

Pastor's Corner – 7-27-2019– Things I have no business commenting on: Macro-nutrients

For today's installment of "Things I have no business commenting on" I want to comment on macro-nutrients. But before I do that let me toss out my standard disclaimer and a clarification. First the disclaimer: I am not a medical professional, please talk to an actual medical doctor (preferably *your* medical doctor) before taking the advice of any pastor, theologian, health guru or magazine article.

Now for the clarification. It seems that I may have been unclear in some of my earlier posts (or else people don't read very closely) because I keep having folks reach out to me by giving me articles or links to articles that promote plant based diets as a way to combat diabetes. It seems evident to me that some of the readers of this pastor's corner are under the mistaken assumption that I have been advocating a meat centric diet and they feel I need to be informed of the benefits of plants.

If you re-read the articles carefully you will see that I haven't weighed in on the vegetarian vs. meat eater debate. I've limited myself to talking about carbs and macro-nutrients. It is true that I have been advocating a lower carb approach to eating if you want to control diabetes and weight gain. However, it is entirely possible to eat a low-carb diet and still be a vegetarian. Remember, the goal here is to avoid spikes in blood sugar with lead to spikes in insulin which leads to insulin resistance which leads to diabetes. If you want to do a vegan, low-carb diet to control these things, have at it.

I did a bit of digging online this week and came across a clinical trial that is being conducted in the Marshall Islands. This study stood out to me because it is in some way connected with Adventists. They are using a modified version of our NEWSTART program to treat patients with diabetes. Results aren't in yet, but it seems that they are experiencing positive outcomes. Here's what's interesting, while the diet is largely plant based, they place limits on which plants are consumed. They remove all sugar and processed foods. They severely limit things like bread and other processed grains. They eat whole grains in moderation. They allowed as many veggies as people wanted and fruits that were low on the glycemic index, starches were also limited to those that have a low glycemic impact. Essentially the diet is doing the exact same thing I have proposed in my pastor's corners – eliminating simple carbs and limiting complex carbs. In the end folks are left eating things that have a much lower impact on blood sugar.

So, yeah, you can totally do this low-carb thing on a plant-based diet. However you approach it though, the mechanism seems to be the same. Control your blood sugar by avoiding foods that cause it to spike. I personally believe that the more you can restrict carbs the better results you will see, but who knows. Scientists are just now starting to look at this stuff seriously. Most doctors will still tell you that diabetes is permanent and progressive. What's the absolute best way to reverse it? Who knows.

Now we move to macro-nutrients, everyone's favorite topic!

There are only 3 macro-nutrients in the foods we eat. These are compounds our bodies can use to fuel our metabolism and build our cells. They are, carbohydrates, fat and protein. Two of these guys are essential (meaning we need to consume them from food because our body can't produce them) and two are used for energy.

The essential macros are fat and protein. Every cell in your body makes use of fat (and cholesterol). Our brains are mostly made of fat (so if someone says you have a fat head, they are technically accurate). Our muscles are built of protein. We do not, contrary to popular belief, need to consume carbohydrates to survive. We can function just fine without them, thank you very much.

The two macros that serve as fuel sources are carbohydrates and fat. Protein isn't really used to give you energy, it's used to build tissue. Think of protein as building materials whereas fat and carbohydrates fuel your engine.

When it comes to building up your muscle tissue you need ample protein to do the job. Since protein is the building material you simply can't build muscle without it. You don't really need a lot of protein if you aren't trying to get stronger. But for anyone trying to gain strength, you need protein to do it. Admittedly, building muscle is usually something that only a small portion of the population cares about. What is more relevant to all of us is energy (and energy storage).

For energy you have two options, carbohydrates and fat. Your body can use either one as a fuel source. Imagine a car engine that can run on both gasoline and diesel fuel. This particular car has a 5 gallon tank for gasoline and a 500 gallon tank for the diesel. This car will always use the gasoline first. It burns hot and fast and

gives you great acceleration. If you keep refilling that gas tank you can keep running on gas. However, if you find yourself on a lonely stretch of North Dakota highway and there's no gas station in sight and you run out of fuel – never fear! You've got a second tank.

Once you run out of gasoline you can switch over to the diesel tank and that baby is filled to the tippy top. You won't have the same power output that you had on gasoline, but the diesel is a slow burning, endurance kind of fuel. You can go a loooooong ways burning diesel.

Ok, so back to the human body. Carbohydrates are gasoline and fat is your diesel fuel. You store carbs in the form of glycogen in muscles and cells, but there is a limited capacity. If you fast for a couple days or run a marathon you will tap out those glycogen stores and you'll run out of gas. By contrast, fat has an almost limitless amount of stored energy when compared to glycogen. 1 pound of fat contains about 3500 calories worth of energy, enough to fuel you for a couple of days. And even the leanest among us have many pounds of fat hanging around, waiting to be used.

As with the car analogy above, so it is with our bodies. We don't start to tap into our fat reserves until we use up our glucose. Once we shift from burning glucose to burning fat our body begins to produce these things called ketones. Ketones are produced by your liver when it breaks down fat. These ketones are then used as fuel by your cells. This is your body's way of shifting gas tanks.

It's important to clarify something at this point. Nutritional ketosis is a naturally occurring state that our body goes into when we are restricting carbs or severely restricting calories. It's really a survival mechanism that allows us to stay alive during times of famine. At the end of Jesus' 40 day fast in the wilderness, he was in dietary ketosis. Dietary ketosis should not be confused with diabetic ketoacidosis. Diabetic ketoacidosis is bad – like really bad – like potentially fatal, bad. It is most common in people with type 1 diabetes though people with type 2 can experience it as well. If you are concerned about DKA – talk to your doctor! The point is that diabetic ketoacidosis and nutritional ketosis aren't the same thing but make sure to let your doctor walk you through the differences.

Let's wrap this up shall we? Fat and carbs serve as fuel. If you restrict carbs and calories your body will start metabolizing fat. You will also have a lower insulin response (because, again, fewer carbs = lower blood sugar). This is why many people are trying the ketogenic diet. It seems to be an effective way to fight metabolic syndrome as well as weight gain. In fact, phase 1 of the Profile diet by Sanford is intended to be a ketogenic diet (Google "profile by Sanford keto" to read more). If other diets haven't worked, maybe look into giving it a try. And remember – you can do it plant based if you want. There are several plants that are low carb and high fat. If you want to do it vegetarian but not vegan, even easier. It's up to you.

Blessings,
Pastor Tyler