



## How to lose weight without going hungry: Focus on Cereal and Fiber

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## Just to be clear!

- I am not a physician, I am a clinical psychologist by training.
- This is education and social support, not medical advice.
- Be sure to consult with your doctor before making major dietary changes, especially if you are on medications for diabetes.

## What we've been told

- To lose weight, dietary fat is to be kept as low as possible
- Increased fat and cholesterol levels lead to heart disease
- Weight loss only results from reducing calories, increasing exercise, or both
- Therefore, the only way to lose weight is to follow a low-fat diet and increase exercise



## What people experience

- Reduced fat in foods is usually replaced by increased carbohydrates
- Cutting caloric intake and/or increasing exercise results in increased hunger
- Counting calories is difficult
- Meals are rarely satisfying; one always feels hungry
- Though weight loss is possible, in time, it is all gained back



18 grams added sugar / 22 total carbs

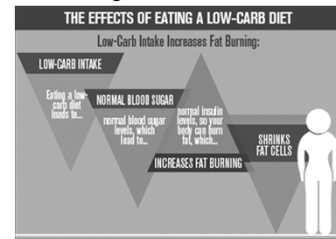
## What we've recently learned

- Fats and cholesterol are not all bad
- People feel full longer when the foods they eat contain some fat
- Carbohydrates convert to body fat easily
- Cutting carbs forces your body to burn fat
- Fats & proteins do not convert to body fat easily
- It's easier to stay on a low-carb diet long-term because hunger is not a problem



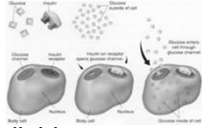
## Why does eating fat help?

- Fat does not stimulate insulin like carbs
- Your body will first use carbs and then turn to burning fats; if there are few carbs, then you will burn fats, including stored fats.

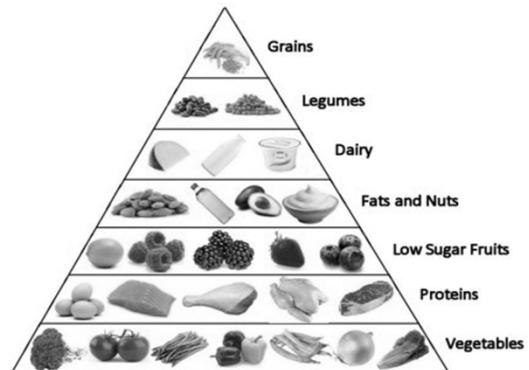


## Excess carbs lead to weight gain

- Whatever glucose from digested carbs that is not immediately used for warmth, by our muscles for movement or our brain, it is directed by insulin to be stored as fat.
- Stored fat is only “burned” when too little glucose is available
- To burn fat, one has to reduce available glucose, primarily by reducing carb levels

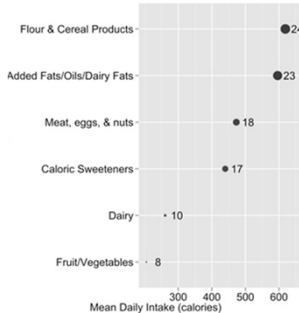


## Which low carb diets work?



## What are we eating?

- The mean daily intake (in calories) for six different major food types.
- The symbols are sized and colored to the proportion of total calories, and the numbers to the right of each dot represent the percentage of that item in our diet.
- It shows, for example, that just 8% of our diet comes from fruit and veggies, while 18 % comes from caloric sweeteners, and 24% comes from flour and cereal products.



## Where did cereal come from?

- Because cooking required so much time and preparation in the early colonial era, people ate one meal in the middle of the day— dinner.



- Farmers and laborers ate earlier because they were up really early; the elite could sleep in!

## Where did cereal come from?

- Breakfast and supper were kind of like glorified snacks, often bread, meat or cornmeal mush.



- Sylvester Graham, a preacher of health ideology, advocated for vegetarian food, and whole wheat as kind of a panacea health problems, which became the Graham cracker.



Abigail Carroll, *Three Squares: The Invention of the American Meal*

## Where did cereal come from?



Granola was invented in 1863 by James Caleb Jackson, a devout vegetarian who was the operator of the Jackson Sanatorium in the state of New York.

## Where did cereal come from?

- **Granola** never caught on commercially, however, because the heavy bran nuggets needed **soaking overnight** before they were tender enough to eat.
- Doctor **John Harvey Kellogg**, superintendent at the Battle Creek Sanatorium, and his brother, **Will Keith Kellogg**, developed the "**Corn Flake**," and established modern cereal production.



- **Charles William Post** of the Battle Creek Sanitarium developed a coffee substitute called **Postum** and a more bite-sized version of Jackson's Granula, which he called **Grape-nuts** as well as a corn flake called **Post Toasties**.

## Where did cereal come from?

- Oats were a staple food of the Irish throughout history.
- Vast quantities were consumed in the form of porridge.
- With the introduction of the potato in the late sixteenth century, the prevalence of oatmeal porridge declined
- During the twentieth century porridge increasingly became a popular dish on the Irish breakfast menu.
- Quaker Oats was registered as the first trademark for a breakfast cereal in 1877.



## Where did cereal come from?

- Oats go rancid very quickly due to the presence of natural fats and have to be processed immediately after harvesting or better yet, fed to horses!
- The fats in oats are relatively healthy, with a lipid breakdown of 21% saturated, 37% monounsaturated, and 43% polyunsaturated.
- Oats contain more soluble fiber than any other grain
- Soluble fiber provides satiety, slows the absorption of glucose and inhibits the re-absorption of bile lowering blood-serum cholesterol.



## Where did cereal come from?

- Quaker Oats, acquired puffed-rice technology in the early 20th century.
- Soon puffed cereals, stripped of fiber (thought to be injurious to digestion) and laden with sugar to induce children to eat, became the norm.
- Cheerios (puffed oats), Sugar Smacks (sugary puffed corn), Rice Krispies, and Trix wandered far from the healthful aims of America's early breakfast cereal barons, earning billions of dollars for the multi-national food corporations that grew in their stead.



## Where did cereal come from?

90% of American households now eat them for breakfast!



... but could they be contributing to obesity and diabetes?



## But, what about fiber?

Besides the grain, cereals usually contain sweeteners, flavoring agents, coloring agents, preservatives, synthetic vitamins and minerals, but they also contain fiber. Isn't that good for us?



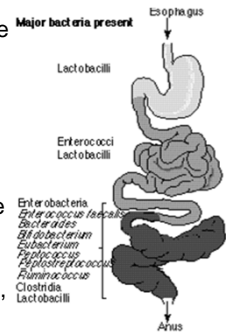
## Why is fiber good for us?

- Fiber is a type of carbohydrate that the body can't digest.
- Fiber helps regulate the body's use of sugars, helping to keep hunger and blood sugar in check.
- Children and adults need at least 20 to 30 grams of fiber per day for good health, but most Americans get only about 15 grams a day.
- Great sources are whole fruits and vegetables, whole grains, and beans.



## Intestinal microflora

- More than 70% of the immune system is found in the digestive tract.
- Thus, a healthy digestive system is essential to overall health.
- Maintaining a healthy balance of intestinal microflora is one of the best ways to build and enhance digestive health and, thus, the immune system.



## Intestinal microflora

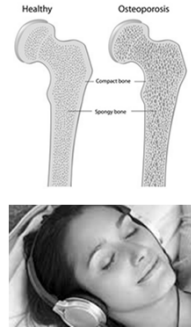
- As we age, microflora deteriorates, so it's important to replenish supplies.
- Antibiotics kill good bacteria along with the bad, so those taking these drugs should also take probiotics.
- Probiotics help relieve symptoms of bowel diseases.
- Healthy bacteria improve digestion by helping to break down lactose, proteins and fibers, plus they inhibit pathogens and prevent infections.



[www.wholefoodsmagazine.com/grocery/features/gut-feeling-fiber-and-probiotics-are-hot](http://www.wholefoodsmagazine.com/grocery/features/gut-feeling-fiber-and-probiotics-are-hot)

## Prebiotics

- Prebiotics are a special form of dietary fiber that acts as a fertilizer for the good bacteria in your gut.
- The health benefits of prebiotics include increased bone density, strengthened immune system, better-controlled weight and appetite, and improved bowel regularity.
- Recent studies have also found that individuals taking prebiotics experience improved mental health.



## Types of fiber

Fiber comes in two varieties, both beneficial to health:

- Soluble fiber, which dissolves in water, can help lower glucose levels as well as help lower blood cholesterol.
- Foods with soluble fiber include oatmeal, nuts, beans, lentils, apples and blueberries.



- Insoluble fiber, which does not dissolve in water, can help food move through your digestive system, promoting regularity and helping prevent constipation.
- Foods with insoluble fibers include wheat, whole wheat bread, whole grain couscous, brown rice, legumes, carrots, cucumbers and tomatoes.

## Classification of fiber

Dietary fiber:

- Lignin, Cellulose, Hemicelluloses, Pectins, Gums, Inulin and oligofructose, and Resistant starch

Functional fiber:

- Psyllium, Chitin and chitosan, Fructooligosaccharides, Polydextrose and polyols, and Resistant dextrins

Also:

- Viscous and nonviscous fiber
- Fermentable & nonfermentable fiber
- Soluble and insoluble fiber



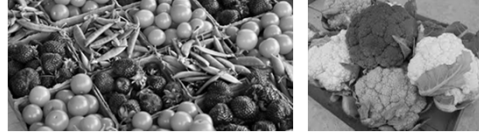
## Soluble fiber

- Sometimes referred to as a prebiotic, dissolves then it absorbs water in the intestine and becomes viscous.
- It then gets fermented by bacteria in the colon yielding intestinal gas.
- The benefits to us include enhanced digestion and intestinal fermentation, balancing of the intestinal pH, promotion of the digestive flora and regularity as well as decreased LDL cholesterol.



## Sources of fiber

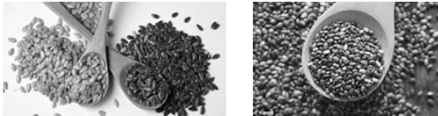
- Top sources of fiber are: beans (all kinds), peas, chickpeas, black-eyed peas, artichokes, whole wheat flour, barley, bulgur, bran, raspberries, blackberries, & prunes.



- Good sources of fiber include: lettuce, dark leafy greens, broccoli, okra, cauliflower, sweet potatoes, carrots, pumpkin, potatoes with the skin, corn, snap beans, asparagus, cabbage, whole wheat pasta, oats, popcorn, nuts, raisins, pears, strawberries, oranges, bananas, blueberries, mangoes, and apples.

## Flax seed

- Very high in both soluble and insoluble fiber (1/3 is soluble), and has a pile of nutrients to boot.
- Flax is just could be the ultimate low-carb fiber source. One tablespoon of ground flax has 2 grams of carbohydrate, 1.9 of which is fiber!



- Chia Seeds have a fiber and carb profile similar to flax seeds.

## Other sources of fiber

Unsweetened Coconut and Coconut Flour

- One ounce of unsweetened coconut has 2 grams usable carb, 5 grams of fiber



Collard Greens

- 1 cup chopped, cooked collard greens has 4 grams usable carb, 5 grams fiber



Haas Avocado

- 1 medium avocado has 3 grams of usable carb and 12 grams of fiber



## Other sources of fiber

In fact, most non-starchy vegetables and low-sugar fruits are quite high in fiber,

- Broccoli, has more than 5 grams of fiber in 1 cup of
- Cauliflower has about 5 grams of fiber
- Cooked turnip greens have only about 6 grams of carbs per cup but 5 grams of fiber

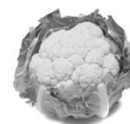


And, nuts have a lot of fiber

- Whole flaxseeds contains almost 3 grams of fiber but only 3 grams of carbohydrate in one tablespoon
- Almonds have 3 grams of fiber and 5 grams of carbohydrate in 1 ounce of oil-roasted nuts,
- Hazelnuts and filberts have a similar amount of fiber and carbs in 1 ounce of dry-roasted nuts.

## Other sources of fiber

- Cauliflower
  - 1/2 cup pieces, cooked cauliflower - 1 gram usable carb, 2 grams fiber
  - 1 cup raw, cauliflower - 2 grams usable carb, 2.5 grams fiber
- Blackberries
  - 1 cup of raw blackberries - 6 grams usable carb, 8 grams fiber
- Asparagus
  - 1/2 cup pieces of asparagus - 2 grams usable carbs, 2 grams fiber
- Celery
  - 1 cup chopped celery - 1.5 grams usable carb, 1.5 grams fiber
- Eggplant
  - 1 cup raw eggplant, cubed - 2 grams usable fiber, 3 grams fiber
  - 1 cup cubed eggplant, cooked - 5 grams usable carb, 3 grams fiber
- Lettuce, Romaine
  - 1 cup shredded Romaine lettuce - .5 gram usable carb, 1 g fiber
- Mushrooms
  - 1 cup raw sliced mushrooms - 1 gram usable carb, 1 gram fiber
- Radishes
  - 1 cup raw sliced radishes - 2 grams usable carb, 2 grams fiber
- Red Raspberries
  - 1 cup of raw red raspberries - 7 grams usable carb, 8 grams fiber



## What is resistant starch?

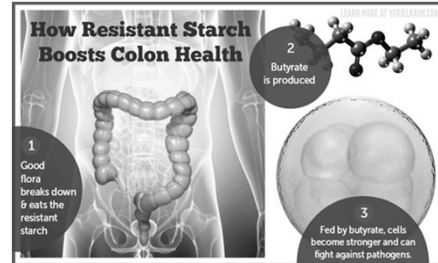
- Associated with less genetic damage leading to cancer
- Associated with more mineral absorption, especially calcium and magnesium
- Improves insulin sensitivity and improved glucose tolerance the next day
- Produces more satiety, possibly partly through the release of a different peptide (PYY)
- Associated with lower cholesterol and triglyceride levels
- Promotes "good" bacteria, and suppresses "bad" bacteria
- Promotes bowel regularity
- Associated with less fat storage



<http://lowcarbdiets.about.com/od/nutrition/a/resistantstarch.htm>

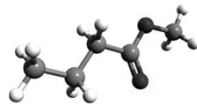
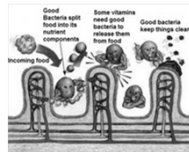
## What is resistant starch?

Resistant starch is considered the third type of dietary fiber, as it can deliver some of the benefits of insoluble fiber and some of the benefits of soluble fiber.



## Resistant Starch

- Goes through the stomach and small intestine undigested, eventually reaching the colon where it feeds the friendly bacteria in the gut
- Feeds friendly bacteria in the intestine, having a positive effect on the type and number of bacteria
- Bacteria digestion forms gases and short-chain fatty acids, most notably butyrate, the preferred fuel of the cells that line the colon.
- May be useful for various digestive disorders like Ulcerative Colitis and Crohn's Disease, constipation, diverticulitis and diarrhea



<http://authoritynutrition.com/resistant-starch-101/>

## Resistant Starch

- The bottom line is that despite being labeled as "starch," resistant starch doesn't turn to glucose in your body.
- It resists digestion (thus the term) until it reaches your colon, where it feeds your gut bacteria – and that's where the benefits kick in.
- The good gut bacteria digest the resistant starch and release butyrate, a short-chain fatty acid, as a result.
- Yup, eating a "starch" produces good fats in your colon.



<http://www.fathead-movie.com/index.php/2014/04/14/revisiting-resistant-starch-part-one/>

## Low Carb cereal recipes

- Peanut Butter Power Granola from All Day I Dream About Food
- Cinnamon Faux-st Crunch from I Breathe, I'm Hungry
- Cocoa Pebbles from Maria Mind Body Health
- Berry Nut Cereal from The Low Carb Diet
- Maple Almond Hot Cereal from Low-carb-ology
- Low Carb Cinnamon Crunch Cereal
- Cinnamon Crunch Cereal from All Day I Dream About Food
- Butter Pecan Breakfast Porridge from Briana Thomas
- Keto Cinnamon Coconut Cereal from Wicked Stuffed
- Grain-Free Granola from Ditch the Carbs
- Pumpkin Spiced Granola from Keto Diet Blog
- Low Carb Dairy Free Coconut Cocoa Nib Granola
- Coconut Cacao Nib Granola from All Day I Dream About Food
- Breakfast Muesli from Diet Doctor
- Maple Pecan Granola from Swerve Sweetener
- Warm Chia Porridge from A Home With Purpose
- Coco-nutty Crunch from Linda's Low Carb Recipes
- Low Carb Hot Cereal Recipe
- Grain-Free Cream of Wheat from All Day I Dream About Food
- Keto Butter Crunch from Full Fat Friendly
- Krunchy Grain-Free Granola from Low Carb, So Simple
- Cinnamon Pumpkin Flax Cereal from Low Carb Zen
- Baked Spiced Granola from Peace, Love and Low Carb
- Chocolate Hazelnut Granola from All Day I Dream About Food
- Hazelnut Mocha Cereal from The Primitive Palate
- Super Food Cereal from Healthy Living How To
- Blueberry Morning Cereal from Maria Mind Body Health
- Cinnamon Cranberry Coconut Crunch from Ginny's Low Carb Kitchen



<http://alldaydreamaboutfood.com/2015/02/25-delicious-low-carb-grain-free-cereal-recipes.html>

## Where to find more info on fiber

- <http://lowcarbdiets.about.com/od/nutrition/a/fibercounts.htm>
- [http://diet.lovetoknow.com/wiki/Low\\_Carb\\_Diets](http://diet.lovetoknow.com/wiki/Low_Carb_Diets)
- <https://recipes.sparkpeople.com/great-recipes.asp?food=low+carb+high+fiber>
- <http://www.hsph.harvard.edu/nutritionsource/carbohydrates/fiber/>