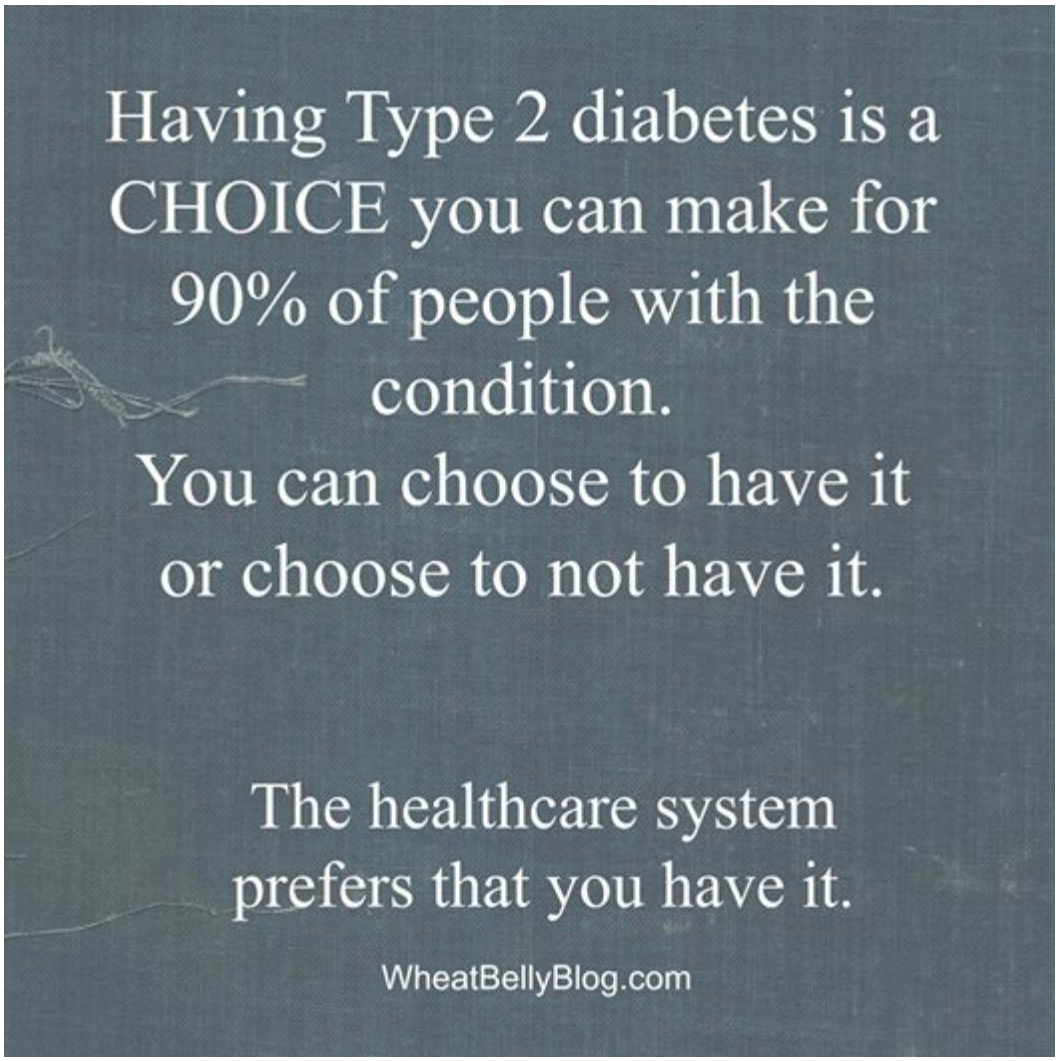
How NOT to have diabetes

By Dr. Davis | January 8, 2015



If you want type 2 diabetes , follow conventional advice to cut fat and eat more "healthy whole grains." (This is also true for type 1 diabetes in susceptible individuals with pancreatic beta cell autoimmunity triggered by wheat gliadin or corn zein.)

But what if you *don't* want to follow the footsteps of the two thirds of Americans and Canadians who are now diabetic or pre-diabetic? What if you don't want the expense and side-effects of oral drugs and insulin–one of the most powerful weight *gain* drugs around? What if you don't want to lose your eyesight, develop cardiovascular disease, experience gastroparesis, develop peripheral neuropathy and peripheral arterial disease that can lead to limb gangrene and amputation? What if you don't want to add to the growing healthcare bubble being

created by misguided dietary advice compounded by the overwhelming profit-motive that drives modern medical care?

Not following this path and being spared the awful future that diabetes creates is really pretty simple. But it cannot be done by following the advice of the **AMERICAN DIABETES ASSOCIATION**, nor following the advice of the majority of diabetes educators. There are an increasingly larger number of healthcare practitioners who are enlightened and follow strategies like those listed below. But most doctors sadly remain utterly in the dark, doing more to make the diabetes epidemic *worse*, not contributing to any solution except to offer drugs and procedures.

Here's a checklist that, if followed, allow the majority of pre-diabetics and diabetics to become *non*-pre-diabetic and *non*-diabetic:

- **Eat NO grains or sugars**–Remember: from a blood sugar standpoint, most grains are *worse* than sugar in their blood sugar raising potential. The safety of "complex" carbohydrates in grains is complete fiction: their glycemic indexes are higher than sucrose.
- **Don't limit fat intake**–Yes: eat the fat on your pork or steak, eat bone marrow, have some liver, use more organic butter or ghee, use more coconut **OIL**.
- **Correct vitamin D deficiency**–I aim to achieve a 25-hydroxy vitamin D level of 60-70 ng/ml, a level usually achieved with 4000-8000 units (oil-based gelcap or liquids, not tablets) per day. This helps restore insulin responsiveness/reverse insulin resistance.
- **Supplement omega-3 fatty acids**–from fish oil *only*, not krill oil, flaxseed, or chia. (Flaxseed and chia are

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wonderful, but do not provide EPA and DHA.) I believe ideal intake is in the range of 3000-3600 mg EPA + DHA per day, divided in two. EPA + DHA blunt the postprandial (after-meal) surge in digestive byproducts (chylomicrons and VLDL) that oppose insulin.

- **Correct bowel flora**–Start with a high-potency probiotic (e.g., 50 billion CFUs per day with at least a dozen species of Lactobacillus and Bifidobacteria) for several weeks, but it is even *more* important long-term to properly nourish bowel flora with prebiotic fibers/resistant starches, as discussed here. Properly feeding bowel flora yields fatty acid metabolites that increase your body's responsiveness to insulin and reduce blood sugar.

- **Supplement magnesium**–e.g., magnesium malate, 1200 mg twice per day (180 mg "elemental" magnesium twice per day), a modest advantage in restoring insulin responsiveness.

- **Fast intermittently**–Brief periods of fasting, e.g., 15-36 hours, allow fatty liver (present to varying degrees in *everyone* with high blood sugars) to recede, a *huge* advantage in restoring insulin responsiveness. Be sure to hydrate more than usual during any fasting period.

- **Sleep adequately**–Not a minor factor, as sleep deprivation increases carb cravings and increases snacking, while also blocking insulin. Most people need 7 1/2 hours per night. You might have to make friends with melatonin and tryptophan to manage your circadian rhythm.

- **Be active**–including avoiding prolonged sitting.

Anyone on insulin or oral diabetes drugs, especially glyburide,

glipizide, and glimepiride, should talk to their healthcare provider about an immediate reduction in dosage or even eliminating one or more of them, since you do *not* want any hypoglycemia (low blood sugar). If your doctor refuses to work with you or tells you this is stupid, find a new doctor ASAP. Doctors should be experts in **REVERSING DIABETES** but you will find that the majority are not, despite knowing how to prescribe the drugs.

There you have it. Should you give it a try, be sure to come back and report your experience. And for more discussions about how to reverse other health conditions with natural means, see Wheat Belly Total Health. This discussion is adapted from Chapter 10: Grainless Metabolic Mastery.

Filed Under: Wheat Belly Lifestyle
Tagged With: blood sugar, bowel flora, diabetes, gluten-free, low-carb, resistant starch, vitamin D, wheat

delicious Wheat Belly recipes!

Name | Email

YES! SIGN ME UP!

About Dr. Davis

Cardiologist Dr. William Davis is a New York
Times #1 Best Selling author and the Medical Director of the Wheat Belly Lifestyle Institute and the Cureality.com program.

Nothing here should be construed as medical advice, but only topics for further discussion with your doctor. I practice cardiology in Milwaukee, Wisconsin.

Comments & Feedback...

david potack
January 8, 2015 at 12:20 pm

The primary reason I started to live the WF lifestyle was the fact that although I was taking glipicide and metamorfin my type 2 levels were getting worse. After about 6 months and about 50 #'s my A1c and blood sugar started to 'normalize'. Now a total of 147# loss and three years WF my A1c of 5 and blood sugar avg of 85 without any medications. My doctor was baffled but impressed. I sure am convinced.

Dr. Davis
January 8, 2015 at 8:00 pm

Good work, David!

Eric
January 8, 2015 at 12:21 pm

Sorry, Dr. Davis, but as long as the FDA, ADA, the Whole Grains Council, Big Food companies, and Big Drug companies remain in control, we will continue to squander $200 billion annually on obesity, which not only causes diabetes, but a whole host of other ailments.

Your message and the messages of David Perlmutter, Nina Teicholz, and others are getting out, but sadly only to a small fraction of the population.

Bob Smith
January 8, 2015 at 4:09 pm

I remember in 2013 wheat sales were down by 5%. I don't know sales figures for meat. However, you only have to look at the 25% rise in meat prices over the last couple of years to know that sales have risen considerably. I also read that sucrose and fructose sales are falling ….while population is increasing.

The message is circulating about paleo dieting. I don't like paying increasing prices for paleo-friendly food, but it beats the heck out of being sick and waiting for carb zombies at stoplights and in checkout lines..

Eric
January 8, 2015 at 8:27 pm

Also, I believe egg sales are way, way up. It was not too long ago that eggs were viewed as almost a poison that should be avoided at all cost.

daniela
January 13, 2015 at 8:51 pm

Hi Bob , I believe , many people who had the knowledge of the subject , have yet to leave the vices of power . I spent years of my life knowing that sugar is bad and excess carbohydrates , but gluttony dominated me . After worsen health is that I get real. Even the books are essential to expand the knowledge and work the psychological side , so essential to changing habits .

Jill
January 14, 2015 at 8:13 am

Brilliant – "carb zombies". Love it!

Dr. Davis
January 8, 2015 at 7:59 pm

I fear that is true, Eric, but the number of people following approaches like this is growing very rapidly. So don't be discouraged. We may not have a hundred million dollar ad budget, but we've got wonderful tools like

social media and its incredible reach.

Lynn
January 10, 2015 at 11:40 am

There are hints I see that things are turning around – such as when I went to purchase some organic, higher fat item, and the sign said something to the effect of temporarily out of stock due to increased demand! I was disappointed and happy all at the same time!

Lynda
January 8, 2015 at 2:34 pm

We just watched the Youtube video "The Two Big Lies of Type 2 Diabetes" yesterday with Dr. Jason Fung speaking about this. I would highly recommend anyone to watch it !! Thanks for getting this very important message out there Dr Davis. So many people are told that diabetes is progressive and non curable.

I am one of your success stories from the early days. I read your first book back in 2011 when I was told I was prediabetic. My husband and I have lived the wheatbelly way ever since and never looked back!

Dr. Davis
January 8, 2015 at 7:58 pm

Terrific, Lynda!

Kelley
January 8, 2015 at 9:41 pm

Yes. Dr. Fung's approach is fantastic! PS, I also reversed my ore-diabetes with Wheat Belly. Congratulations.

Boundless
January 8, 2015 at 4:29 pm

re: The safety of "complex" carbohydrates in grains is complete fiction: their glycemic indexes are higher than sucrose.

Or, as the Wheat Belly Total Health book (p21) puts it: "But the carbohydrate in seeds, amylopectin A, is rapidly digested by humans and raises blood sugar, gram for gram, higher than table sugar does."

For no particular reason, I got to wondering why that is, because it's slightly counter-intuitive. How could an ostensible complex carb bump blood sugar worse than actual simple sugar? Some searching suggested two answers:

1. Amylopectin A, which can be over 60% of the grain carbs, is digested solely to glucose (no fructose). Table sugar (sucrose) is only 50% glucose (and 50% fructose, which doesn't raise blood sugar directly). "Blood sugar" is actually BG (blood glucose), so gram for gram, amylopectin A contains more glucose.

2. Gluten-bearing grains (and we're really speaking of wheat here) cause gut leakage (zonulin permeability), so whatever we eat gets into the blood quicker. Even if grains had identical glucose content vs. sucrose, there would still be a quicker, higher BG spike.

Amy
January 14, 2015 at 8:56 pm

The chemical structure of amylopectin accounts for why it has such strong and rapid effects on blood glucose. It's made up entirely of glucose, as you said, but there's an even bigger reason behind the rapid & high BG spike. Compare it to amylose, the starch found in potatoes. Amylose is also entirely glucose, but it's just long chains. Very long strands of glucose molecules, connected one to the next. Amylopectin, on the other hand, is *branched.* It's a long strand of glucose molecules that also contains shorter strands of glucose branching off from the main strand. The reason this makes amylopectin have a more pronounced effect on BG than amylose (or sucrose, for that matter, but with sucrose the main factor is the fructose portion) is because those branches give the carbohydrate-digesting enzymes more surface area to work on. The more surface area they can work on, the more quickly the molecule can be broken apart and digested…and the quicker it will raise blood sugar.

There was a great picture of this in my biochem textbook back in the day.
This one comes pretty close: http://i.imgur.com/30Tam.jpg
But note that even though the amylose looks "curly" and is folded over on itself, it's still just one single strand of glucose molecules, with no branching.

Amy
January 14, 2015 at 8:59 pm

Also probably why I, personally, seem to do better (blood sugar-wise) with potatoes than with wheat.

Bob Smith
January 8, 2015 at 4:51 pm

The current type 2 diabetes episode is stupid. Type 2 diabetes is not even a disease. It simply describes insulin resistance and the resulting complications. Most western deaths are now a result of type 2 diabetes and its complications. All of this is totally unnecessary. The only things needed to stave off type 2 diabetes is to stop eating carb sugars and proteins, and to increase the foods and activities which you outlined, Dr. Davis.

Recently I figured out that instead of a few maladies I thought I had, I have neurofibromatosis type 1. It means I get tumors on nerves throughout my body. I had been fighting my symptoms with elimination of specific plant sugars and proteins. Advancing symptoms caused draconian reductions in the "acceptable" carb list. Finally my symptoms showed me two things, 1) that I needed to re-evaluate my diagnosis, and 2) that even increasing meat and fat consumption is not sufficient. Cutting carbs is the only treatment available.

Cancer is going totally bonkers in the west, and the number 1 cause is type 2 diabetes. NF1 tumors are like cancer. They can only consume sugars. They can't consume fat.

Bob Niland
January 8, 2015 at 5:08 pm

> NF1 tumors are like cancer. They can only consume sugars. They can't consume fat.

I don't know anything about NF1 specifically, but I have read Seyfried's book (Cancer as a Metabolic Disease). I can't say I've stayed at a Holiday Inn Express, tho.

Anyway, most tumors prefer glucose, can get by with glutamine, but do very poorly on fats or ketone bodies (which are metabolized from fats). Ketones are key in brain cancer, because low glucose brain cells can't make up the difference with fat, but can do so with ketones.

Seyfried advocated a ketogenic diet (to lower BG and raise ketone levels), with caloric restriction (esp. of protein) to manage the glutamine issue. Since the publication of his book, exogenous ketones have become available, which can raise ketone levels whether you are ketotic or not, and could make the diet experience less restrictive.

I'm not following developments closely, so you'll need to do your own research. Dominic D'agostino's web site may be a great place to start.

The Wheat Belly recommendations, from a net carb standpoint, are presently right at the keto/glycemic border, and would make a great jumping off point for full keto if that makes sense to try.

Bob Smith
January 8, 2015 at 5:33 pm

Thanks, Bob. I read and studied a lot about ketogenic cancer diets as well as Dr. Seyfried's research. I was a caregiver for a close relative who died of lung cancer. Then one close friend and another relative died of cancer. None of them listened to me.

Seyfried has it right, and the secret has been known since Dr. Warburg's discovery in 1929. Tumors can't consume fat. They can consume glucose, fructose and glutamate. Glutamate is the fuel which causes a cell's Krebs energy cycle to produce randomly mutated proteins. Cells use these proteins to become cancerous. It's part of a relatively simple process which begins with type 2 diabetes.

It's possible you are confusing glutamine with glutamate? ……unless I am.

Bob Niland
January 8, 2015 at 5:53 pm

> It's possible you are confusing glutamine with glutamate?

Seyfried's book says "glucose and glutamine", and even has a chapter heading "Targeting Glutamine".

Bob Smith
January 8, 2015 at 7:03 pm

Here's where my readings have brought me. Glutamine is how the liver and most cells store glucose. Glutamine is interchangeable with glucose, and that's why I mostly disregard it. A few types of abundant transglutaminase are at hand to transform glutamine to glucose at the drop of a hat.

Glutamine is heavily represented in the intracellular matrix. Tissue transglutaminase (ttg) holds it there waiting for a signal from adjacent cells. Ttg transforms glutamine to glucose and releases it into cells in one action. There is also glutamine inside of cells with glutaminases ready to perform the same action.

https://en.wikipedia.org/wiki/Glutamic_acid

Glutamate is similar to glutamine, but it contains an ammonium (nitrogen) ion. That makes it part simple sugar and part protein. The Krebs energy cycle strips the sugar part off, leaving the protein part to wreck havoc.

Diabetes related glutamine is capable of feeding tumors by becoming glucose. Glutamate is capable of becoming the foundation of cancer. Dr. Seyfried has studied it pretty extensively.

Bob Smith
January 8, 2015 at 7:23 pm

I wrote “Glutamine is heavily represented in the intracellular matrix.”

I should have written “Glutamine is heavily represented in the *extracellular* matrix.

Fernán González
January 8, 2015 at 5:16 pm

Interesting. The correct bowel flora link doesn’t work. Could you fix it? Thank you! :-).

Bob Niland
January 8, 2015 at 5:46 pm

I can’t fix it (it appears to just have some extra characters at the end), but here’s one that works:

http://www.wheatbellyblog.com/2014/07/fertilize-garden-called-bowel-flora/

Kelley
January 8, 2015 at 9:39 pm

Dr. Davis, why not krill oil? Dr. Mercola says krill oil not fish oil, having to do with how it is absorbed. Is there newer understanding on this? Why would you recommend one versus the other….just want to make sure I'm getting the most benefit because I just started the krill oil two months ago based on that understanding. Thank you.

Bob Niland
January 9, 2015 at 7:03 am

> … why not krill oil?

Dr. Davis discusses this on p178 of Wheat Belly Total Health. Although krill contains a more easily absorbed form of DHA and EPA, the concentrations are way too low. You might need to consume an entire bottle per day to get 3000-3600 mg/day, and even short of that it quickly becomes an economic issue, as krill is expensive.

Bob Smith
January 8, 2015 at 11:37 pm

Here's my understanding of cancer and its link to type 2 diabetes. Cells in humans are highly complex and diversified. Cells use food fuel to perform a wide array of needed ongoing functions. Insulin in the body transports blood glucose into cells for use as fuel. Cells become insulin resistant due to excess ingestion of sugars and to ingestion of carb proteins which mimic insulin.

Cellular insulin resistance causes cells to starve, and causes the blood to fill with glucose. This condition causes a "push/pull" reaction in cellular energy.

The “push” part? Pyruvate kinase M2 (PKM2) is a cellular catalyst which facilitates the Krebs energy cycle to create adenosine triphosphate (ATP). ATP is the cellular energy currency. When cells see high concentrations of blood glucose PKM2 molecules re-aggregate. Instead of creating energy they redirect the Krebs cycle to create tissue.

The “pull” part? Because of insulin resistance cells can’t import glucose. So they turn to the only available food source, glutamate. As I said above glutamate causes the Krebs energy cycle to produce randomly mutated proteins. Combined with the PKM2 action this action causes cells to start creating randomly mutated tissue.

The mutated tissue invokes evolution. Mutations which are capable of feeding themselves, reproducing and avoiding the immune system survive, while others die off. The process represents the replacement of specialized cells which, because of insulin resistance, are incapable of feeding on blood glucose, replacing them with useless cells which are capable of feeding on blood glucose.

Most current cancer chemotherapies concentrate on interrupting the translation pathways from the Krebs cycle through epigenetic programming of new tissue. One chemotherapy actually works on preventing cells from recognizing the presence of glutamate. But no cancer chemotherapy is capable of eliminating the cause of cancer. That cause is type 2 diabetes, along with the carb sugars and proteins which cause type 2 diabetes.

Cancer is a complication of type 2 diabetes.

Bob Niland
January 9, 2015 at 7:58 am

> The “push” part? Pyruvate kinase M2 (PKM2) …

This has come up before on the blog, at:
http://www.wheatbellyblog.com/2011/12/nails-in-the-coffin/comment-page-1/#comment-43981
and a more recent post by Uncle Roscoe linked from my user

name here (I'm not uncle Roscoe – putting two URLs in a reply comment body puts it into moderation).

Bob Smith
January 9, 2015 at 9:42 am

Glutamate is one of the biggest reasons why exercise is an absolute requirement for the health of interglacial, agricultural humans. In high quantities glutamate can cause cancer.

Exercise causes cells to import and "burn" glutamate from the extracellular matrix. As shown glutamate causes the Krebs energy cycle to spin off extra random proteins. Cells can only clear these proteins as a side-process of burning sugars and fats. Healthy glutamate oxidation is limited to a small portion of other-fuel oxidation.

To remain cancer free while ingesting glutamate humans must exercise.

tw
January 9, 2015 at 10:31 am

I think you are using the word cancer too generally.

There are more than 200 different kinds of "cancer" and I am not sure that the relationship is as clear as you imply.

Ketogenic diets appear to work for some cancers. Seyfried has suggested, if I remember correctly, that a ketogenic diet is not a replacement but an addition to available treatment. Again not very specific as to which of the 200 or more cancers may benefit.

I am in agreement that blood sugar control is the most important single mission any person should attempt accomplish health wise. I think a person is more likely to exercise if their blood sugar is well controlled rather than trying to exercise to control it for example.

Bob Smith
January 9, 2015 at 11:58 pm

Dr. Seyfried is a medical professional who would lose his credentials if he advised cancer patients to avoid or cease accredited medical treatment based on his small research studies. Avoiding carbohydrates does not promise massive future profits to drug companies, so research funding to show that carbs cause cancer is EXTREMELY hard to find.

America's medical establishment does not exist to cure people. It exists to treat people, and to make money on those treatments. That said, receiving conventional medical treatment is one issue. Avoiding carbohydrates in favor of meat, fat and seafood is a completely separate issue.

Bob Smith
January 10, 2015 at 12:37 am

Increased cancer risk of people with type 2 diabetes, large study finds:

http://www.sciencedaily.com/releases/2010/05/100521102629.htm

A recent large scale study found that cancer risk increased 2.5 fold (was 3.5 times as prevalent) among type 2 diabetics as compared to the general population. This meta study studied 25 of the most prevalent cancers. A correlation was confirmed between type 2

diabetes and 24 of the 25 cancers studied.

The only non-confirmed correlation was between type 2 diabetes and prostate cancer. Subsequently the U.S. government released results of studies which they had performed along with an admonition to the American medical profession. It seems that oncologists had been removing thousands of healthy prostates based on the medical-establishment's supposition that non-cancerous prostate problems, combined with "high cholesterol" meant that a prostate was cancerous.

A large proportion of the prostate cancers studied by the t2d-to-cancer correlation study were not cancerous. So 24 out of 24 of the cancers accurately studied showed type 2 diabetics to be 3.5 times as likely to have cancer as the general population. Does this apply to ALL cancers. It's not proven, but we certainly have an EXTREMELY strong trend.

Roger Benson
January 9, 2015 at 9:01 am

"3000-3600 mg EPA + DHA per day, divided in two"

I am wondering what supplement would be recommended to obtain such a high amount of EPA and DHA omega-3 per day? I use Nordic Naturals Omega-3 capsules and 1 serving of 2 capsules contains only 550mg of EPA+DHA. This amount seems fairly common for this size capsule, but to reach the recommended amount would require 12 capsules per day… At $15 for 30 capsules this adds up fast!

Also, I am not quite sure what the "divided in two" means?

Bob Niland
January 9, 2015 at 12:52 pm

>> "3000-3600 mg EPA + DHA per day,
divided in two"

> I am wondering what supplement would
be recommended to obtain such a high amount of EPA and DHA omega-3 per day?

The NN "Ultimate Omega 3**″** has 1100 mg combined (for 2 capsules), and the "Xtra" a bit more +D3. That would be 6 capsules per day. Or you could use their liquid products, and measure out what amounts to 1500-1800 mg per take, perhaps in a smoothie.

> At $15 for 30 capsules this adds up fast!

Or get your n3s from food sources, such as fish (with some attention to mercury hazards). If you are at least getting some from food, the Wheat Belly Total Health target is 3000-4000 mg from all sources (p278), so adjust the supplements accordingly.

> Also, I am not quite sure what the "divided in two" means?

Don't take it all at once. WBTH advises taking before breakfast and before dinner.

Roger Benson
January 10, 2015 at 10:17 pm

Thanks! the divided in two makes
sense now – twice a day.

I ended up spending a few hours
researching different brands and reading reviews and finally went with the Carlson's Elite Omega3 which has 400 epa and 300 dha per capsule, so 4 a day gets me around 2800mg omega3. 120 capsules are $17 on amazon. There's a guy who has posted a comparison of some of the leading omega3 products in the reviews there if anyone is interested (username RWM)

Also like the Renew Life Critical Omega, but they are a bit more expensive.

One thing that is still a bit unclear to me is the optimal epa to dha ratio. A lot of brands are around 1.5, but you can find anything from 7:1 (omegabrite) to 1:10 (Dr. Perlmutter's Smart DHA).

Bob Niland
January 11, 2015 at 11:55 am

re: Or get your n3s from food sources, such as fish (with some attention to mercury hazards).

Also Bpa hazards and packing fluids with canned fish, I might add.

The FDA is in the news again lately in regards to their dropping the ball on Bpa:
http://www.ewg.org/enviroblog/2015/01/fda-clears-bpa-cans-again

It can take a lot of fish to get to 3000-3600 mg of DHA+EPA. In a typical ~100g can of sardines, for example, it appears that there is a mere 1000 mg of these n3s.

With canned sardines, beware of packed in adverse n6 industrial oils, like soybean. Even with extra virgin olive oil, I see claims that the oil leeches out the n3, so you need to consume both the fish and the oil (this is easy when used on salad). Otherwise go for packed in water.

Malcolm Achtman
January 11, 2015 at 1:33 am

Hi Roger:

I use a liquid form of Fish oil from
NutraSea. Dr. Davis likes this brand too.
They have a new formulation of "3:1″ EPA/DHA. A serving is one teaspoon (which is 5 ml). The bottle I bought is 200 ml, which gives 40 servings. It delivers 1500 mg EPA and 500 mg DHA. I just take 1 tsp. per day. To reach the dosage that Dr. Davis recommends, you would have to take about 2 teaspoons of it. In that case the bottle would be used up in 20 days. The price was $35.00, which works out to $1.75 per day if you take 2 tsp. per day. That's quite expensive. I feel 1 tsp. per day is adequate for me because I eat canned salmon two to four times per week as well.

Kate Horrell
January 9, 2015 at 9:23 am

What about "sauerkraut" for a fermented food,
will that help with Gut Flora?

Bob Niland
January 9, 2015 at 1:14 pm

> What about "sauerkraut" … help with
Gut Flora?

Sauerkraut is usually weak or nil as a
source of probiotics (actual live gut bugs). If it's pasteurized, the bugs are definitely dead. Even if it has live cultures, they may not represent an ideal spectrum of desirable species, and/or insufficent CFUs (colony forming units) to be much of an aid to a deficient gut.

As prebiotic fiber (food for gut bugs), sauerkraut is that, but probably no more effective than any form of cabbage.

Cabbage doesn't seem to ever be in the "top ten" lists of sources of prebiotic fiber. I eat it anyway.

Ricky
January 9, 2015 at 4:27 pm

6 months ago my Doctor said that I had a choice to make either I go on prescription drugs for diabetes or cut out ALL grains. Well I cut out the grains and have lost over 30 pounds and from a size 38 waist down to a 32. My wife has also lost over 25 pounds and we are also incorporating the Wheatbelly lifestyle to the whole family. This is preventative health are. Not what the establishment says to do. Thanks Dr. Davis for Wheatbelly

Eric
January 9, 2015 at 7:16 pm

And don't forget to thank your doctor!
Perhaps he read Wheat Belly?

Ricky, by going wheat free, you alone saved the healthcare system (whether it is a private insurance, Medicare or Medicaid) tens of thousands of dollars over your lifetime. Multiply you by the tens of millions of Type 2 and pre-Type 2 diabetics, and we could save a huge fraction of the $200+ billion we spend annually on "treating" Type 2 diabetes, and "searching for a cure." Not to mention all the other illnesses and ailments obesity causes.

And what kills me is the answer is so obvious. But where the hell is the medical establishment?

Gretchen
January 9, 2015 at 5:50 pm

I think the WB diet is healthy and a good one to follow if you have diabetes. However, I think suggesting that people with diabetes choose to have it can cause harm. Yes, many obese people with type 2 diabetes can improve their situation by losing weight with WB or other low-carb diets. But not all. That may be the 10% you refer to, but if this "You choose to have diabetes" message is spread throughout the Internet, they will be blamed for their disease even more than they are now. And many type 1s will also be told it's their fault.

I know a lot of type 2s who follow diets like yours and they still have diabetes. Yes, their blood glucose is better most of the time, but if they eat any significant carbohydrate, even nonwheat carbs, their BG levels will go up more than normal. They still have diabetes. They're just controlling it well.

Saying they choose to have what has an underlying genetic cause is not kind, IMHO.

Bob Smith
January 9, 2015 at 11:37 pm

Hi Gretchen, Please link to the research which points out the type 2 diabetes gene and proves the diabetics who have it to be incurable.

Genetics probably predisposes some people to get type 2 diabetes at earlier ages and by ingesting fewer carbohydrates than other people. However, it's axiomatic. All people who refrain from or drastically reduce carb intake in favor of the activities and foods which Dr. Davis outlined will either eliminate their type 2 diabetes or drastically improve it. I promise.

Should a professional who has the cure for type 2 diabetes refrain from putting his career on the line to satisfy one person who has an incorrect view of type 2 diabetes? …..or refrain from improving the lives of 100 people just in case

one person might possibly misunderstand his message?

Gretchen
January 10, 2015 at 8:42 am

Hi Bob,

>Please link to the research which
points out the type 2 diabetes gene
and proves the diabetics who have it to be incurable.

There's not one diabetes gene. There are many. One study showed that many of the genes that increase risk have a small effect, so you need to have a lot of mutated genes for significant risk. That's why the genetics is so difficult to study.

>eliminate their type 2 diabetes or drastically improve it. I promise.

There's a difference between "eliminating" and improving it. I agree about the improvement, good control, remission, etc. It's the "choose to" that I disagree with.

>Should a professional who has the cure for type 2 diabetes

No one has a cure for type 2 diabetes. Once enough beta cells have been destroyed by glucotoxemia, no treatment, diet, exercise program, etc. will bring them back. In early stages, it can be reversed. But too many aren't Dx'd in early stages.

> refrain from improving the lives of 100 people just in case one person might possibly misunderstand his message?

It's not one person. It's many.

I repeat my main point. This diet is good for people with type 2 diabetes. It's the statement that such people "choose to" have diabetes that I'm quibbling about. It

puts the blame on the patient, and this causes harm.

Gretchen
January 10, 2015 at 8:43 am

I meant glucotoxicity, not glucotoxemia.

Bob Smith
January 10, 2015 at 9:37 am

The case I made about

Again. Type 2 diabetes is not a disease. Type 2 diabetes is not a disease. Type 2 diabetes is not a disease. People bring the conditions associated with type 2 diabetes upon themselves by ingesting carbohydrates. Now you are demanding that Dr. Davis stop helping people to cure type 2 diabetes because some people who experience the results of type 2 diabetes might think the cure will make the results disappear.

It's ludicrous.

Carb avoidance MAY not be able to grow pancreas beta cells, but type 2 diabetes is not defined by dead beta cells. It is defined by cellular insulin resistance and elevated blood glucose. Dead beta cells are a RESULT of type 2 diabetes. Cure the type 2 diabetes before beta cell death and the result becomes a moot point.

Boundless
January 10, 2015 at 9:20 am

What approach to the problem do you
suggest then, Gretchen?

> … suggesting that people with diabetes
choose to have it can cause harm.

You are reading into this blog thread's title and graphic
something that is not there.
"Type 2 diabetes is a choice"
is not the same as
"you chose badly, T2D victim, and you knew it".

The point is that T2D is an optional ailment, and not really a "disease". Most people with or at risk of T2D have NO clue of how much can be under their control, and they will not learn it from National Diabetes Promotion and Maintenance Organizations like the ADA.

This blog has been provocative on this topic. An even earlier one on Type 1 resulted in a lot of heated comments.

> Yes, many obese people with type 2 diabetes can improve their situation by losing weight with WB or other low-carb diets. But not all. That may be the 10% you refer to, …

Yes, the "90%" is not explained, so let me (not speaking for Dr. Davis) put it as I understand this mess.

T2D is an almost completely predictable metabolic response to a full-time moderate to high glycemic diet (like the MyPlateOfMetabolicSyndrome diet the USDA promotes).

T2D is 100% avoidable with diet if you don't already have it and don't suffer some pancreatic trauma unrelated to diet. Genetics plays a role in the metabolic response, but does not make T2D inevitable.

T2D is 100% reversible, with diet, at the metabolic syndrome and pre-diabetic stages.

T2D is reversible after that to the extent that the

complications are reversible, but in any case can be managed with minimum or no meds via diet. The 10% may refer to T2Ds in this position.

> … but if this "You choose to have diabetes" message is spread throughout the Internet, …

Again, the message is "you can choose to not have diabetes". This message has been out there for years, and alas, is not spreading as rapidly as it needs to.

> … they will be blamed for their disease …

Wheat Belly is not in the blame the victim business, and there is none in the article above, nor in any of the prior articles. People suffering from the epidemic of non-infectious chronic diseases need to know that they are in that pickle due to defective information, and not defective character. They won't hear that from the ADA.

> And many type 1s will also be told it's their fault.

That's really reaching. Once what are perhaps multiple triggers for T1D are understood, it might come down to: had they (or perhaps had their parents) only known XYZ, T1D might have been avoided – hardly their fault.

> I know a lot of type 2s who follow diets like yours and they still have diabetes.

"like yours" doesn't nail down some key stuff, like the eight bullet points in the article.

> Yes, their blood glucose is better most of the time, but if they eat any significant carbohydrate, even nonwheat carbs, their BG levels will go up more than normal.

That could be several different things, including transient effects during weight loss, dysbiosis or merely some oversight in the diet plan.

One possibility is merely physiological insulin resistance (PIR), a common effect of very low carb diets. Once we become at least part time fat metabolizers, muscles running

on lipids reject the glucose, reserving it for the brain. This happens to people who were never diabetic. See: http://high-fat-nutrition.blogspot.com/2007/10/physiological-insulin-resistance.html

So don't do that (eat fast carbs). I'm not diabetic or ex-diabetic, but see no reason to get lax about carbs. One time I did, with a restaurant dessert, I felt awful, and I'll bet it was PIR. As long as we stay low carb, is PIR even a problem? (Actually, I'd like to see Dr.D. blog about PIR.)

> They still have diabetes. They're just controlling it well.

If they don't have permanent beta cell damage, they do not have diabetes any more than I do. But yes, I'm sure consensus medicine and Big Pharma™ are very concerned about controlling blood glucose solely with diet. There's no cash flow in it at all. I suspect even sales of glucometer consumables would tail off.

> Saying they choose to have what has an underlying genetic cause is not kind, IMHO.

Some people are more susceptible to T2D than others, due to genetic factors. I would be surprised if there's evidence that genes cause T2D no matter what diet you're on. You didn't say that, exactly, but as long we're reading things that aren't there, one might detect it. I know the ADA wants it to be true that we're all at risk of diabetes. We aren't.

Lynn
January 10, 2015 at 10:47 am

I just got back from donating blood today. My blood pressure has typically been pre-hypertensive, but I was always able to donate. Big deal – the cutoff for donation is 180/100. I have tried several things to lower the blood pressure, such as

organic beet juice and some other things, but it remained stubbornly pre-hypertensive bordering on hypertension.

This morning I decided to take 2 servings of the magnesium water, taken 1/2 an hour apart, prior to donating around 9AM. Blood pressure was 124/80, which I suppose is still pre-hypertensive, but down quite a bit. This is a good indication to me it was the magnesium I needed, although my blood sugars are in much better control, so my insulin may have been down a bit as well. But my best guess is it was the magnesium water that helped. Thanks a bunch! What is the most bio available form of magnesium? The water is bicarbonate, you say above malate, and I've heard of other forms. The form I usually see in supplements is oxide.

Bob Niland
January 10, 2015 at 11:24 am

> What is the most bio available form of magnesium?

The Wheat Belly Total Health book recommends malate (p109), or mag water (for which there is a recipe on p341). 180 mg of Mg per day (which is 1200 mg of malate).

Lynn
January 10, 2015 at 11:36 am

Thanks, Bob. It appears that the mag water is what helped, so I will continue on with that and see how it goes. I take my blood glucose readings, but don't have a blood pressure kit, so will check it at Wal-mart or other places that have them available to the public.

Malcolm Achtman
January 11, 2015 at 1:05 am

Dr. Davis recommends Magnesium malate. It's important to know how much elemental Mg is in the supplement. Some brands don't specify that. You could purchase your magnesium from a compounding pharmacy and they should be able to tell you exactly what you're getting. Mind you, their product will be more expensive than major brands. While you're at it, ask the compounding pharmacist whether they have put titanium dioxide (a known carcinogen) into their capsules. Hopefully not. But you will see titanium dioxide as well as magnesium stearate (another toxic substance) on the ingredient list in many leading brands.

I have read several articles from various sources about magnesium. My impressions from what I have read are:

Mg oxide – inexpensive, and most likely the type that can cause diarrhea.

Mg citrate – inexpensive, less likely to cause loose stools but can still do so. The opinion of Dr. Pescatore is that Mg citrate will loosen your bowels but do nothing for your heart health.

Mg glycinate or Mg bi-glycinate – somewhat more expensive. Better absorbed than oxide or citrate and less likely to cause diarrhea.

According to Dr. Axe 300 – 400 mg of Mg per day is adequate, which agrees with Dr. Davis' amount. Dr. Axe says amounts above 600 mg will cause diarrhea in 20% of people (based on his experience I presume).

Dr. Josh Axe and Dr. Pescatore agree that Mg chelate is a good absorbable form.

Dr. Al Sears (and others) suggest taking magnesium with vitamin B6 to improve absorption.

Dr. Axe also likes Mg theonate, which he says better

penetrates the mitochondrial membrane.

Dr. Pescatore likes Mg taurate (125 mg/day) or Mg orotate (32 mg/day). I have used Mg orotate. It's pretty expensive as far as magnesium goes. The brand I bought was from AOR. They claim their form is a true, "fully reacted form" that contains about 15 times as much orotic acid as magnesium by weight. The capsules contained 720 mg of orotic acid and just 50 mg of elemental Mg. That doesn't sound like a lot of magnesium, but according to Dr. Pescatore it would be an ample daily dose.

Lately, I have been taking Mg citrate. I take it both during the day and just before bed. Taking it before bed has improved my sleep. I generally sleep well anyway but I inevitably used to have to get up once in the night to pee. Since taking magnesium before bed I often sleep a full 8 hours straight through. I used to get leg cramps at night and that problem has now gone away. Leg cramps can also be from a calcium deficiency. As per Dr. Davis' recommendation (and others too), I am reluctant to take supplemental calcium. I took SpectraCell's micronutrient test. It revealed my intracellular calcium level was adequate. It was in the mid-range. Another thing, I have read that regular blood tests for Mg and Ca do not give a reliable representation, so keep that in mind when you go over your blood work.

Magnesium citrate has improved my bowel movements. Even if I went back to using Mg orotate I would still take Mg citrate because of how it helped me. I occasionally get migraine headaches. Luckily they are not too severe. I typically experience an "aura" and then a dull headache or sometimes no headache. This happened a few times this past summer, but since taking more magnesium I have not had any migraines.

According to what I have read, including what Dr. Davis has to say, magnesium is a great supplement to take and many people are deficient without knowing it (especially if they believe their basic blood work values). Magnesium helps with inflammation, relaxes blood vessels, reduces

heart arrhythmias and palpitations, improves blood sugar control and blood pressure (as Lynn illustrated). Try it, you'll like it!

Boundless
January 11, 2015 at 8:11 am

re: … improved my sleep

Another thing to look at with sleep issues is the growing "blue light at night" problem (which is a separate problem from the "blue light hazard"). I wrote some words about it on Tom Naughton's blog
http://www.fathead-movie.com/index.php/2015/01/05/the-farm-report-hogs-2-humans-0/comment-page-1/#comment-2893785
and there are any number of web sites, and at least one book, dedicated to the issue.

Lynn
January 12, 2015 at 1:12 pm

Thanks to you and to all for your responses. Yes, I have also noted occasional palpitations have lessened in frequency. I definitely plan on getting enough magnesium in

Bob Smith
January 10, 2015 at 12:59 pm

Humans spend 20,000 years in warm, easy agricultural conditions for every 80,000 years we spend in freezing, harsh conditions where we kill and gather the only foods available to us. Given that major evolutionary changes may only occur when environmental changes pare a species down to a few breeding pairs, which diet is the normal diet of the human species?

Lynn
January 10, 2015 at 2:12 pm

I think that's a brilliant question. It assumes that environmental condition and changes were the same throughout the planet, though. Supposing there were only a few breeding pairs left after an environmental catastrophe, they obviously reproduced and migrated all over the world, where there are differing environmental conditions. My view is that in such a case, given a few breeding pairs from a similar location, adaptation and natural selection would play a role. This would not require one to subscribe to the theory of evolution, or various explanations of creation, but would confine itself to what can be observed.

I am not persuaded, even though I hear it over and over again that I need to adhere to a high fat, low carb diet because that is what pre-historic humans ate. I sit there thinking, given your assumptions, plant and animal life was also evolving, and how on earth do you know what they were eating? They are dead and left no records. I am very impressed, though, by what can be observed, such as what Dr. Price and others have studied and painstakingly recorded. I also appreciate the experimental science to date on the subject.

Boundless
January 10, 2015 at 2:58 pm

> I am not persuaded, even though I hear it over and over again that I need to adhere to a high fat, low carb diet because that is what pre-historic humans ate.

Perhaps the most important thing learned about nutrition in the last decade is how much more remains to be learned (well, to those paying attention to results, anyway, which excludes consensus nutrition and medicine).

Is there a single diet that's ideal for everyone? Nope, and there may never be.

Is there a single diet that's a disaster for everyone? Yup, published by the USDA, and parroted all over the planet.

For the near term, seeking an ancestral diet at least insulates anyone from most of the problems of 20th and 21st century foods. Of course, that means a genotype-specific diet. Do you know your genotype, then as you point out, do you know what they ate? If you have mixed ancestry, then what? Indeed.

Even we can discover and revert to an exact ancestral diet, that's not necessarily ideal. Our ancestors often were adapted to a specific diet because they had no choice. Recent revelations about a common mutation among the Inuit are enlightening in this regard. Such populations were sustained on their diets, but didn't necessarily thrive on them (as in, live much beyond twice reproductive age).

But for anyone who wants to abandon the SAD, the evolving Wheat Belly recommendations are a great place to start. It's not about LCHF dogma. It's about results.

Bob Smith
January 10, 2015 at 3:24 pm

>Supposing there were only a few breeding pairs left after an environmental catastrophe, they obviously reproduced and migrated all over the world, where there are differing environmental conditions. My view is that in such a case, given a few breeding pairs from a similar location, adaptation and natural selection would play a role. <

Given that a catastrophic event pared humanity down to a few breeding pairs, and that population expanded into other areas …….that would mean the population expanded under favorable environmental conditions. Small adaptations are possible under these conditions, but not major ones.

Agricultural diets breed diseases in humans. Immune systems become weakened, and porous intestines provide an overwhelming vector for disease pathogens. For 10,000 years diseases have been decimating European grain-eating populations. Europeans developed some resistance to some of these diseases, but only because outside meat eaters kept replenishing their numbers. By the end of the next ice age these changes will not even be recognizable.

Jessica Hamilton
January 13, 2015 at 11:54 am

Hello Dr. Davis!

I LOVE YOUR BOOK!!!

Its funny, I went to a dr's appointment on base two years ago and the doctor handed me a pamphlet about the Wheat Belly diet

and said 'you need to do this'. Her presentation could have been better. Long story short is that I never took her advice. I had just begun a weight loss study on base called Group Life Balance, where they take your DNA and send it to a lab and come back with your 'genetic' diet plan. I had lost 90 lbs on the atkins diet 10 years ago and before kids, I was able to keep it off. I didn't believe the plan they put me on… it was the 'fat trimmer' plan. I weighed in every week, kept exercising, gave the dietician my journals. Nothing would happen. They were mind boggled.

I have a very interesting story to tell you.

My daughter was diagnosed with type 1 diabetes at the age of 2. (She is now 6) This disease takes a toll on a family. I had attributed my weight gain to stress and lack of sleep (checking blood sugars at night and the constant worry). I just read the part in your book about type 1 diabetes. Your book is so informative! I appreciate that you label type 1 and type 2 because there is so much mis communication on both diseases. I wanted to let you know that they check my daughter's blood every 3 months and also check for celiac once a year. She's had a lot of stomach aches this last year and I wonder if part is the wheat. There was a part in your book where you suggested parents of T1's to have them checked. I also wanted to confirm that you are right in regards to the viral infections being a trigger. Being a part of the diabetic community, so many children start having the symptoms immediately following a viral infection. It happened within two weeks for us.

My son (5) possibly has ADHD, was diagnosed with Sensory Processing Disorder last January 2014 and his doctor told me we will revisit ADHD next year once he starts Kindergarten. My son has had constipation issues since birth and yesterday I went to a developmental pediatrician to be told that he thinks we should cut out wheat and that might help with his attention and wild behavior. (we have already cut out red dyes and it has helped us out greatly!)

Anyways, after my appointment yesterday I decided to purchase your book and I haven't put it down in 4 hours. I feel bad that I wasn't open to this diet/lifestyle change a year ago.

Thank you so much for such an informative, funny at times, book

to read! I can't wait to post about our changes in a month. :)

Cheers!

Jessica

Bob Niland
January 13, 2015 at 12:09 pm

re: … decided to purchase your book …

Which book was that?
The recent "Wheat Belly Total Health"
book has quite a bit more information vs. the original "Wheat Belly" book, such as on gut health (which has significant bearing on things like ADHD).

Jessica Hamilton
January 13, 2015 at 12:11 pm

Hey there Bob!

I purchased the Wheat Belly: Lose the
Weight book :) Thanks for that info! I
need to research a little more. I want to get the 30 minute cookbook as well :) Do you have any advice on that one?

Thanks for your comment :)
Jessica

Bob Niland
January 13, 2015 at 12:28 pm

re: I want to get the 30 minute cookbook as well :) Do you have any advice on that one?

I'm not the family cook, but we get more use out of the 30 minute than we do from the earlier Cookbook.

On the food color issue, one (of many) ways to identify processed foods to avoid is if they contain any food coloring at all. I haven't studied the issue much, but I'm seeing enough reports from parents to suggests there really is a problem with them.

Jessica Hamilton
January 14, 2015 at 12:59 pm

Thanks Bob! I appreciate your opinions! We've cut out all dyes over the last 6 months and it's really helped. My husband even had some skin conditions and hasn't noticed it since we cut it out.

I'm doing well on this new lifestyle. Today I went grocery shopping again and have everything pretty much ready in preparation of creating some of the recipes I found at the end of the book. I even bought tofu and shirataki noodles! I'm really excited to see if this new way of eating will help my daughter's blood sugars stay more level.

I have a question for you or anyone reading this. There is a recipe I really want to make that is calling for peanut flour. I picked up some PB2 today, would that work? It's basically powder. lol

Thanks for your help. I do appreciate it!
Jessica

Bob Niland
January 14, 2015 at 2:54 pm

re: There is a recipe I really want to make that is calling for peanut flour. …

Leaving aside the specific issue of PB2, the main consideration with peanuts (and legumes generally), is net carbs, and when used as an ingredient, how much ends up in a serving. Consumed alone, about 3 tablespoons of pure peanut butter is going to be at or slightly above the WB limit of 15 grams net carb per meal or 6-hour period.

Peanuts, of course, have other concerns, such as a peanut lectin and an aflatoxin risk. Here's a nice summary by Kris Gunnars: http://authoritynutrition.com/is-peanut-butter-bad-for-you/

re: I picked up some PB2 today …

Not being a big peanut eater (flavor), I wasn't aware of this product until today. It appears to be made by people who have fallen for the foolish low fat myth, but at least in this case the fat they remove is one you're probably getting enough of from other sources: Omega 6 linoleic acid.

I see people complaining on the web that the processing may also remove nutrients you'd rather were left in. At the portion size need to manage net carb, this is probably not a big deal. The peanuts also may not be organic or non-GMO.

What is a big deal is that in removing the fat, they have raised the net carbs per gram, and then confirmed their incompetence by raising it even more with added sugar. If I had some PB2 in the pantry, I'd probably just use it sparingly in recipes, and then not buy any more of it.

Donna McLain
January 20, 2015 at 10:26 am

I am a type 2 diabetic, but take no medication for it. I am supposed to be eating healthy, but I regret to say that I haven't succeeded. I have both WB books, and am reading all I can about going grain and sugar free. To my surprise, I noticed this morning that my chewable vitamin has wheat in it! Is there enough wheat in there to be of any significant importance? I hate swallowing pills, and I found that chewable was an alternative to make sure I get my vitamin in. Also I am not a good plain water drinker, so I put MIO in my water to help with that. It IS sweetened with sucralose, so not sure I should be using that.

Bob Niland
January 20, 2015 at 10:46 am

re: … noticed this morning that my chewable vitamin has wheat in it!

What brand & product. It may have more hazards than just wheat. Most chewables are also loaded with sugars or unwise artificial sweeteners.

re: Is there enough wheat in there to be of any significant importance?

For celiacs and the acutely wheat sensitive, yes, For everyone else, it may be a dose issue.

re: … to make sure I get my vitamin in.

Be sure to see:
http://www.wheatbellyblog.com/2013/01/nutritional-supplements-in-the-wake-of-wheat-elimination/
The chances of a typical multi-vitamin containing what you need are close to zero. MVs are optimized for precisely no one.

re: … MIO in my water …

I would avoid that product entirely, due to the sucralose and

Ace-K (acesulfame potassium), neither of which are WB-recommended sweeteners, and due to the food coloring. The "natural flavors" is an FDA-approved weasel phrase for all sorts of potential additional problems. The other chemistry set ingredients may be benign, but are unnecessary.

Laila Terra
January 20, 2015 at 1:44 pm

Here is a simple truth about Sugar I documented on my video in a fun way:

https://www.youtube.com/watch?v=7sg9u9KddxM

I'm following a Ketogenic diet and on month 2 right now. I couldn't have been more pleased with my lifestyle change.

Love to all and stay away from those carbs and sugars!

Laila

Read the Wheat Belly books and cookbooks:

- Wheat Belly
- The Wheat Belly Cookbook
- The Wheat Belly 30-Minute Cookbook
- Wheat Belly Total Health

New to eating wheat- and grain-free and in a rush to lose 30 pounds? Start here:

- Quick And Dirty
- Wheat Belly Safe Flours
- Lost The Wheat, But Didn't Lose The Weight
- Frequently Asked Questions

About Dr. Davis

Cardiologist, Dr. William Davis is a New York Times #1 Best Selling Author, and the Medical Director and founder of the Wheat Belly Lifestyle Institute, as well as the Cureality program.