

Obesity & the Fructose Belly

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Obesity Epidemic

30% (One out of three) children in America is obese or overweight. Among African-American and Hispanic children it is even higher – 40% - almost half. Obesity rates have tripled in the last three decades.

There are about 60 medical causes of obesity – none of them explains the current obesity epidemic. Our genetics have not changed in the last century but the environment has changed dramatically.

If we eat more than we burn in exercise we will store the extra as fat. While this principle is true it doesn't explain the massive epidemic of obesity we see today. Every nation around the world that has adopted our diet is experiencing a similar epidemic of obesity. This principle implies that everyone who is over weight is a glutton and a sloth. While it is true that food is more available and higher in calories and we eat more of it than in our past history and we live a more sedentary lifestyle when you look at the numbers carefully this is not enough to explain what we are seeing today. It is not just a matter of eating too much and not exercising – it is what we are eating that is the real problem.

Is There Something Insidious And Poisonous In Our Environment That Is Causing Obesity?

Is it all of the high fat foods in our diet? The answer is no. Over the last 40 years the percentage of fat in the American diet has not gone up it has actually gone down a little bit – while at the same time obesity has been going way up.

So what has been going up? The amount of sugar and high fructose corn syrup has gone way up and parallels the rise of obesity. The average American consumes 63 lbs. of high fructose corn syrup per year in addition to all of the regular sugar in the diet. Total combined sugar intake per year in the U.S. is 130 lbs./person!

And it is getting worse: children are consuming more sugar per day than adults.

High fructose corn syrup is a 50/50 mixture of about one half glucose and one half fructose. By the way, what is regular white cane sugar also known as sucrose? It is a 50/50 mixture of one half glucose and one half fructose. One molecule of fructose and one of glucose are joined together by a chemical bond to make sucrose and in less than a nanosecond after coming in contact with our digestive enzymes this bond is broken and we have glucose and fructose – same as high fructose corn syrup. Inside of the human body **there is no difference between sugar and high fructose corn syrup – they are the same!** And they both are very harmful in the amounts we eat - because of the high amount of fructose in them.

It's The Fructose . . .

The glucose is no problem compared to the fructose. Fructose is a different molecule and is handled by the body in totally different ways and has totally different effects.

Sugar can become attached to protein molecules in our body and when it does the proteins become nonfunctional and worse they become targets for the body's immune system and the resulting inflammatory response is the underlying cause of arteriosclerosis – heart attacks and strokes. These are called advanced glycation end products (AGEs). And guess what? Fructose is **7 times more likely** than glucose to form these AGEs! And so it is the most potent cause heart attacks and strokes, which are the number one cause of death.

Ghrelin is a hormone released from the cells that line the stomach when it is empty. Ghrelin goes to the brain and stimulates the appetite centers. Ghrelin says, "I'm hungry, lets eat!" Eating food suppresses ghrelin and then we aren't hungry anymore. **Fructose does not**

suppress ghrelin – so we can load up on fructose and we are still just as hungry as before we ate.

Leptin is another hormone that has the opposite effect as ghrelin on the brain – Leptin says, “we’ve had enough food – you can stop eating now.” **Fructose lowers leptin levels in the blood** – and thus the normal suppression of the appetite center does not take place – so we remain hungry.

But the most serious issue relating to our massive excess fructose intake has to do with how fructose is metabolized in the liver.

What The Liver Does With Glucose:

Glucose is the energy of life – it is the carbohydrate found in bread, rice, and potatoes. It is the fuel we were meant to run on. When you eat these carbohydrates – 80% spread out through the body and are used directly by the muscles, brain and other organs for energy – only about 20% of the glucose goes to the liver where it is metabolized and made into glycogen (glycogen is the safe clean way to store energy). All these are good very good things.

What The Liver Does With Alcohol:

Alcohol (ethanol) as found in beer, wine or hard liquor is a poison that does a lot of bad things to the brain and acute alcohol toxicity is the cause of a great amount of evil and misery in the world. But alcohol is also a slow poison because of how it is metabolized in the liver resulting in much disease. Alcohol is also a carbohydrate – but it cannot be metabolized like glucose and it cannot be made into glycogen in the liver. Instead it is processed by the mitochondria and made into fat – which is stored in the liver as little droplets of fat inside the cells – this is what we call fatty liver. Fatty liver is not normal; it is a disease state that is a sign of a dysfunctional liver. This fat is also made into VLDL and transported through the blood to the fat cells where it can be stored as fat.

Lots of beer equals lots of fat equals the “beer belly” – that central obesity that is so characteristic of one with a regular daily intake of beer.

What The Liver Does With Fructose:

The liver cells are the only cells in the body that can metabolize fructose – no other cells can handle this toxic sugar. So the liver must metabolize 100% of the fructose we take in. How is it metabolized? – Exactly the same way as alcohol. It is made into droplets of fat resulting in a fatty liver and transported as VLDL to the rest of the body to be stored as fat – resulting in a “fructose belly” which is the same as the “beer belly”.

Fructose produces the things we refer to as the metabolic syndrome: obesity, hypertension, heart disease, type 2 diabetes and arthritis. Fructose produces inflammatory substances increasing the overall inflammatory state of the body. **Our obesity epidemic today is a result of a fructose epidemic, a sugar epidemic.**

What About Fruit?

Doesn't fruit have fructose in it? Yes – that is why fruit is sweet. But when God puts something toxic in the food he always packages the antidote with it – so that it is rendered harmless when we eat it. What is the antidote to fructose? – Fiber! Everywhere you find fructose you will find fiber. **The more fructose – the more fiber.** Consider sugar cane – very high in fructose and very high in fiber – have you ever tried to eat sugar cane? How much can you eat? How much watermelon can you eat?

Fiber reduces the rate of carbohydrate absorption from the intestines, it makes us feel full and satisfied with our meal sooner, it reduces fat absorption as well – All these are anti-obesity measures. The fiber content of a fruit is directly proportional the fructose content of the fruit – basically it means that you can't get too much fructose from fruit – it is all counteracted by the fiber content of the fruit. You have to take it to a factory and remove all the fiber and make it into refined sugar – then we create all the problems caused by fructose.

The Sugar Has Got To Go

Exercise is good and it makes the body healthy – but **you cannot out exercise a bad diet**. The sugar has got to be eliminated if you want to lose weight. Eating fruits and vegetables is good for you – but unless you also cut out sugar **you cannot lose weight by adding more fruits and vegetables to the diet**. Bottom line: you have to eliminate refined sugar and high fructose corn syrup from the diet.

Sugar Addiction

When researchers examined the direct effects of sugar on the brain using specialized brain scans it was discovered that **sugar is as addictive as cocaine**. And we have all become addicted to it.

But we can be a new creation in Christ Jesus – He overcame the temptation on appetite in our behalf. And He invites us to follow Him. He rose from the tomb and said, “All power is given unto Me in heaven and in earth.” And this resurrection power is to be infused into us to live a victorious life. He is “able to keep us from falling.” But (as symbolized in baptism) the rising to this new victorious life of power is preceded by death. This sugar addicted “old man” the “flesh” “wherein dwelleth no good thing” must be crucified, put to death – Paul said, “I die daily.”

Jesus said, “If anyone wants to follow me, let him deny himself, and take up his cross daily, and follow me.” He led the way and will be with you every step of the way. You can eat a clean diet of the fruits, grains and vegetables as given to us in Eden. You don’t have to add 130 lbs. of refined sugar and high fructose corn syrup to it. Eating clean is not a punishment - it is a reward. Freedom from the adverse effects of this toxic food additive is one of the greatest gifts God offers to this present diseased generation.