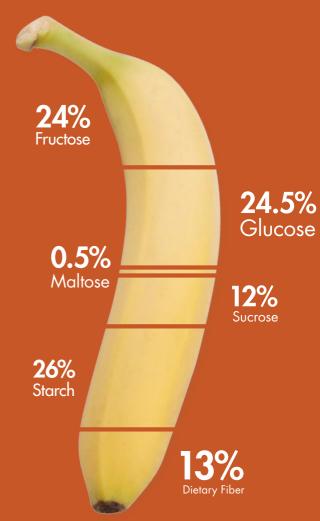
### THE REAL DEAL ON

# Sugar



## Sugar & Carbs Breakdown in a Banana

A medium-sized banana is about  $7\frac{1}{2}$  inches, and weighs about 118g. This is a rough breakdown of the 27g of carbohydrates in there.



Nutrition	Amount/serving	%DV	Amount/serving	%DV
Facts	Total Fat 0g	0%	Total Carb. 27g	10%
1 serving per container	Sat. Fat 0g Trans Fat 0g	0%	Dietary Fiber 3g Total Sugars 14g	11%
Serving Size 118g	Cholesterol Omg Sodium Omg	0% 0%	Incl. 0g Added Sugars Protein 3g	0%
Calories per serving 110	Vitamin D 0% •	Calcium		ım 8%



#### **USING SUGAR TO YOUR ADVANTAGE**

During exercise, your body uses up some or all of its stored sugar, called glycogen, which is held in your muscles. This is the first place that your body looks for energy. After exercise, your body must replace that stored energy – the quicker, the better – in order to maintain an anabolic (muscle-saving) state.

One of the fastest ways to get the sugars and protein that your body needs is to drink a Recovery Shake within 30 minutes of completing exercise because your body breaks down liquids faster than solid foods. Getting the right nutritional balance (read: macros) after exercise restores energy levels, reduces fatigue and helps your body repair tissue. The ratios of those macros can vary depending on the type of exercise that you've done (aerobic vs. anaerobic), time of day and your personal metabolism. As a general rule, we suggest replacing all of the calories that you've just burned during exercise and that you ingest 3 parts carbohydrates to 1 part protein.

Remember, that typically, you should be eating natural minimally-processed carbs during the day, but post-exercise it is ok to have fast-absorbing carbs like sugar. It will help you recover faster, repair your body and positively affect your energy levels.





harmful spikes in insulin levels.
Fructose is frequently an added sugar in processed foods – think high-fructose corn syrup – but the natural stuff in fruit actually occurs at relatively low levels and is processed differently because of the pulp and fiber in which it's held.

Sucrose – Sucrose, as we mentioned, is made up of glucose and fructose. Your body must break down sucrose before it can be used. Sucrose found in processed foods usually come from sugar cane or sugar beets. The presence of glucose increases absorption of fructose, frequently causing some of the fructose to be stored as fat. Since you probably don't want that, it is best to limit your intake of foods with added sucrose!

Lactose – Lactose is also a disaccharide and is found primarily in dairy products – milk, yogurt, cream, butter, ice cream and cheese, etc. Lactose is broken down in the small intestine, by the enzyme lactase, into galactose and glucose. If your body does not produce enough lactase, an enzyme used for Lactose digestion, then digestion distress may occur and you may become lactose Intolerant. Consuming lactase with foods that contain lactose is a simple solution!

There are many other sugar molecules, but these are the most common. As you learn more about sugar, you'll likely find that sugar is not the enemy, and like most things, has an appropriate time, place and quantity in your diet.

#### There has been a lot of confusion about sugar over the past decade and its impact on your health and fitness. Our goal is to help make sense of it all!

Human bodies need sugar. Sugar is a part of our DNA and helps power our cells. It is also an integral part of how we store energy which we later convert back into fuel.

Sugars are naturally occurring in most foods that we eat but are obviously added for taste and nutritional benefit in many forms. Processed and refined foods typically contain more sugar than natural, whole foods. Also, processed foods are broken down quicker in your digestive system and turn into sugar faster than whole foods. So, even foods that contain little to no sugar – like pretzels and chips – can affect blood sugar levels faster than fruits that naturally contain sugar!

#### Sugar - The Basics

Most of us think of "sugar" as the granulated white stuff we put in coffee or the stuff that they use to powder donuts. But sugar describes a bunch of molecules (saccharides) that are similar in structure and have basically similar effects on the body. These molecules include Fructose, Glucose, Sucrose, Lactose, Galactose, Dextrose, Maltose, etc. Although they are all sugar, they are different chemically, and not all metabolized the same way by your body. Here's some of the basics with the four main sugars – Sucrose, Glucose, Lactose and Fructose – that are most often in our daily diets. These sugars all contain 4 calories per gram, but understanding little differences in these sugars can make big differences to you!

#### **Molecular Categories**

Monosaccharide and disaccharides are digested and absorbed differently in your body. Monosaccharides are already in their simplest form and are easily digested, absorbed immediately in your bloodstream through your small intestine (duodenum). Disaccharides need to be broken down into their monosaccharide components before those components can be utilized by the body. Even then, the monosaccharides are treated differently.

#### Monosaccharides – 1 Molecule

- Fructose
- Glucose

#### Disaccharides – 2 Monosaccharide Molecules

- Sucrose (table sugar)
- Lactose

Glucose – Glucose comprises 50% of table sugar, is absorbed faster than any other sugar, and is the main source of energy in your body's cells. Sports drinks use glucose or disaccharides that contain glucose, like dextrin, for this reason. It is widely believed that fast absorption is necessary for peak athletic performance and recovery.

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Fructose – Fructose is the other 50% of table sugar and needs to be converted to glucose before your body can use it. The liver is where this conversion takes place. Unlike glucose, fructose causes a low rise in blood sugar levels which lessens potentially

