CARB CONFUSED

GOOD VS BAD

YOUR GUIDE TO
PROPER
CARBOHYDRATE
INTAKE

Not all carbohydrates are created equal.

What does this mean? It means some carbs are good and break down in proper nutritional ways in our bodies while others don't, that simple. Carbohydrates from non-starch vegetables are good carbs. Although vegetables are complex carbs they break down in the body differently, the whole grain toast you ate at breakfast. Just as eating a piece of fruit is different than eating baked goods or candy. For a long time it has been taught that we should eat complex carbs and stay away from simple carbs as much as possible. However, I am here to say that is not the case and there is research coming out that explains why this is true.

How Do We Understand The Makeup of Different Carbs?

For one we need to look at how the body digests each genre of carbohydrate. The high sugar spike we get from say, a lollipop or a cookie are not the same as the sugars found in fruit which does not have the same immediate blood sugar highs that incur with table sugars and processed foods. When the body metabolizes a piece of fruit, say strawberry, insulin is released in the body and it does its job. Insulin goes about distributing the sugars throughout the body's tissues, to the liver, to the muscles, then if needs be, to fat stores.

This 'sugar' break down happens differently in the body because not all 'sugars' are created equal, fruits are instilled with some pretty important ingredients that are not found in refined sugars. Yes, fruit contains simple sugars like, glucose and fructose, like other simple carbohydrates, but they also contain longer chain carbohydrates that take longer than refined sugars to break down. Thusly not overloading your blood sugar all at once.

Fruit carries the 5 extra ingredients not found in table sugars:

All which help in other ways in digestion

- **Vitamins and minerals**: help in tons of cellular chemicals reactions
- **Fiber**: of course, fiber helps slow the rate of carbohydrate absorption, and is food for the large intestine.
- **Water**: lets not forget water has so many important functions in our bodies, and is as important to us as breathing oxygen to our cells. Each day our body needs to replace about 2.5 quarts of water though foods and liquids.
- **Antioxidants**: help prevent premature aging (and not just on the visible outside tissues), as well as having the benefit of protecting against oxidative damage.

These 5 ingredients are ones not found in 'bad carbs,' like artificial sweeteners and refined sugars, this results in poor metabolism and blood sugar highs.

Do Carbs Make Me Fat?

There is a huge fear out there that carbs make us fat. Good carbs help store good fats or those we do need in our body and they played a role for the times when we were in famine mode in human history and that DNA still exists in our genetic makeup. Also fat is necessary for other roles in the body such as cushion for organs and heat insulation. Most the time we use these excess stores regularly in our daily activities or when you exercise, so things don't get out of hand, having too many fats stored. However a problem exists when you start introducing bad carbs, like table sugar and processed foods. They have such simple easy to digest construction that it hits our blood sugars like a ton of bricks.

What do table sugars like sucrose consist of?

They contain a simple molecule of 2 monosaccharaides, called glucose and fructose. As soon as the product hits your mouth it starts breaking down (from the amylase enzyme in your saliva). This introduces all the sugars to the bloodstream at once creating high levels of blood sugar. There are no barriers, like that in fruit, to slow the sugar consumption in the body.

How the body reacts to table sugar: and why it is more dangerous then just obesity.

So, when the body releases insulin in response to a spike in blood sugar due to refined sugars, insulin does its job bringing the sugars to many cells in the body.

- **Bodies cells**: It turns glucose into ATP the most basic unit of energy to be used anywhere in the body. Normal
- **Liver and Muscles**: then it makes glycogen to be stored in the liver and muscles (which can be reversed back into glucose for later energy use). Normal
- **Fat tissues (adipose)**: lastly it turns glucose to lipids or fatty acids to be stored in adipose or fat tissue (which can not be reversed back into glucose for energy for the whole body). Normal in small quantities, which refined sugar often exceeds.
- Also, the body goes into overload trying to release the excess sugars from the body, as the kidneys work to excrete it though the urine, when a spike above 120 GI (Glycemic Index) happens in the blood stream we term this as hyperglycemia, which eventually causes, eye, nerve and kidney disease other wise known as diabetes. Which also leads to death of body tissues, thusly why amputations often happen in diabetes. Not normal!
- Newer research is also coming out that fructose can not be digested properly in the body when it does not come in a given origin like fruit with the extra ingredients that help with digestion. This causes a myriad of problems like, obesity, liver disease, diabetes, and inflammation.
- The liver is the only organ that can digest fructose and when over loaded it will create liver fat. There is nothing to slow digestion like in fruit with fiber. When fat builds it releases into the blood stream creating a myriad of health problems. Like creating cholesterol of small dense LDL that blocks up the blood vessels with plaque formation and causes chronic heart disease.

Another reason table sugars are bad Carbs

There is an additional challenge that begins to happen in adipose tissue. Adipose (fat tissue) among other things functions as an endocrine gland in the body, what this means is adipose or fat produces hormones like leptin, and adiponectin that the body needs to regulate specific systems.

- **Leptin**: is the regulator of fat storage in the body; it is known as the "satiety hormone." When you eat, leptin is released when you have enough nutrients to tell the hypothalamus, in the brain, you are full. However, several thing can keep leptin from doing it's job and one is sugar, a study done by the American Physiological Society http://ajpregu.physiology.org/content/295/5/R1370.abstract showed that high fructose diets will keep leptin from crossing the blood brain barrier and thusly leave the person in a perpetual state of hunger if fructose from the likes of sugar and processed foods keeps being brought into ones diet. The only exception to this rule is fruit because of its amazing design that helps one to properly digest fructose. So this becomes a clear key to the obesity epidemic in America today.

- **Adiponectin**: Is a hormone that helps stimulate the release of insulin in the body. Interestingly as the body over produces fat (more adipose tissue) in the body, adiponectin stops telling insulin to release. This can lead to diabetes from insulin deficiency.

Complex Carbs: are they created equal?

The two long chain 'complex' carbohydrates are vegetables and whole "healthy" grains. Are they created as equal as we are led to believe? What we find is even more disturbing considering what doctors and dieticians have been leading the public to believe for years. We all know by now that sugar is not good for you, maybe not to the extent of just how bad, but never the less we've known it is not great.

However, for years the doctors and dieticians have stood on a soap box of the 'my plate' foundation and recommend 30% percent of your meals consist of whole healthy grains. (Which if you look at most pictures of my plate it conveniently looks like vegetables and grains should be equal, is this a mistake? I don't think so).

Even worse when people are diagnosed with diabetes they are often told them to eat more whole healthy grains and limit fats. Why am I so angry with this you ask? Well, did you know that two slices of whole grain bread will spike your blood sugar to that of over six teaspoons of sugar? How is this possible? Isn't this one of those healthy long chain complex carbs that should by rights take longer to digest and thusly release its sugars slowly into the body? Well, it doesn't and the reason is its chain makeup is of amylopectin A.

What is Amylopectin

Amylopectin is a starch and there are three forms:

- **Amylopectin A**: found in wheat and whole grains (break down fast- blood sugar highs)
- **Amylopectin B**: found in potatoes and other starchy veggies (break down fast, even faster then grains- blood sugar highs)
- **Amylopectin C**: found in starchy legumes (break down slow- why beans cause gas, bacteria in your intestines have a little party when they reach the digestive tract).

Amylopectin A digests very fast because of it's reaction with amylase in the mouth, so fast it begins digesting faster then table sugar! Which is why grains have a stronger effect than even table sugar on the blood sugar highs.

Why the complex carbs of whole health grains are even more dangerous then refined sugars:

We know now when we spike our blood sugar insulin is released to control the high and bring the body back to regular levels. We also know the constant spikes and insulin releases can begin a resistance in the body to insulin, which is diabetes. We are now armed with the knowledge that whole healthy grains can cause these spikes in blood sugars levels even more then table sugars. So the very thing that dieticians and doctors often encourage diabetics to eat more of (whole healthy grains) is helping to cause the disease. This is a sad state of affairs.

Only the beginning:

This is only the tip of the iceberg in problems caused by refined sugars and whole grains. But even this was more than enough for me to put them on the, what not to eat list of bad carbs. I hope you found this information enlightening and that you are on your way to true whole healthy eating habits.

To wrap up:

Good Carbs to Eat:

- Non- Starch Vegetables (You can eat sweet potatoes in moderation they consist of 16.4g of starches verses white potatoes 33.8g)
- Fruits

Bad Carbs to never eat:

- Refined Sugars
- Processed foods
- Whole grains
- Starch containing vegetables

Carbohydrate Calculator (for healthy daily carb intake)

Carbs - fiber in product = amount carbs you need to count in eating a product

It is that easy, your daily allotment should be no more then 50-100 carbs a day from sources other then non-starch veggies, which are freebies.

Until next time, enjoy the good life,
Woman on the Journey

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Resources:

http://ajpregu.physiology.org/content/295/5/R1370.abstract
https://www.diabetesdaily.com/blog/2014/09/white-sugar-vs-fruit-sugar-theres-a-big-difference/
http://healthyeating.sfgate.com/need-drink-water-4301.html