw potatoes, green bananas, plantains, cooked-and-cooled potatoes, cooked-and-cooled-rice, parboiled rice, and cooked-and-cooled legumes.

You can also get RS from supplementary isolated starch sources....

The best sources are raw potato starch, plantain flour, green banana flour, and cassava/tapioca starch. I personally use raw potato starch on a daily basis. For most people, it's probably the most convenient and reliable way to get lots of RS, fast.

There are about 8 grams of RS in one tablespoon in raw potato starch. The most popular brand: Bob's Red Mill Unmodified Potato Starch, is easily found at most health and grocery stores.

## How to Use Resistant Starch

In adults, improvements in glycemia (blood sugar control), insulin sensitivity, and satiety, as well as decreased energy consumption, usually results from consumption of 15–45 g/day of RS.

Let's break that down a bit...

Since **1 tablespoon of raw potato starch = 8 grams of RS...**

Then, to get 15-45 grams per day you would be looking at 2-6 tbsp of raw potato starch per day. I don't think 7 tbsp is necessary or feasible for most of us and a lot of the research shows that even 30 grams per day (or 4 tbsp) is plenty.

And this is assuming that you're only using raw potato starch and not other RS-rich foods.

Here's my personal RS protocol:

- 2 tbsp of raw potato starch into my morning water, followed by probiotic
- 2 tbsp of raw potato starch in water at night
- Eat my regular diet throughout the day with certain meals (not all the time) containing RS-rich foods (ie. cooled potatoes, rice pudding, green banana in a smoothie, legumes)

Let me explain these a little further...

Since resistant starch **is a wonderful "prebiotic"** (food that feeds the good bacteria in the gut) I like to take it on an empty stomach along with my morning probiotic. That way, the good bacteria have some breakfast to enjoy, if you will.

Remember, **resistant starch is not absorbed into the body**. It's mainly food for your bacteria. When you eat cooled potato or green banana, some of its starch will be utilized by the body while the majority of its carbs – in the form of resistant starch – simply passes through and **feeds your gut bacteria** in the process.

Thus, it does not spike your blood sugar or cause you to gain weight because of this. Does that make sense?

Since I've got a bit of a sweet tooth, evening temptations can sometimes get the better of me. I find that having a glass of water with raw potato starch mixed in calms my desire for dessert or other night time snack foods. Again, the research shows the benefits of RS on our hunger and satiety hormones, which is why I suggest using RS in your moments of weakness.

One more important consideration about using RS is that since **it is highest in the raw (or cooled) version of the foods I've mentioned** already, don't be fooled when you see potato starch on a packaged food. In these cases, the foods have been heat-treated, which destroys much of the RS.

Almost all packaged foods contain potato starch because it "takes up space" in the food and allows food companies to save money on more expensive ingredients. In processed foods, it literally acts as a cheap filler that slightly increases the fiber content of that food.

If you want the full benefits of RS, then get it from real foods or raw potato starch.

Here are simple ways to get more resistant starch into your diet:

- Add 1-2 tbsp of raw potato starch in your water or smoothies.
- Add small amounts of potato starch to thicken puddings and non-dairy yogurts.
- Mix potato starch to almond or coconut milk beverages.
- Add slices of green banana to morning smoothies
- Incorporate unripe banana slices into fruit salads.
- Mix at least 1 daily serving of legumes into salads, soups or have as a side.

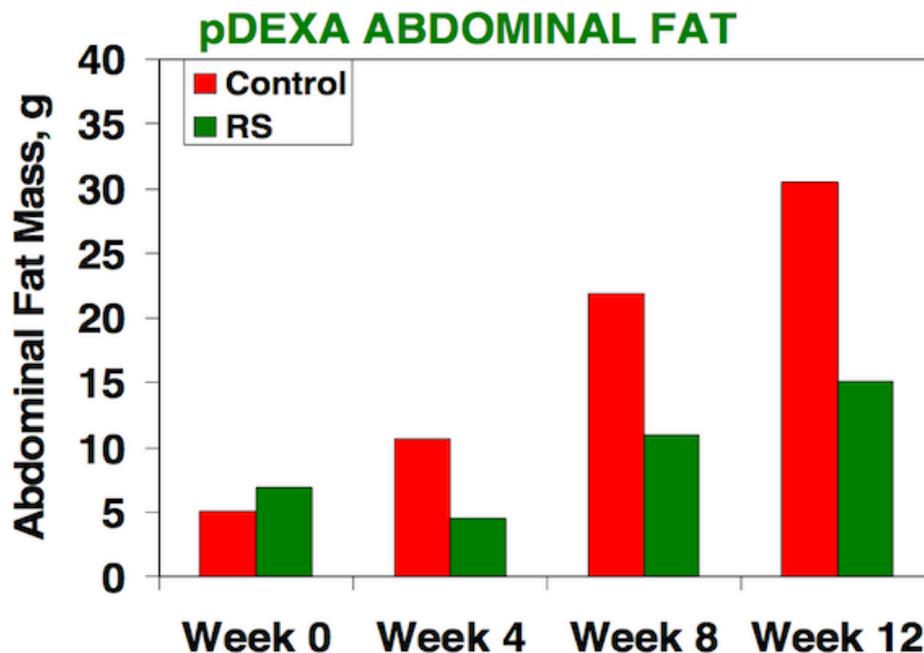
## A White Starch That Actually Helps You Shed Abdominal Fat – Say What?

It's amazing that so few people know about resistant starch considering the countless studies that have shown its health benefits, especially for shedding unwanted belly fat.

Almost all animal studies (and many human studies) on this subject conclusively show that **resistant starch reduces abdominal fat** by more than simply diluting the number of calories eaten.

It's been theorized that RS affects energy balance through a signaling mechanism involving the activation of satiety hormones, gut hormones peptide YY (PYY) and glucagon-like peptide 1 (GLP-1), by short chain fatty acids (namely butyrate) that are produced in the gut by fermenting RS.

Here's one example from a study that revealed that adding RS to the diet over just 12 weeks led to a 50% DROP in abdominal fat compared to the control group!



How does RS work its fat-burning magic?

Here are 4 proposed mechanisms:

- Increased levels of satiety signals PYY and GLP-1
- Decreased fatty acid synthase activity
- Decreased blood glucose levels for storage as fat.

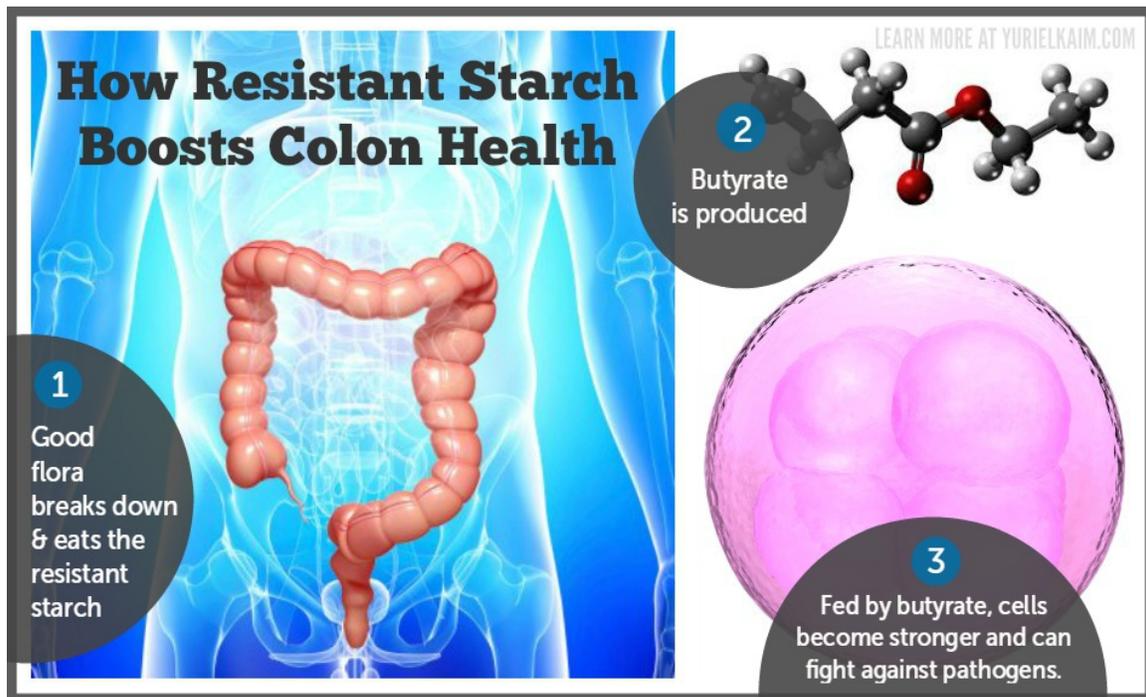
- Increased insulin sensitivity so less insulin is released to push lipogenesis (fat creation/storage).

Who knew that eating white starch could actually be good for you? So bring on the unripe bananas and cold potato salad and enjoy guilt-free!

## The Magical Powers of Butyrate

I've mentioned butyrate a few times already and for good reason. It is **HUGELY** beneficial to your health. And since it is directly **produced by eating resistant starch (via your gut bacteria)**, I figure it's worth talking about here.

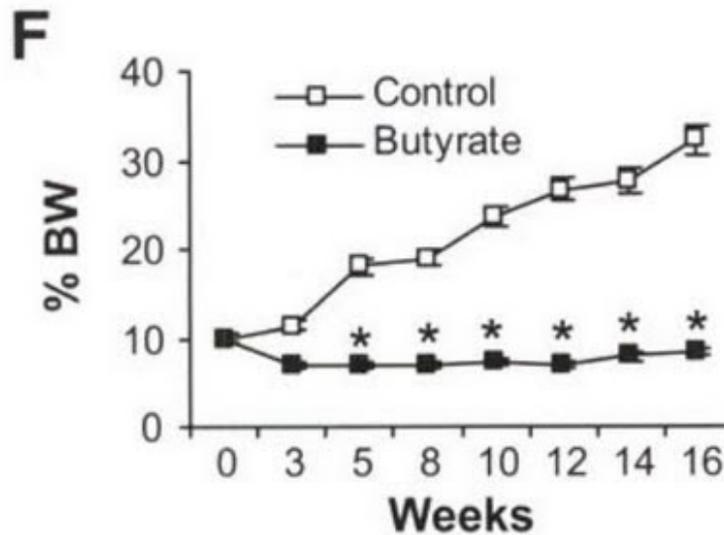
Here's a quick snapshot of how it works:



Butyrate is helpful at burning body fat and counteracting the harmful effects of a poor diet, as was shown in a study Dr. Jianping Ye and colleagues.

Susceptible strains of rodents fed high-fat diets overeat, gain fat and become profoundly insulin resistant. In their study, Je and colleagues showed that the harmful metabolic effects of a high-fat diet (lard and soybean oil) on mice can be prevented, and even reversed, using the short-chain saturated fatty - butyric acid (aka. butyrate).

Here's a graph of the percent body fat over time in the two groups of mice:



As you can tell, the butyrate-fed mice remained lean and avoided metabolic problems. How?

Well, butyrate increased their energy expenditure by increasing body heat production and modestly increasing their likelihood of being physically active. It also significantly **increased the function of their mitochondria**, the tiny power plants of the cell.

And it gets better because...

Butyrate also **lowered their blood cholesterol by approximately 25 percent, and their triglycerides by nearly 50 percent.**

It lowered their fasting insulin by nearly 50 percent, and increased their insulin sensitivity by nearly 300 percent.

The investigators concluded:

*“Butyrate and its derivatives may have potential application in the prevention and treatment of metabolic syndrome in humans.”*

And there's another reason why the butyrate group also lost more weight and stayed lean...

They ate LESS food.

Could this be why resistant starch (which is a significant source of butyrate production) has such a powerful ability to satiate us and prevent us from overeating?

## Butyrate Beats Down Inflammation

As you now know, the highest concentration of butyrate is found in the gut. That's because it's produced by intestinal bacteria from resistant starches (and other prebiotic fibers) that we cannot digest.

Butyrate has been shown to have potent anti-inflammatory and anti-cancer effects. So much so, that researchers are now using oral butyrate supplements and butyrate enemas to treat inflammatory bowel diseases such as Crohn's and ulcerative colitis!

And since butyrate has been with us since the beginning of time, it has evolved as the primary source of energy for the cells that line our large intestine and has a remarkable effect on intestinal permeability. Basically, butyrate tightens the junctions between the cells in our gut lining to prevent large proteins from seeping into our bloodstream where they could cause a cascade of inflammatory reactions.

And its role doesn't end in the gut...

## Butyrate Improves Cardiovascular Health And Increases Resistance to Metabolic Stress

We know that fiber is essential for reducing the risk of heart disease, partly because it **reduces atherosclerosis by binding to and removing excess cholesterol from the body.**

And this effect may be due to butyrate production produced when the fiber is fermented. In the Women's Health Initiative study, one of the largest studies of all time, fiber intake was associated with lower blood markers of inflammation, and has been repeatedly associated with lower heart attack risk and reduced progression of atherosclerosis.

Butyrate also increases the function and survival of mice with certain neurodegenerative diseases such Huntington's disease, as well as making them mice more cold-resistant when compared to a non-butyrate control group. When placed in a cold room, body temperature dropped significantly in the control group, while it remained relatively stable in the butyrate group, despite the fact

that the butyrate group was leaner. This was due to increased heat production in the butyrate group.

## Are There Any Downsides to Resistant Starch?

We've now seen how good resistant starch (and it's by product, butyrate) is for your health and your waistline. But are there any downsides? Are there any side effects?

The good news is that there is **no serious downside** to eating more resistant starch. In fact, not having in your diet is likely to do more harm.

The most common negative reaction to RS is bloating and gas. This is common in those who ingest too much to start but quickly subsides as your gut begins to respond positively and becomes more balanced.

I think RS supplementation may be a good measuring stick for the health of your gut. People with good gut function tend to respond positively, while people with compromised guts respond poorly. The gas, bloating, cramps and everything else are indicators that your gut needs work. But it's not the "fault" of resistant starch, per se.

What to do if you're one of the unlucky ones? You've got a few options:

**You could skip it altogether.** I think this is unwise, personally, because the role of fermentable fibers, including RS, in the evolution of the human gut biome/immune system has been monumental and frankly irreplaceable. There's a lot of potential there and we'd be remiss to ignore it.

**You could (and should) incorporate probiotics.** You need the guys that eat the RS to get the benefits of consuming RS. And sure, you have gut flora but does it consist of the right kinds? Probiotics, especially the soil-based ones (the kind we'd be exposed to if we worked outside, got our hands dirty, and generally lived a human existence closer to that of our ancient ancestors), really seem to mesh well with resistant starch.

**You should reduce the dose.** Some people can jump in with a full 20-30 grams of RS and have no issues. Others need to ramp things up more gradually. Start with a teaspoon of your refined RS source, or even half a teaspoon, and get acclimated to that before you increase the dose. The same applies to eating legumes or unripe bananas – if you feel gassy, ease off a little. After a few exposures, your gut will adjust.

## Wrapping Up

I hope you've found this information on resistant starch to be eye-opening. In my eyes, it's truly a "super starch" that should be a fundamental component of our diets. I'm sure you'll feel the same way once you incorporate into your daily diet. And the best part is that now you can once again enjoy foods like cold potato salad, unripe bananas, and even cooled rice pudding without feeling guilty. Know that eating such foods is doing your gut a world of good...without spiking your blood or packing on the pounds.

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## About The Author



**Yuri Elkaim** is a Registered Holistic Nutritionist, renowned fitness and health expert, and the NY Times bestselling author of *The All-Day Energy Diet*.

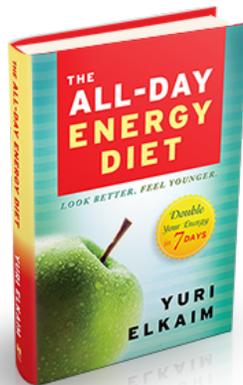
He's been a regular guest on shows like Dr. Oz and The Doctors and featured in the Huffington Post, Women's Fitness magazine, and Askmen.com.

After losing all of his hair to an autoimmune condition at the age of 17, he's devoted the last two decades to helping more than 500,000 to better health and he's on a mission to help 10 million more by 2018.

You can follow his work at [www.YuriElkaim.com](http://www.YuriElkaim.com)

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