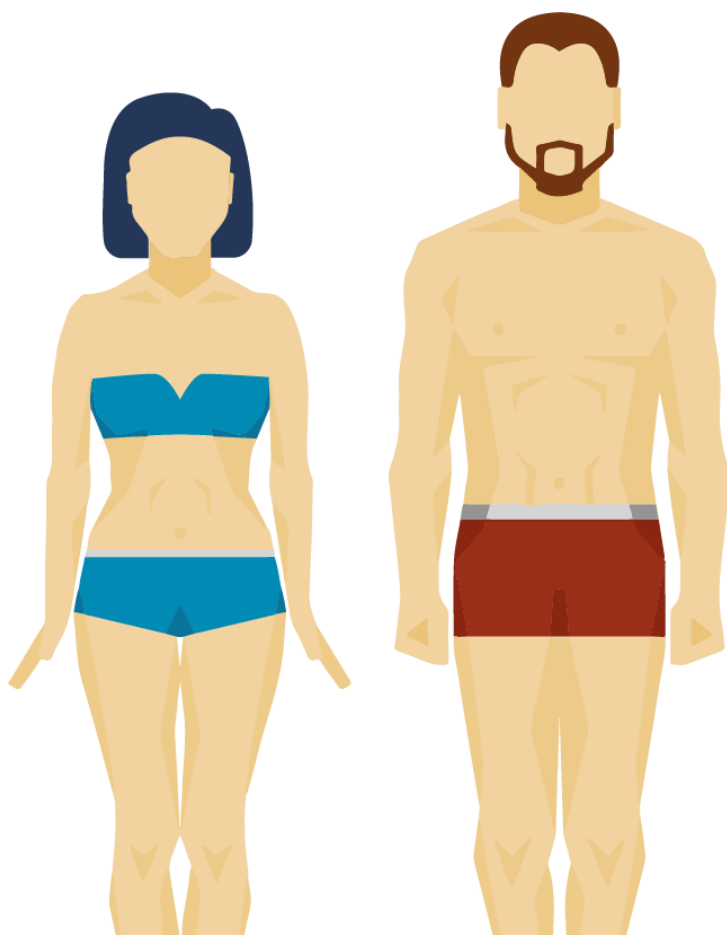


WHAT ARE CARBOHYDRATES?

Frequently misjudged, misunderstood and blamed for all things that fail in weight loss, Carbohydrates are extremely important to cellular function. A proper understanding of their structure and function is essential to success in your nutrition goals. It is required for all my clients to understand how they work and what role they play so that we maximize our intake. Let's take a basic look at their structure and function, then an overview of the Glycemic Index and lastly Daily requirements.

Dr. Kent Bazard
Sports Physician
Sport Performance Trainer
Sports Nutrition Coach

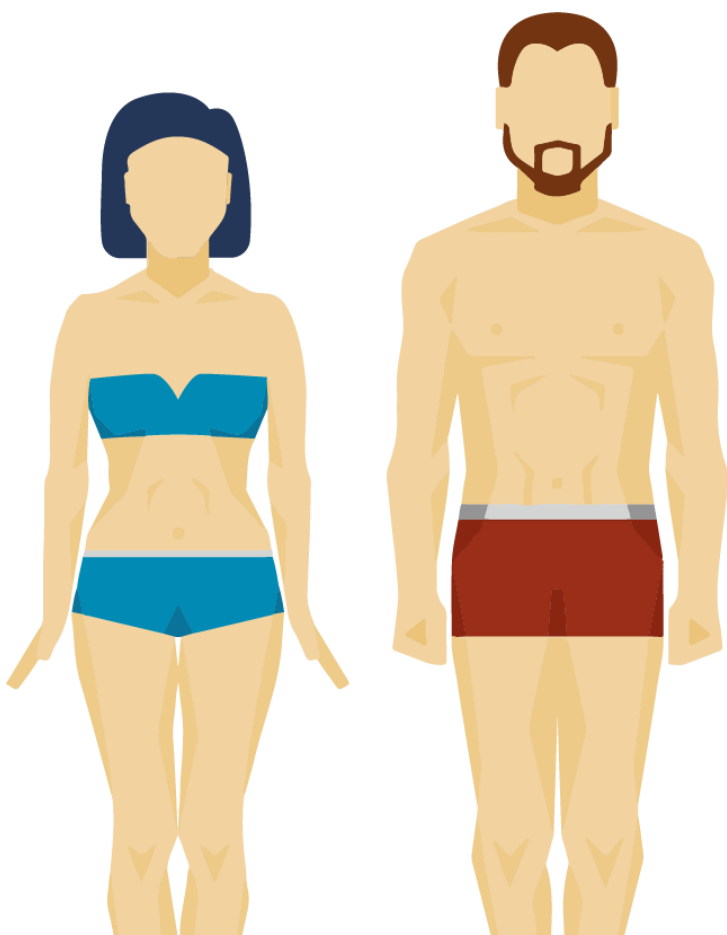


WHAT ARE CARBOHYDRATES?

Carbohydrates are a major macronutrient and the primary source of energy for the body and brain. In terms of structure, there are two types of carbohydrates: **SIMPLE & COMPLEX**.

They are called carbohydrates because, at the chemical level, they contain carbon, hydrogen and oxygen.

Unlike essential amino acids and fatty acids, there are no essential carbohydrates. This means we can obtain everything we need nutritionally from other food sources, so carbs are not necessary to maintain life.



SIMPLE CARBOHYDRATES

These are the smallest and simplest type of carbohydrates, known as mono- and disaccharides, meaning and they contain only one or two subunits of sugar. These type of carbs are quickly absorbed in the small intestine, resulting in a spike in blood sugar and a boost of energy.

Common sources:



Sugar and syrups



Candy



Cereals

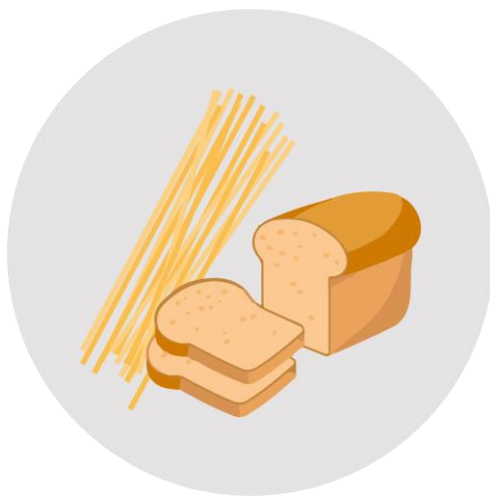


Sodas

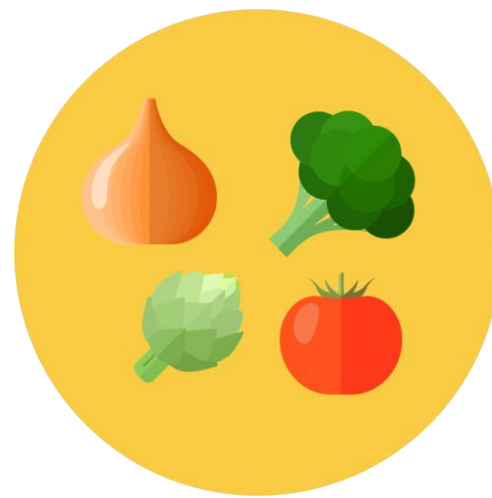
COMPLEX CARBOHYDRATES

Complex carbohydrates, are called polysaccharides since they have more than two subunits of sugar linked together. These types of carbs take longer for the body to be broken down. The slower digestion means that there is no rapid spike in blood sugar, and the energy release is prolonged.

Common sources:



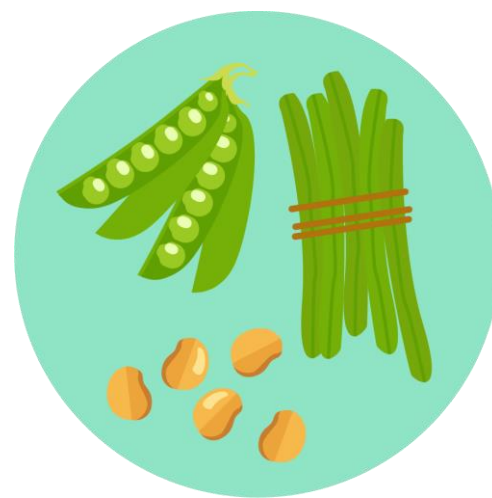
Whole grain bread & pasta



Vegetable



Fruits



Legumes

THE GLYCEMIC INDEX

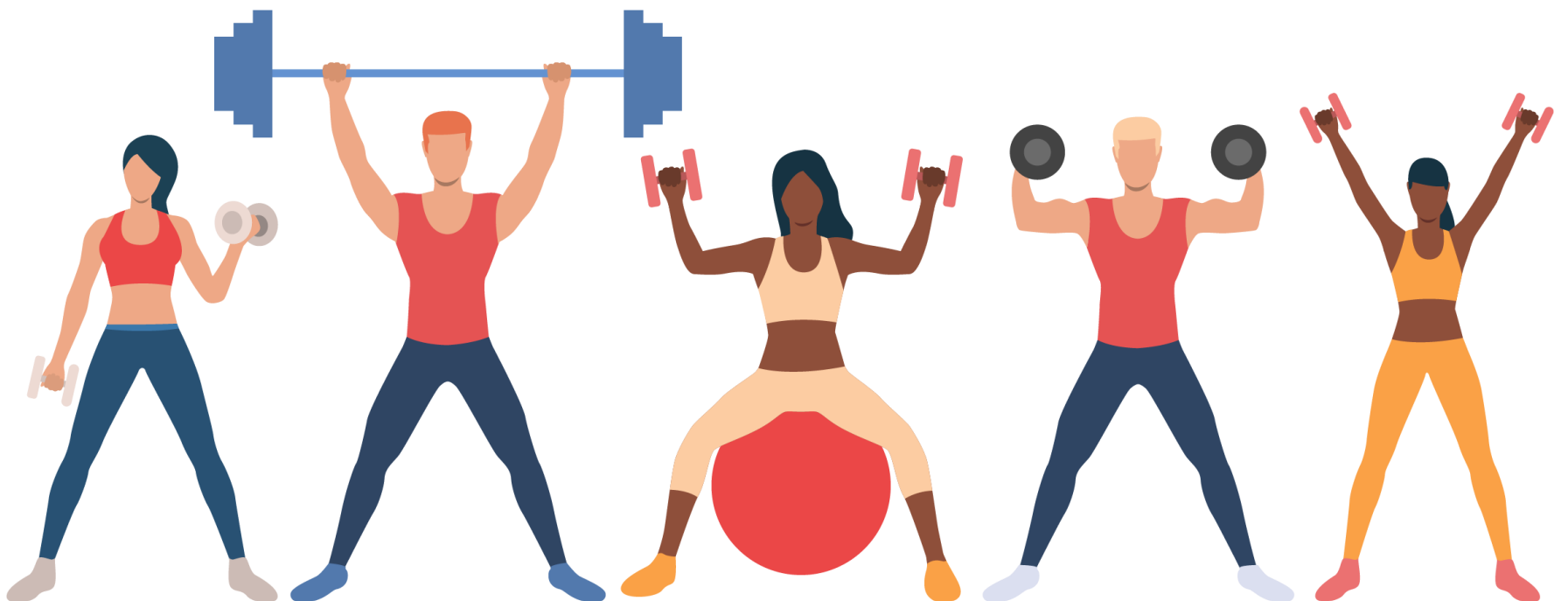
The glycemic index or GI is a popular concept used to determine the effect of certain carbohydrates on blood sugar levels in the body. It, therefore, represents the metabolic response of the body to the carbohydrates we eat and is classified into 3 groups:

Low GI foods = <55 GI value

Medium GI foods = 56 – 69 GI value

High GI foods = 70 or greater

Foods that have a low GI do not raise blood glucose levels as much, nor as fast as foods that have a high GI.



THE GLYCEMIC LOAD

The glycemic load or GL was introduced to represent the glycemic index and the carbohydrate content in a serving of carbs, thus representing the quality and quantity.

Therefore foods with a higher amount of protein, fat or acidity, will help blunt the glucose response, improving blood sugar levels.

Low GL = <10

Medium GL = 11-19

High GL = >20



THE GLYCEMIC INDEX & GLYCEMIC LOAD

Below is a table that shows some of the common foods that their respective glycemic index and load:

Glycemic Indices & Glycemic Loads of Common Foods

FOOD	GLYCEMIC INDEX	GLYCEMIC LOAD*
White Bread	72	10
Whole Wheat Bread	72	8
Baked Potato	111	33
Sweet Potato	61	11
Carrots	35	2
Honey	69	15
Watermelon	72	4
Banana	62	16
Grapes	59	11
Apples	39	6
Cranberry Juice cocktail	68	24
Yogurt (low fat)	27	9
Skim Milk	32	4
Whole Milk	41	5

THE ROLE OF CARBOHYDRATES

Although not essential in the diet, carbohydrates can have some critical functions to play:

1. The primary source of energy for the body and brain
2. Protein sparing and prevents ketosis
3. Facilitates the body's metabolism of fat
4. Source of B vitamins for cholesterol metabolism

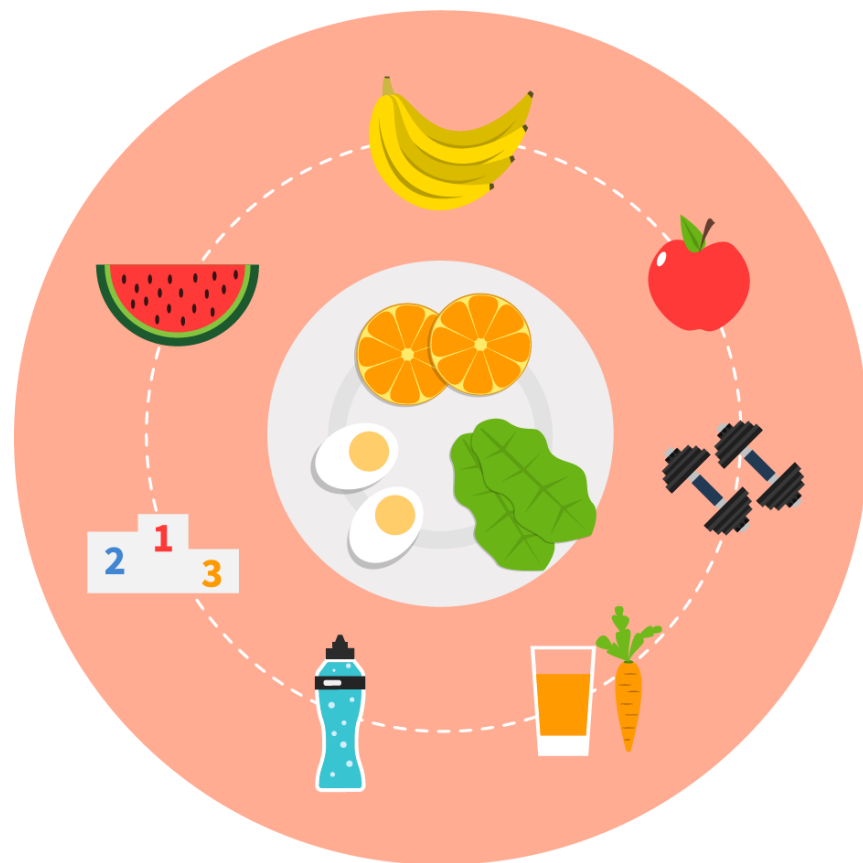
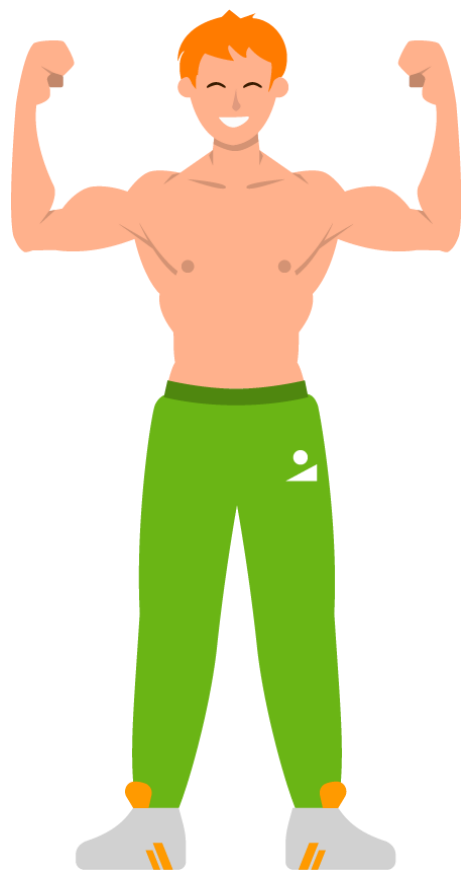


CARBOHYDRATE REQUIREMENTS

There's no precise definition of exactly how many carbs should make up someone's diet, as what might be right for one person may not be for the next. An individual's optimal intake depends on age, gender, body composition, activity levels, personal preference, food culture and current metabolic health.

People who are physically active and have more muscle mass can tolerate a lot more carbohydrates than those who are sedentary.

Metabolic health is also a significant factor, as, for those with metabolic syndrome, obesity or type II diabetes, the rules change significantly.



CARBOHYDRATE REQUIREMENTS FOR FAT LOSS

High Carb Diet – 200g+ per day

Some people do very well on a higher carb diet, eating even up to 300-400g per day while still losing body fat. Most are not so lucky, and those who can, usually follow into the same category – young, lean, active lifestyle and metabolically efficient.

Moderate Carb Diet – 100-200g per day

This is a very common daily carb range for the majority of active and healthy people looking to lose body fat. This still allows for some starch in the diet, yet limits the amount quite significantly.

Low Carb Diet – <100g per day

This can be described as a ketogenic diet – one in which no starchy carbs (or very little) are consumed daily. This is when the body is forced to use fat for energy.

