Understanding Carbohydrates

Carbohydrates are the most misunderstood macronutrient and this is largely because of the modern preparation of food and preference of taste. But this is far from the truth. Carbohydrates are needed by almost every cell for its metabolic functions. And so the harm that it brings highly depends on the type you consume.

**Unprocessed or minimally-processed** carbohydrates
- Naturally rich in fiber, which keeps us fuller for longer
- Good source of vitamins and minerals
- They are burned slowly and allow a steady release of energy
- Should occupy the center of your plate. Excellent choice!

**Highly-processed** carbohydrates
- Digested and absorbed more quickly cause spike in blood sugar levels
- Often have added preservatives to lengthen shelf life
- Little or no vitamins, minerals, or fiber
- Should be Avoided!

How do you classify food processing?

<table>
<thead>
<tr>
<th>Whole or Minimally-processed</th>
<th>Moderately-processed</th>
<th>Highly-processed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CORN on the cob</strong>, plain and simple, is unprocessed.</td>
<td><strong>Polenta</strong> is made from cornmeal and water.</td>
<td><strong>Frosted Flakes</strong> should be self-explanatory here.</td>
</tr>
</tbody>
</table>

<p>| Corn off the cob is essentially unprocessed as well. | <strong>Roti and tortillas</strong> are primarily made of corn or tubers. | <strong>Tortilla chips</strong> are very high in fat and salt. |</p>
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<td><strong>POTATOES</strong> contain &lt;1 cal/gram and have both fiber and protein. They will fill you up for few calories. Not all “white” foods are “highly refined”. White bread is highly refined, but white potatoes are an excellent, unrefined choice.</td>
<td><strong>Homefries</strong> may have added salt and oil, but mostly still resemble potatoes.</td>
<td><strong>Potato chips</strong> are loaded with oil and salt and contain 6 cal/gram.</td>
</tr>
<tr>
<td><a href="image1">Image of potato</a></td>
<td><a href="image2">Image of homefries</a></td>
<td><a href="image3">Image of potato chips</a></td>
</tr>
<tr>
<td><strong>WHEAT</strong>… is not very palatable in its unrefined form.</td>
<td><strong>100% whole grain pasta</strong> has few ingredients. If it does not say 100%, it probably contains refined flours also.</td>
<td><strong>Breakfast cereals</strong> may appear healthy on the box, but often have added salt, sugar, and oil.</td>
</tr>
<tr>
<td><a href="image4">Image of wheat</a></td>
<td><a href="image5">Image of 100% whole grain pasta</a></td>
<td><a href="image6">Image of breakfast cereal</a></td>
</tr>
<tr>
<td>Shredded wheat often has one ingredient… wheat. Avoid versions that contain salt or are frosted with sugar.</td>
<td>Choose <strong>100% whole grain bread</strong> with 5 ingredients or less and no added oil.</td>
<td><strong>Crackers</strong> are highly refined, and often contain many ingredients</td>
</tr>
<tr>
<td><a href="image7">Image of shredded wheat</a></td>
<td><a href="image8">Image of 100% whole grain bread</a></td>
<td><a href="image9">Image of crackers</a></td>
</tr>
</tbody>
</table>
**Unprocessed or Minimally-processed**

Brown **RICE** is rice in its natural form, filled with vitamins, minerals, and fiber.

Take a closer look:

- Hull
- White rice
- Rice bran
- Rice germ

**Moderately-processed**

**White rice** is missing the bran and germ layers... where vitamins, minerals, and fiber are stored!

Plain **rice cakes** may contain some salt, but generally have few ingredients other than puffed rice.

**Highly-processed**

**Fried rice** is typically made with salt, oil, and calorie-dense sauces

**Rice-based snacks** tend to have many ingredients and no longer resemble rice in its natural form.

**Steel cut OATS** are made by chopping oat groats into pieces. They take longer to prepare and have a chewy texture.

**Old fashioned oats** are made by rolling out oat groats.

**Instant oats** (also known as quick oats) are pre-cooked, dried, and then rolled and pressed. They cook in “1 minute” as they claim and have a more porridge-like texture.

**Don’t be fooled!** These **granola bars** contain refined flours, oil, and several types of sugar.

**Instant oatmeal** is highly refined and loaded with sugar.