

Aunt Cathy's Guide to Nutrition:

Fiber Issues



Aunt Cathy

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Cellulose vs Starch

☺ = a glucose molecule



Point: We have the intestinal scissors to break up **a-linkages in starch**, but we can't cut the **b-linkages in cellulose**. The chain of carbons stays long so it is too big to absorb. That's why we can't live of grass and hay. It is also why starch is not classified as "fiber" – it is digested and absorbed. Fiber is not digested and absorbed. Both starch and cellulose are long strings of many glucose molecules, so they are called "**polysaccharides**" (poly = many).

Soluble vs Insoluble Fiber

Soluble Fiber

Slows down intestinal transit time. Binds bile acids (made of cholesterol) and sends them out downstream instead of recycling them. This **lowers cholesterol** and may decrease risk of cancer of the colon. **Memory Aid:** The bile/cholesterol gets stuck in the **GLOP** in the intestine and excreted:

Guar Gum Legumes Oat Bran Pectin



Insoluble Fiber

Speeds transit time. Examples: **wheat bran, psyllium, cellulose**

Other substances often classified as fiber (**lignans, tannins, phytate, oxalate etc.**)

In general, a generous dietary fiber intake is associated with

Some Good:

1. Maintaining appropriate “**peristalsis**” (movement of food through the intestine)
2. Decreased risk (or improved management of) **colon cancer, diabetes heart disease, diverticulosis and diverticulitis**
3. Foods naturally rich in fiber also contribute a number of **vitamins and minerals**

Some Less Good:

1. Decreased intestinal absorption of certain nutrients
2. Increased discomfort (e.g. gas), especially if unused to higher intake. Digestive enzyme (scissors) products like “**Bean-O**” work by snipping up the fiber.



