FIBER "Superfood"

KEY HEALTH BENEFITS OF FIBER

- Improves digestive health
  - Regulates bowel movements. Lowers risk for diverticulosis and pelvic floor disorders
- Lowers cholesterol and protects heart
  - Blocks absorption of cholesterol lowering LDL/bad cholesterol
- Controls blood sugar by slowing absorption of glucose
- Weight management
  - These foods retain water leaving you feeling fuller
- Lower risk of colorectal cancer
- Lowers chronic inflammation
- Lowers risk for dementia
  - Improves gut health which acts on brain-gut

SOLUBLE FIBER

- Dissolves in water
- Forms gel-like substance that feeds the gut microbiome and supporting them thriving
- A thriving gut microbiome improves your immune system; 70% of immune cells are in the gut and work in conjunction with microbiome
- Blocks aboroption of cholesterol, slowls glucose absorption and makes you feel fuller longer

INSOLUBLE FIBER

- Does not dissolve in water
- Bulks up stool content; helps keep water in stool. Distends bowel to trigger peristalsis/movement and ease constipation.
- Helps with improving both loose stool and hard stool
- Improving constipation lowers risk factors of pelvic floor disorders such as incontinence/bladder leaks, vaginal prolapse, and urinary retention

DAILY GOALS

- 25-35 grams fiber a day
- Supplements *alone* are not enough.
- Benefiber = 3-6g per serving. Psyllium = 4-6g per serving

FIBER "Superfood"

FIBER SUPPLEMENTS

- Most data available regarding health benefits are on fiber through food sources. The most studied supplement is psyllium
- Fiber supplements can help certain clinical scenerios like constipation or bowel incontinence

KEY CHARACTERISTICS TO CONSIDER ABOUT FIBER SUPPLEMENTS

1. **Solubility** (as on previous page)
2. **Gel formation**
    a. Ability to form gel structure to block absorption of cholesterol and sugar
    b. Adds significant health benefits, but can be bothersome for sensitives guts
3. **Viscocity**
    a. Fiber becoming water-like consitency (low viscocity) or honey-like consistency (high viscocity) in the intestines
    b. Viscous, non-gelling fiber can still delay absorption of cholesterol/sugar but can be easier for more sensitive guts to tolerate
4. **Fermentation**
    a. Ability of fiber to be used as food by the microbiome (gut bacteria)
    b. The bypodcuts of fermentation are short chain fatty acids (primarily Butyrate) which decreases inflammation, strengthens the gut lining and regulates metabolism
    c. Other byproducts of fermentation include hydrogen, carbon dioxide and methane which contribute to gas and bloating

FOR BETTER BOWEL MOVEMENTS

- Increasing both soluble and insoluble fiber can optimize bowel movements
- Water intake *must* increase with fiber to maximize the health benefits. If you don't increase water with increasing fiber, you can make constipation or bloating worse! Think of water as the "activator" for fiber
- Soluble fiber is the "softener" keep water/moisture in the stool
- Insolble fiber is the "bulker" to increase the volume of stool to help distend the gut to stimulate peristalisis (contactions) that move your poop through
- Start slowly incresaing fiber only by a few grams a week to let your body get adjusted and limit the bloating

FIBER "Superfood"

FIBER SUPPLEMENTS

- **Psyllium Husk**
  - Best studied supplement. Comes in powder or capsule form
  - Soluble, viscous, gel-forming fiber giving you the health benefits related of slowing the absorption of cholesterols and glucose
  - Also has the benefit of increasing water in stool to help constipation
- **Metamucil**
  - A name brand form psyllium. Can have additives of sugar and artifical flavor
- **Benefiber**
  - Contains wheat dextrin. Soluble & highly fermentable fiber source
  - Primarily serves to "feed" gut microbiome
  - Not as helpful for bowel movements. Does not improve cholesterol
  - Derived from wheat; use with caution in those with celiac disease. Typically contains less than 20 ppm of gluten, which qualifies it as gluten-free under FDA guidelines, but caution in those with severe wheat allergy
- **Guar Gum**
  - Soluble, viscous, gel-forming. Has been shown to help with lowering cholesterol
- **Sunfiber**
  - Water soluble, low viscocity. Less irritating to those with sensitives guts
  - Partially hydrolyzed guar gum
- **Loam Fiber**
  - Mixture of several types of fiber including partially hydrolyzed guar gum and soluble wheat fiber. Caution in those with wheat sensitivty or allergy
- **Inulin**
  - Nonviscous fiber. Does not improve cholesterol
- **Fiber Choice**
  - Primarily made of inulin. As above
- **Metamucil Clear**
  - Nonviscous fiber. Does not improve cholesterol. Made from corn fiber and inulin
- **Citrucel**
  - Viscous, but non-gel-forming. Does not significantly lower cholesterol

FIBER Chart

Food	Serving Size	Total Fiber (grams)	Soluble Content (grams)	Insoluble Content (grams)	Other notes
FRUITS					
Apple with skin	1 medium	4.5-5	0.4-1.2	3.9	
Rasberries	½ cup	8	0.9-1.8	2.4-3.2	One of best high fiber, low calorie fruits
Strawberries	1 cup	4.3	1.7	2.6	
Blueberries	1 cup	4	1.5	**2.5**	High in antioxidants
Blackberries	1 cup	7.6	1.6	6	Low glycemic index
Pear	1 medium	5.5	1.7	3.8	
Plum	2 medium	2.2	1.1	1.1	
Orange	1 medium	3-4	2.1	1.3	
Canteloupe	1 cup	1.4	.4	1.0	
Kiwi	1 large	3	0.7	2.3	Eating skin boosts fiber content. Has digestive enzyme actinidin to additionally help constipation
Banana	1 medium	3	0.6	2.4	Greener/less ripe cause constipation Yellow relieve constipation
Fig, dried	3 medium	5	.75	4.25	
Prunes	3 medium	1.7	1	0.7	Also has sorbitol to help with laxative effect
Grapefruit	½ of large	3.1	2.4	0.7	Bulk of fiber in chewy walls separating segments
Apricots, dried	4 medium	3.5	1.8	1.7	
Cranberries	1 cup	4	0.8	3.2	Protects against UTIs

FIBER Chart

Food	Serving Size	Total Fiber (grams)	Soluble Content (grams)	Insoluble Content (grams)	Other notes
VEGETABLES					
Broccoli	½ cup	2.4	1.2	1.2	Contains sulforaphane which may detoxify carcinogens and protect against cancer
Green Beans	½ cup	2-4	0.5-0.8	1.2-1.5	
Brussel sprouts	1 cup	4	2	2	
Carrots, raw	1 cup	4.6	2.4	2.2	Cooking does not significantly change nutrient content
Tomato	1 medium	1.5	0.2	1.3	
Asparagus	½ cup cooked	3	1.3	1.7	Roughly 60% insoluble, 40% soluble
Sweet potato	1 medium	4	2	2	More fiber with skin
Potato	1 medium	4.4	2.4	2.4	Skin = insoluble fiber Inner flesh = soluble fiber
Zucchini	medium	2	0.1	1.9	Primarily from skin
Pepper	1 cup	1.7	0.6	1.1	Primarily from skin
Spinach	1 cup	6	1	5	Greener/less ripe cause constipation Yellow relieve constipation
Kale	1 cup	7.2	2.1	5.1	Cooked
Artichokes	3 medium	6.5	**4.7**	1.8	High source of soluble fiber
Watercress	1 cup	0.1	0.1	1.7	**“Super food” ranked #1 healthiest vegetable by CDC. Natural digestive enzymes to help digestion process**
Avocado	1 medium	10-13	3	7	

FIBER Chart

Food	Serving Size	Total Fiber (grams)	Soluble Content (grams)	Insoluble Content (grams)	Other notes
NUTS & SEEDS					
Almonds, raw	1oz/23 nuts	4.2	0.7	3.5	Also contains healthy fats and 6g of protein
Flaxseeds	1 Tbsp	2.8	0.7	2.1	
Chia seeds	1 oz	9.8	1.5	8.3	
Peanuts	1 oz (10 large)	3	0.2	2.8	
Walnuts	1 oz	2	0.45	1.35	Great source of omega-3 fatty acids, antioxidents and polyphenols
Sunflower seeds	¼ cup	3	1.1	1.9	
Black beans, cooked	1 cup	15	7.3	7.7	
Lentils, cooked	½ cup	6.6	2.8	3.8	
Kidney beans, cooked	½ cup	5.8	2.9	2.9	
Pinto beans, cooked	½ cup	6.1	1.4	4.7	
Garbanzo beans, cooked	1 cup	8-12	2.6	5.6	Higher soluble content than other legumes
Psyllium seeds			20%	80%	
Split peas, cooked	1 cup	16	2	14	
Popcorn	3 cups	3.6	0.4	3.2	

FIBER Chart

Food	Serving Size	Total Fiber (grams)	Soluble Content (grams)	Insoluble Content (grams)	Other notes
WHOLE GRAINS					
Barley, cooked	½ cup	3	0.8	2.2	3x amount of fiber as oats
Brown rice, cooked	½ cup	4	<0.1	4	Almost all insoluble fiber
Oat bran, cooked	1 cup	14.5	7.25	7.25	
Oatmeal, cooked	1 cup	3	0.2	2.8	
Pumpernickel bread	1 slive	2	0.45	1.35	Great source of omega-3 fatty acids, antioxidents and polyphenols
Quinoa, cooked	1 cup	5	0.5	4.5	
Wheat bran	½ cup	12	1	11	
Wholegrain bread	1 slice	2	0.3	1.7	
Whole wheat bread	1 slice	2	0.5	2.5	
Wholegrain pasta	1 cup	6.3	2.2	4.1	
Wheat germ	3 Tbsp	3.9	0.7	3.2	

OVERALL BEST FOODS TO HELP CONSTIPATION

- Rasberries & blackberries
- Kiwi
- Oatmeal
- Pears, apples & prunes
- Chia & flax seeds
- Beans & legumes
- Leafy greens like broccoli & brussels sprouts