

carbohydrates



Your body's best
source of energy!

What Have You Heard?

- You should eliminate all sugar from your diet
- Sugar makes you fat
- White table sugar is the worst form of sugar
- Sugar is addictive
- Sugar causes hyperactivity
- Artificial sweeteners are better for you than sugar
- Sugar will rot your teeth
- You'll shoot your eye out... ha ha...



Types of Carbohydrate

Simple Carbohydrates (sugars)

- Monosaccharides – simple sugars consisting of a single unit. E.g. glucose, fructose and galactose
- Disaccharides – molecules of 2 simple sugars linked together. E.g. sucrose, maltose, and lactose

Types of Carbohydrate

Complex Carbohydrates



- Starches
(chains of 3 to several thousand simple carbohydrates - polysaccharides)



- Fibre
(non-digestible chains of simple carbohydrates)

Breads, cereal, rice, pasta, vegetables are all sources of complex carbohydrates.

Types of Carbohydrate

- More about Fibre:
- Fibre is found in the cell walls of plants, in the outer layer of whole grains and in the skin of fruits and vegetables.
- We do not digest fibre, so it does not provide us with energy, however there are many important benefits.
- Insoluble fibre regulates digestion, keeps you feeling full for longer, and soluble fibre reduces the risk of heart disease and cancer, and lowers cholesterol and controls blood glucose levels
- Don't be a "fibrist", as the commercial says: Fibre is our friend! Teen males need 38 g/day, teen females need 26 g/day.

Functions of Carbohydrates

Carbohydrates are needed for energy!

Carbohydrates are the "premium gasoline for your body".

Our bodies are designed to run on glucose (the simplest sugar).

One gram of carbohydrates has 4 calories.



Functions of Carbohydrates

Sparing Proteins:

Carbohydrates allow protein to do its job!

If you don't have enough carbohydrates, your body will use protein for energy, but this is not easy on the body.

Eating enough carbohydrates allows protein to perform its more important roles.

Functions of Carbohydrates

Carbohydrates
break down fats
so that they can
be stored and
used in the body.

Carbohydrates
provide bulk in the
diet, (fibre) which
promotes normal
digestion and
keeps you feeling
full longer!

More Functions of Carbohydrates

- Carbohydrates provide nutrients for the bacteria in your intestinal tract that help you digest food.
- Carbohydrates assist your body's absorption of calcium

Carbohydrates in the Body

Simple carbohydrates and starches get broken down for the cells to use for energy.

Insulin (a blood-sugar regulating hormone) is released to normalize blood sugar levels.

If cells need energy, the glucose goes directly to them. If no energy is needed, glucose is converted to glycogen and stored in the muscles.

If you eat more carbohydrates than the body can convert into glycogen, then the liver converts them into fat.

Meet Your Carbohydrate Needs

45-65% of your daily energy should come from carbohydrates.

Emphasis should be placed on **complex carbohydrates** for their added fibre, vitamin and mineral benefits.

It is easy to meet our needs for simple carbohydrates, since they appear in almost all processed foods.

Limit your intake of refined sugars, which are high in calories and low in other nutrients.

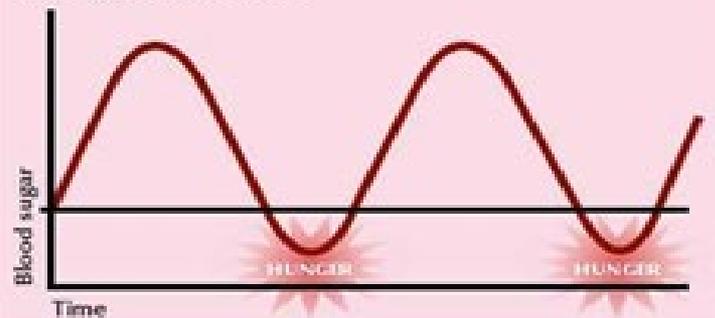
Have You Heard of the Glycemic Index?

- The glycemic index refers to how quickly or slowly the body digests a food, which in turn, affects your blood sugar levels.
- It is best to choose foods with a low GI (54 and below), because the blood sugar levels will remain more constant.
- Foods high in complex carbohydrates, protein and fibre are digested slowly are low GI foods.

Blood Sugar Levels

YOUR HEALTH AND THE GLYCEMIC INDEX

High-glycemic chart



RELEASE ENERGY QUICKLY

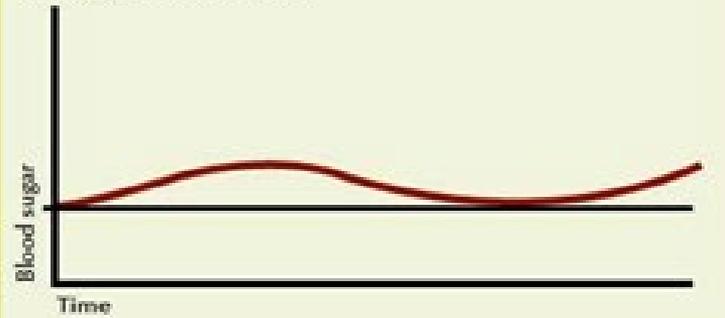


FEEL HUNGRY SOONER



EAT MORE

Low-glycemic chart



RELEASE ENERGY SLOWLY



FEEL FULL LONGER

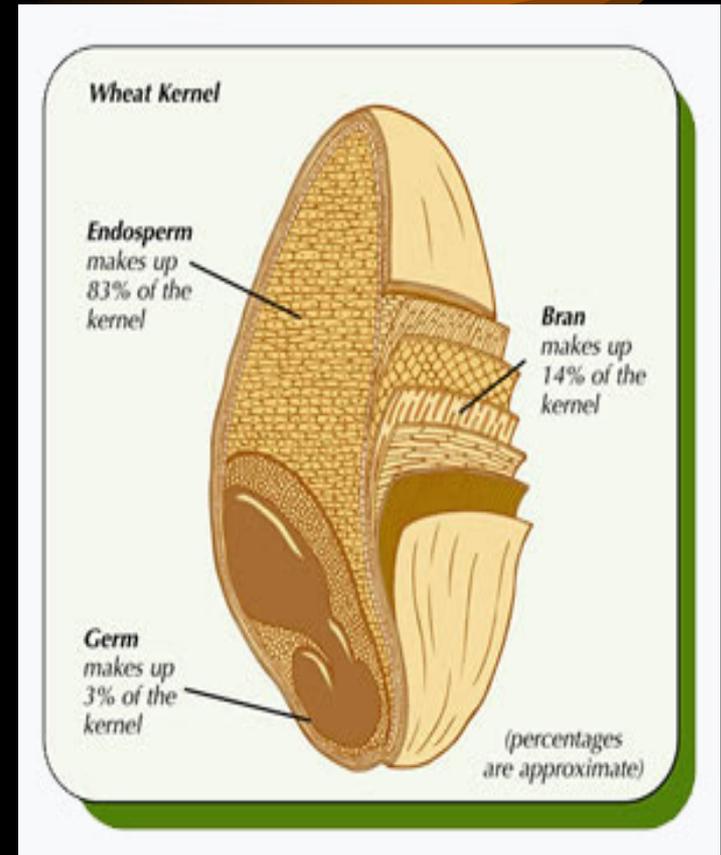


EAT LESS

YOU CAN RESET YOUR EATING HABITS...

The Value of Whole Grains

- Whole grains should be emphasized over refined grains because “the sum is greater than the parts!”
- The whole grain consists of the germ, the bran and the endosperm, which are excellent sources of healthy fats, vitamins, minerals, carbohydrates, fibre and protein.
- The problem with refined grains, is that manufacturers take all the good parts out, and then “enrich” the refined product with petroleum-based vitamins and minerals.



Hints For Healthier Eating

- Moderation is the key.
- Learn to spot sugar's aliases on food labels: dextrose, fructose, maltose, malt syrup, sucrose and corn syrup all mean sugar. Watch out if these are among the first 3 ingredients!
- Buy breakfast cereals with 8 grams of sugar or less per serving. And don't add sugar to your cereal!

More Hints For Healthier Eating

- Consider pop to be a treat, and opt for water, skim milk, 100% fruit juice or club soda flavoured with lemon or lime more often.
- Choose fresh fruit over canned fruit packed in syrup.
- When baking, cut the amount of sugar you use by a quarter or even a third.
- Check the labels of “low fat” or “fat free” foods – they may have as much or more sugar than the full fat version!

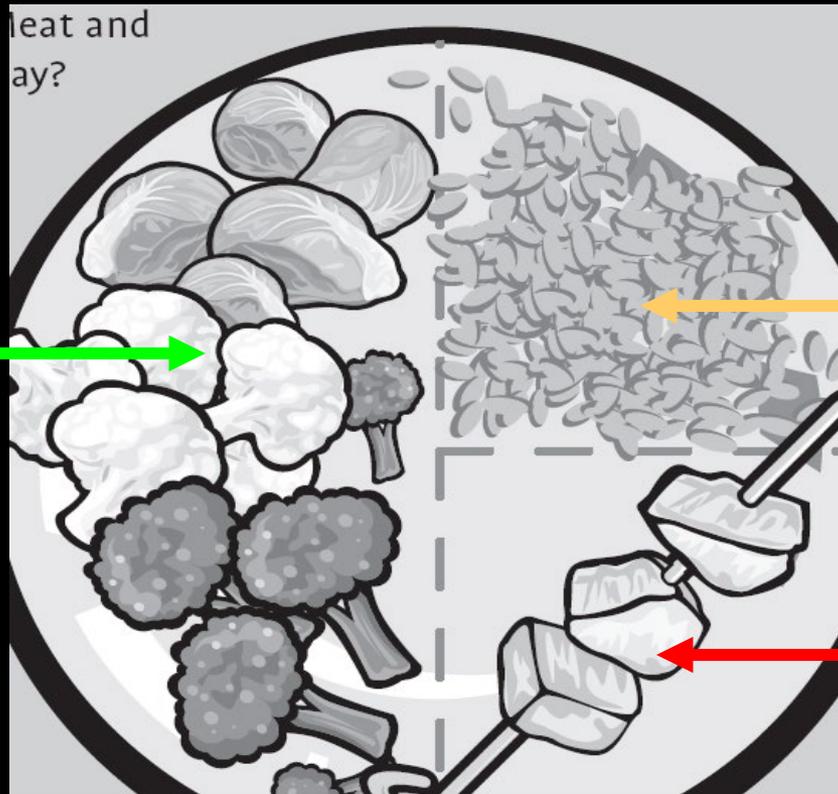
What About Artificial Sweeteners?

- Artificial sweeteners make food sweeter but don't contain any real food energy (calories) due to the body's inability to absorb them.
- They generally do not affect blood glucose levels, and because they are "calorie-free" many people choose to use products that contain them.
- Examples include aspartame, sucralose, acesulfame-K, sugar alcohols, saccharin and cyclamate.
- Studies have been performed to determine the safety of each of these sweeteners, however adverse reactions have been found in many people.
- In general, it is best to choose natural foods made from natural products.
- In general, people who consume "diet" products made from artificial sweeteners are no slimmer than people who do not, because artificial sweeteners do not hit the body's trigger that signals sugar craving satisfaction.

A Guide For Meal Planning

This is your dinner plate

50%
vegetables



25%
whole
grain

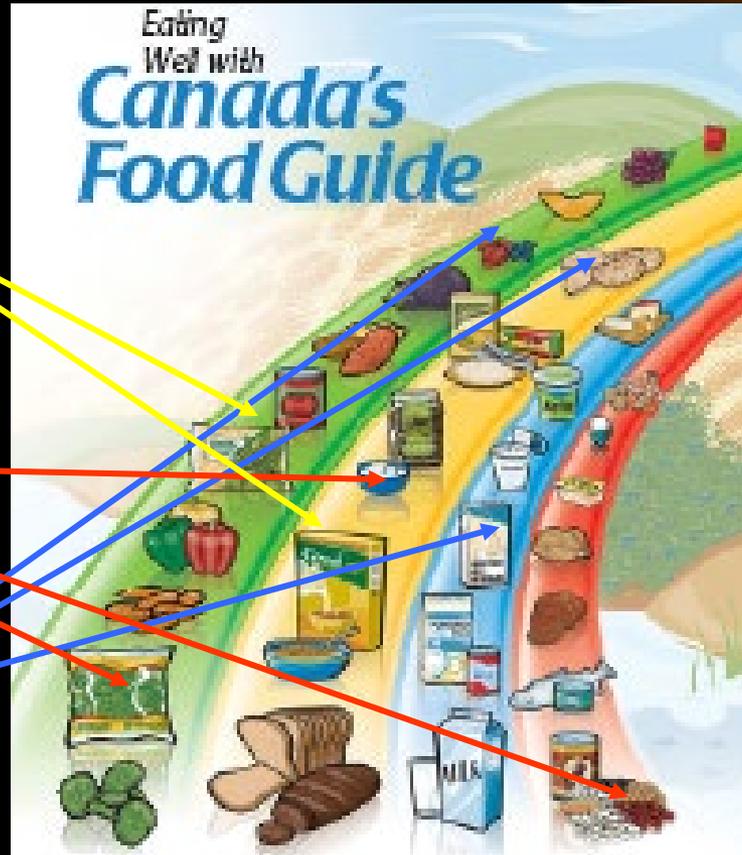
25% protein
source

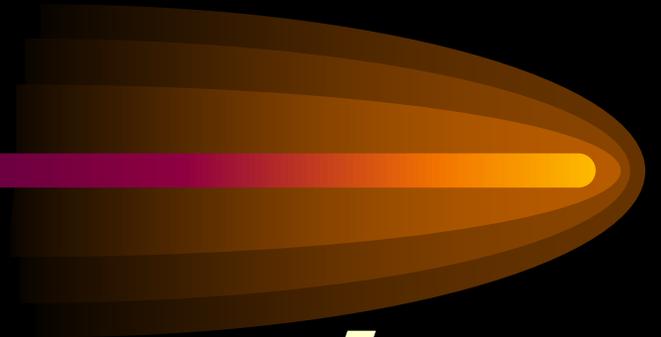
Carbohydrates in Canada's Food Guide

Complex Carbohydrates

Fibre

Simple Carbohydrates





The End