

## What's Making Us Flabby and Sick? ... Sugar and Alcohol

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summertime and we are lť's all enjoying outdoor barbecues, concerts, vacations, family and friend gettogethers at the beach - wonderful!! it really? Well, of course, the ls socialization part is always nice, but what about the food, the alcohol, the SUGAR? In trying to understand the rising global crisis in obesity and scientists obesity-related diseases, have discovered that a calorie is not just a calorie! It's the source of the calories you consume that makes all of the difference. The increase in total fats and carbohydrates is what's causing the huge weight gain in people worldwide. Actually, there's only one food that is metabolized as both fat and carbohydrate... it's sugar. Sugar is actually the only calorie source that correlates with the worldwide increase in diabetes. In 1985, worldwide sugar consumption was 98 million tons and diabetes affected 30 million people. In 2010, sugar consumption had risen to 160 million tons, and globally, diabetes affected 346 million people!

The reason that sugar is metabolized in the human body as fat and carbohydrate is that it contains both glucose and fructose. Our bodies process these two sugars differently. Glucose is the form of energy that all cells use, and it is metabolized in every organ of the body. About 20% of glucose is metabolized in the liver. On the other hand, fructose can only be metabolized by the liver because it is the only organ that can transport it. So, the typical "standard American diet," which contains high amounts of fructose, taxes and damages the liver in the same way that alcohol, medications and toxins do. Alcohol and fructose are both metabolized into fat. not energy.

Let's look more closely at exactly how our bodies metabolize glucose, fructose and alcohol. Glucose is found in rice, corn and other grains. If we eat a meal with one of these foods, 80% of it is used by all the organs of your body, while 20% goes to your liver to be metabolized. That 20% gets stored as glycogen in the liver to be used later for energy. So, if we eat a meal containing 120 calories of glucose, less than 1 calorie is detrimental to our bodies. However, if we eat a meal containing any fructose, 100% of the fructose goes directly to our liver. The damaging effects include: elevated uric acid levels (gout), hypertension, hyperlipidemia, insulin resistance, nonalcoholic fatty liver disease and even type 2 diabetes. So, if we eat a meal containing 120 calories of fructose, approximately 40 calories are detrimental to our bodies. Lastly, let's look at what happens after consuming an alcoholic beverage. The first 10% of the ethanol is broken down by your stomach and intestines, and another 10% is metabolized by your brain and other organs, creating that familiar "buzz." The remaining 80% is broken down by your liver and causes the following harmful effects: free radicals that damage proteins in the liver, elevated triglycerides, liver inflammation and cirrhosis, fatty liver disease and type 2 diabetes. So, when we consume 120 calories of alcohol (ethanol), approximately 40 calories are detrimental to our bodies.

Hopefully, this article doesn't put too much of a damper on your summer fun. It's meant only to show all of us that sugar and alcohol in "moderation" can be tolerated by the human body. I suppose we all have to decide what "moderation" means to us. There's more to summer fun than food and alcohol, as we said before; it's about family, friends, vacations, and most of all, just being together!

