

## Top 20 Functional Foods



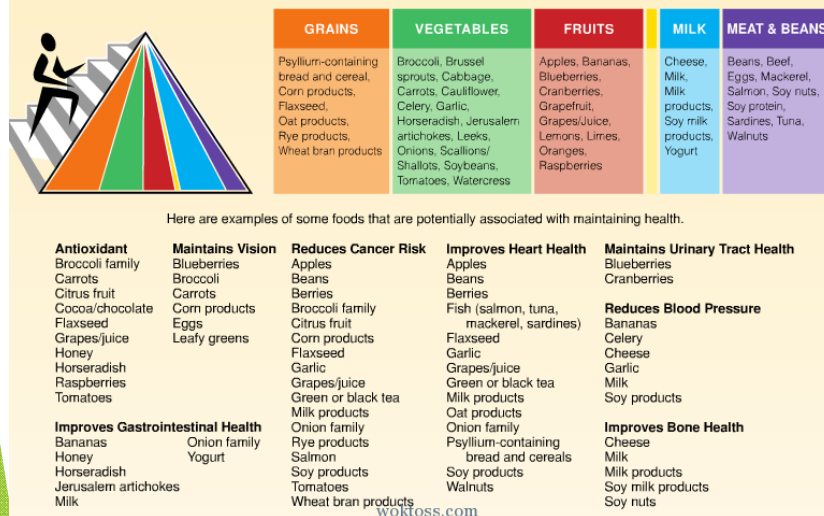
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## What are functional foods?

Functional Food: a food that provides benefits **beyond basic nutrition** that may reduce disease risk and/or promote good health

**FIGURE 6-5**  
**FUNCTIONAL FOOD PYRAMID**

Source: Adapted from University of Illinois, Functional Foods for Health.



## Functional Foods Background

- ✓ Consumer interest in learning more about functional food remains high.
- ✓ 86% of adults surveyed said they are interested in learning more about foods that have health benefits beyond basic nutrition
- ✓ Margarine with plant sterols
- ✓ Cereal with added fiber
- ✓ Orange juice with added calcium



## Functional Foods Background



- There is a difference between the Western and Eastern perspective on functional foods.
- In the West, functional foods are considered revolutionary and represent a rapidly growing segment of the food industry.
- Food and pharmaceutical companies alike are competing to bring functional foods into the mass market.

## Functional Foods



- On the other hand, functional foods have been a part of Eastern cultures for centuries.
- Foods were used for medicinal purposes in traditional Chinese medicine as early as 1000 B.C.
- From ancient times, the Chinese have used foods for both preventive and therapeutic health effects, a view that is now being increasingly recognized around the world.

## Functional Foods Statistics

- The world market for functional foods and drinks is expected to reach \$130 billion by 2016
- Functional foods market growth is driven by product innovation and growing population of health-conscious consumers



## Regulation of Functional Foods

- Functional foods are regulated by the United States Food and Drug Administration (FDA)
- Functional foods may be categorized as whole foods, enriched foods, fortified foods, or enhanced foods
- Labeling claims on foods are regulated and are of two types:
  - **Structure-function** claims which describe normal effects on the body
  - **Disease-risk reduction** claims which implies relationship between disease and nutritional component of food



## Regulation of Functional Foods

- Structure-function claims do not require preapproval by the FDA nor stringent scientific research
- Examples of structure-function claims:
  - “promotes regularity”
  - “helps maintain cardiovascular health”
  - “supports the immune system”



"Now helps support your child's immunity"

## Regulation of Functional Foods

- ▶ Disease Risk Reduction:
- ▶ Must have solid scientific evidence to back up claims
- ▶ Soluble Fiber from Certain Foods and Risk of Coronary Heart Disease



## Disease Risk Reduction Claims

- ▶ Calcium and vitamin D and osteoporosis
- ▶ Fiber-containing Grain Products, Fruits and Vegetables and Cancer
- ▶ Folic Acid and Neural Tube Defects
- ▶ Fruits, Vegetables and Grain Products that contain Fiber, particularly Soluble fiber, and Risk of Coronary Heart Disease
- ▶ Sodium and Hypertension
- ▶ Soluble Fiber from Certain Foods and Risk of Coronary Heart Disease
- ▶ Soy Protein and Risk of Coronary Heart Disease
- ▶ Stanols/Sterols and Risk of Coronary Heart Disease

## Functional Foods

- ▶ Of course, all foods are functional because they provide varying amounts of nutrients and energy to sustain growth or support vital processes.
- ▶ However, functional foods are generally considered to offer additional benefits that may reduce the risk of disease or promote optimal health.
- ▶ What are the top 20 Functional Foods you should be eating in YOUR diet?

## 20. Potassium Rich Foods

- ▶ May reduce the risk of high blood pressure and stroke, in combination with a low sodium diet
- ▶ Potassium is found in **Swiss chard, lima beans, potatoes, yams, spinach, pinto beans, lentils, kidney beans, and of course... bananas**
- Potassium is an electrolyte, meaning it helps conduct electrical charge in the body
- Helps with muscle contraction
- Too little potassium has major implications on the heart and nervous system
- The current recommendation for potassium is 4,700 mg



## 20. Potassium Rich Foods

- Role in health support:
  - Maintaining normal blood pressure by improving kidney function, reducing blood clotting, and more efficient opening of blood vessels
  - Kidney health by reducing risk of kidney stones by minimizing calcium in the urine
  - Keeps bones strong by preventing the use of calcium to buffer acidity in the body



## 20. Potassium Rich Foods

- ▶ The DASH diet recommends 4700 mg per day
- ▶ Inverse relationship with sodium
- ▶ Potassium helps your body excrete sodium through the kidneys
- ▶ It's a natural diuretic!



## Quality Sources of Potassium

Food	Serving Size	Calories	Amount Potassium (mg)
Swiss chard	1 cup cooked	35.0	960.75
Spinach	1 cup cooked	41.4	838.80
Cantaloupe	1 cup	54.4	427.20
Mushrooms- Crimini	1 cup	19.1	389.76
Celery	1 cup	16.2	262.60
Yogurt	1 cup (8 oz)	154.3	573.30
Sweet Potato	1 cup baked	102.6	541.50
Banana	1 each	105	422.44

Note: The nutrient density of the banana is less than in many other sources



## 19. Prebiotics

- ▶ Inulin, Fructooligosaccharides (FOS)
- ▶ Support maintenance of digestive health; support calcium absorption
- ▶ Probiotics are “good” bacteria that help keep your digestive system healthy by controlling growth of harmful bacteria.
- ▶ Prebiotics are carbohydrates that cannot be digested by the human body.
- ▶ They are food for probiotics.

## 19. Prebiotics

- ▶ Prebiotics fertilize these good bacteria as they stifle production of the bad, disease-causing bacteria
- ▶ Dietary inulin and FOS increase magnesium and calcium absorption.
- ▶ Calcium uptake seems to increase with inulin intake *only when calcium intake is low or calcium requirement is high*, suggesting a modulating (rather than blind) effect.

## 19. Prebiotics

- ▶ Whole grains, onions, some fruits, garlic, honey, leeks, banana, asparagus, wheat bran



## 18. Extra Virgin Olive Oil (EVOO)

- Olive oil can lower LDL cholesterol, aid in digestion, slow aging, and cut the risk of coronary artery disease and cancers
- Quality of the oil matters
  - EVOO is obtained from the first pressing of the oil and lowers inflammatory markers while virgin olive oil (VOO) is obtained from the later pressings do not

## 18. Extra Virgin Olive Oil



- One of the key polyphenols in olive oil helps protect the cells that line our blood vessels from being damaged
- EVOO is rich in antioxidant Vitamin E which helps us process waste products in the body and keep us healthy and young
- Olive oil also influences body fat distribution, with less fat around the abdomen

## 18. Extra Virgin Olive Oil



- Contains 75% of its fat from monounsaturated fat (MUFA), a healthy, cholesterol lowering fat
- EVOO does not contain omega-3s; however, it does strengthen anti-inflammatory effects of omega-3s.
- **Lowers blood levels of C-reactive protein**
- Cooking EVOO at high temperatures damages the oil (200-405°F)

## Effects of Monounsaturated Fatty Acids (MUFAs)

	When MUFAs replace saturated fatty acids...	When MUFAs replace carbohydrate...
Total Cholesterol	Decreases by 6% to 10%	No change
LDL Cholesterol	Decreases by 6% to 10%	Decreases
HDL Cholesterol	No change	Increases
Total:HDL Ratio	Decreases	Decreases
Triglycerides	No change	Decrease
Insulin Sensitivity	Increase	Increase

## 17. Beans and Legumes

- Legumes are plants that have edible seeds contained in pods
- Cooked beans are low in calories, packed with complex carbohydrates, and contain little fat
- High in fiber, protein, B Vitamins, iron, calcium, and magnesium
- Rich source of health promoting phytonutrients







## 17. Beans and Legumes

- Promote optimal health and optimal weight because they help fill you up and keep you full, while they are also low in fat
- Health-promoting compounds in bean products are known as saponins
- Clinical studies suggest that saponins can:
  - Help **protect the human body against cancers**
  - **Lower LDL cholesterol**
  - **Lower blood glucose responses**



## 17. Beans and Legumes

- Also help **lower blood pressure, risk of coronary artery disease, diabetes, and osteoporosis**
- Some beans are high in vitamin B6 and zinc
  - Zinc contributes to tissue growth and repair while B6 protects against age-related memory decline
- Common varieties of beans include black beans, kidney beans, lima beans, navy beans, pinto beans, white beans, soy beans, and garbanzo beans

## 17. Beans and Legumes

- ▶ Legumes may be the most important predictor of survival in older people from around the globe
- ▶ Researchers from institutions around the world looked at five different cohorts in Japan, Sweden, Greece, and Australia.
- ▶ Of all the food factors they looked at, only one was associated with a longer lifespan across the board: legume intake.



## 17. Beans and Legumes

- ▶ Whether it was the Japanese eating their soy, the Swedes eating their brown beans and peas, or those in the Mediterranean eating lentils, chickpeas, and white beans, legume intake was associated with an increased lifespan.
- ▶ In fact, it was the only result that was plausible, consistent, and statistically significant from the data across all the populations combined.
- ▶ There was an 8% reduction in risk of death for every 20 gram increase in daily legume intake.
- ▶ That's just two tablespoons worth! So if a can of beans is 250 grams, and we get 8% lower mortality for every 20 grams, if we eat a can a day can we live forever?



## 16. Apples



- An apple a day really *does* keep the doctor away!
- Deliver both soluble and insoluble fiber, helping lower cholesterol levels thus reduce risk of hardening arteries, heart attack, and stroke
- Soluble fiber, pectin, in apples **reduces amount of LDL produced by the liver**
- Eating a large apple every day can decrease serum cholesterol 8-11%

## 16. Apples



- ▶ Pectin, the soluble fiber in apples, forms a thick, gel-like matter in the intestine and is consumed in the colon by healthful bacteria in order to produce short chain fatty acids
- ▶ These short chain fatty acids help to decrease blood clotting
- ▶ Apples also contain antioxidants which help prevent atherosclerosis

## 16. Apples



- One medium unpeeled apple provides more than 3 grams of **fiber**
- Rich in antioxidants (flavonoids) and contains some Vitamin C
- Low in calories and fat, and pack a nutrient dense punch which **helps with weight loss**

## 16. Apples



- In the Nurses' Health Study, more than 77,000 women were evaluated
  - Daily apple consumption was linked to 37% lower risk of lung cancer
- Laboratory studies show that concentrated apple compounds can **reduce growth and reproduction of colon and lung cancer cells**



## 15. Nuts



- Nuts that provide health benefits include almonds, hazelnuts, peanuts, pecans, and some pine nuts, pistachios, and walnuts
- Nuts are packed with nutrients with wide-ranging cardiovascular and metabolic benefits
- Energy dense food, rich in monounsaturated and polyunsaturated fatty acids, and other bioactive nutrients

## 15. Nuts



- Regular consumption of nuts **helps regulate body weight by suppressing appetite and fat absorption**
- Scientists report a link between eating nuts and **higher levels of serotonin** in those with metabolic syndrome
  - Serotonin is a substance that helps transmit nerve signals and decreases feelings of hunger, makes people feel happier, and improves heart health
- Nuts **help manage LDL cholesterol**

## Importance of Specific Nuts

- Walnuts
  - The type of omega-3 FA found in walnuts is alpha-linolenic acid, which can be transformed into either EPA or DHA in humans and animals.
- Almonds
  - One ounce of almonds (about 20-24 shelled whole almonds) provides 35% of the daily value for **vitamin E**.
- Peanuts
  - Although it is often discussed with nuts, peanuts are actually a legume, along with dry beans, peas and lentils. One ounce of roasted peanuts provides about 10% of the daily value for **folate**.

## 14. Red Grapes/Wine



- Grapes were once considered to be the “food of the gods”
- Rich in phytochemicals quercetin and resveratrol
  - Phytochemicals are largely responsible for the protective health benefits of these-plant based foods and beverages
- Researchers have found that phytochemicals may **stimulate the immune system**, prevent toxic substances in the diet from becoming carcinogenic, **reduce inflammation, prevent DNA damage**

## 14. Red Grapes/Wine



- May **reduce the risk of cardiovascular disease, cancer, type 2 diabetes, and neurodegeneration**
- Excellent source of manganese, which facilitates protein and carbohydrate metabolism
- Also a good source of vitamin B6, thiamin, potassium, and vitamin C

## 14. Red Grapes/Wine



- The polyphenols found in grapes, have been shown to **reduce the risk of heart disease** by preventing blood clots, protect LDL from free radical damage, lower blood pressure, and improve the function of blood vessels.
- Red wine has shown to decrease levels of LDL while increasing levels of HDL
  - 1 drink for women, 1-2 drinks for men
  - 5 oz wine, 12 oz beer, 1.5 oz distilled spirits



### 13. Dark Chocolate



- Chocolate and cocoa are food products made from cacao beans
- Cacao was consumed by the Olmecs, Mayans, and Aztecs and was believed to have magical or even divine properties
- Dark chocolate 60% higher cocoa content than milk chocolate
  - The darker the chocolate, the lower the sugar content

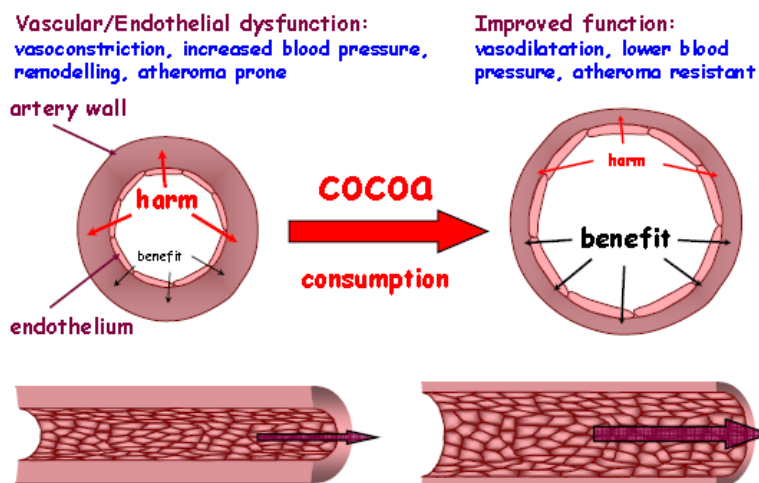
### 13. Dark Chocolate



- Dark chocolate contains phytochemicals known as flavonoids
- Dark chocolate **increases vasodilation** which helps improve blood flow to the brain
- Consumption of dark chocolate has shown to **help decrease blood pressure, lower LDL while increasing HDL, improve inflammation, and may improve insulin sensitivity**
- Research has also shown **resistance to UV damage with the consumption of dark chocolate**
- 2 Tbsp dark cocoa powder



## Dark Chocolate's Impact on Vessel Function



## 12. Coffee



- The functional food components of coffee extend beyond its use to help us function!
- Coffee provides one of the **greatest sources of antioxidants in the American diet due to large consumption**
- Contains potassium, niacin, vitamin E, and magnesium which helps the body use insulin
- The healthiest perks of **coffee** include increased cognitive function, and possible disease protection

## 12. Coffee



- According to a 2009 study published in *Archives of Internal Medicine*, high intake of **coffee** — including decaf **coffee** — is associated with lower risk of diabetes
  - Decreased risk by 7%
- 3- 8 ounce cups per day is considered moderate coffee consumption and 1 cup of coffee contains about 130 milligrams of caffeine
- Cream and sugar added to coffee translates to added calories so use natural sweeteners and low-fat milk

## 11. Berries/Blueberries



- Berries are loaded with potassium, vitamin C, and fiber
- Berries, especially blueberries, are consistently ranked among the top fruits and vegetables tested for antioxidant activity
- Anthocyanidins, a type of flavonoid, provide **blueberries** with their dark color
  - Also contain vitamin C, resveratrol, and ellagic acid which deliver powerful antioxidant protection

## 11. Berries/Blueberries



- Health benefits of blueberries include:
  - Vasodilation
  - Initiation of **cancer cell death**
  - **Improved insulin sensitivity**
  - **Neuroprotective effects**
  - **Reduction in inflammation**
- Consumption of blueberries is believed to play a role in **delaying the development** of neurodegenerative diseases such as Alzheimer's

## 11. Berries/Blueberries



- One study found that phenolic compounds in blueberries **inhibited** growth of several intestinal pathogens such as Salmonella and Staphylococcus

## 10. Salmon/Omega-3 Fatty Acids

- Salmon is an excellent source of omega-3 fatty acid, a health-promoting fat
- Omega-3 fatty acid is an essential fatty acid, meaning your body does not naturally produce it and therefore must come from diet
- Salmon is a favored source of omega-3 as it is low in calories and saturated fat, high in protein, and packed with nutrients

### Wild-Caught versus Farm-Raised Salmon

#### Wild-Caught Salmon

- Higher levels of omega-3
- More complex, fuller flavor
- Diet consists of mainly carotenoid-rich krill which gives pink hue
- High protein content due to long distance swimming

#### Farm-Raised Salmon

- Raised in crowded pens
- Leads to large amounts of waste discharge in water
- Fed fish pellets that includes artificial coloring to give pink hue
- More omega-6 in relation to omega-3
- Lower in protein and higher in saturated fat



## 10. Omega-3 Fatty Acids



- Two types of Omega-3s play an important role as anti-inflammatory agents
  - Eicosapentaenoic (EPA)
  - Docosahexaenoic (DHA)
- EPA and DHA regulate cell activity and healthy cardiovascular function
- DHA plays an essential role in fetal development, early infancy, and old age

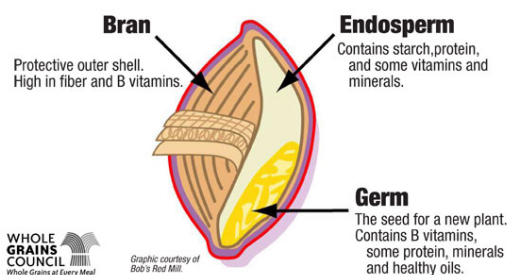
## 10. Omega-3 Fatty Acids



- Cultures with high fish consumption, such as Alaskans and Japanese, have **lower rates of coronary heart disease (CHD) mortality**
- Omega-3s **inhibit inflammatory response** and has an anti-clotting effect
- In individuals with diabetes and metabolic syndrome, omega-3 **helps lower triglycerides and cholesterol**
- One study noted **reduction in depression** with omega-3 consumption
- Over 15 clinical trials and 2 meta-analyses favor the use of fish oil in patients with **rheumatoid arthritis (RA)**.

## 9. Whole Grains

- As defined by the 2005 Dietary Guidelines for Americans, a whole grain is a grain that contains the entire grain kernel:



## 9. Whole Grains



- Provide an array of important nutrients:
  - Dietary fiber
  - Vitamin E
  - Magnesium
  - Iron
  - Zinc
  - B vitamins
- Low fat source of many essential amino acids

## 9. Whole Grains



- Whole grains contain **phytonutrients** in the germ and bran including ferulic and caffeic acids, saponins, and lignans which have potent antioxidant activity
- The fiber in whole grains may help reduce cholesterol- **helping to lower the risk of heart disease, obesity, and type 2 diabetes**
- Fiber is also important for regular bowel function and helps make you feel full

## 9. Whole Grains



- ▶ Meta-analysis: Seven prospective cohort studies of dietary fiber intake and total mortality
- ▶ 62,314 deaths among 908,135 participants, were identified.
- ▶ The results showed that dietary fiber intake is inversely associated with total mortality
- ▶ As total fiber intake went UP, total mortality numbers went DOWN
- ▶ By source of fiber, cereal and, to a lesser extent, vegetable fiber were significantly associated with lower total mortality, while fruit fiber showed no association.

## 9. Whole Grains



- ▶ Based on the meta-analysis of the highest category of dietary fiber intake (mean  $\approx$  26.9 g/day) versus the lowest (mean  $\approx$  15.0 g/day), people with a high fiber intake had a 23% lower risk of total mortality than those who had a relatively low fiber intake.
- ▶ The inverse association did not vary by sex or geographical region.
- ▶ The results of the dose-response meta-analysis suggested that each additional 10 g of fiber intake daily may lower the risk of total mortality by 11%.
- ▶ Mean dietary fiber intake in the United States and in many European countries (15 g/day) is less than half of recommended levels (28-36 g/day)

## 9. Whole Grains

- |               |                         |
|---------------|-------------------------|
| ▶ brown rice  | ▶ whole-grain barley    |
| ▶ buckwheat   | ▶ whole-grain corn      |
| ▶ bulgur      | ▶ whole-grain sorghum   |
| ▶ millet      | ▶ whole-grain triticale |
| ▶ oatmeal     | ▶ whole oats            |
| ▶ quinoa      | ▶ whole rye             |
| ▶ rolled oats | ▶ whole wheat           |
|               | ▶ wild rice             |



## 8. Garlic and Onions



- Garlic and onions contain sulfur containing phytonutrient compounds that **inhibit enzymes that generate an inflammatory response**
- Along with the multitude of vitamins and minerals in garlic and onions that provide health benefits, the sulfur compounds pack an additional punch acting as antioxidants
- The sulfur compounds in garlic and onions work with vitamin C to help **kill harmful bacteria**

## 8. Garlic and Onions



- Garlic adds more than just great flavor, it contains natural sulfur compounds that have been shown to:
  - **Inhibit the growth of cancers and tumors**
  - **Lower blood cholesterol and blood pressure**
  - **Act as an anticoagulant**
  - **Stimulate the body's immune system**
- One clove contains Vitamins A, B, and C, selenium, iodine, potassium, iron, calcium, zinc and magnesium
- Garlic has anti-bacterial, anti-ulcer, and anti-clotting properties, and also reduces cholesterol providing cardiovascular protection

## 8. Garlic and Onions



- Onions contain chromium, vitamin C, fiber, manganese, folate, potassium and other beneficial vitamins and minerals
- The higher the intake of onions, the lower the level of glucose found during a glucose tolerance test- sulfur-containing phytonutrients increase the amount of free insulin
- Onions have been shown to lower cholesterol, promote digestive health, and promote inflammatory balance and immune health

## 7. Green Tea



- China claims to have first used green tea more than 5000 years ago!
- Green tea comes from the mature leaves of the plant and is sold as either fresh or dried unfermented leaves
- Green tea may help with vasodilation, improve blood flow to the brain, and protect against Alzheimer's

## 7. Green Tea



- Green tea is particularly rich in health-promoting flavonoids, which account for 30% of the dry weight of a leaf, including catechins
- The most abundant and well known catechin in green tea is EGCG
- Catechins have been found to be more potent free radical scavengers than antioxidants Vitamins E and C

## 7. Green Tea



- Green tea drinkers appear to have lower risk for: **bacterial or viral infections, cancer, stroke, osteoporosis, and periodontal disease**
- In one study, those drinking five or more cups of green tea each day were **16% less likely to suffer from coronary artery disease**
- Green tea consumption may help prevent type 2 diabetes by improving glucose tolerance and insulin sensitivity

## 6. Yogurt / Kefir

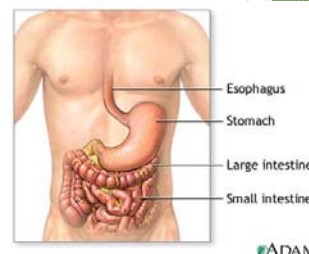


- Yogurt and kefir are **probiotics**, meaning they contain live, healthy bacteria
- Probiotics exist naturally through the digestive tract and support the body in establishing optimal digestion and aid in immune function
- ▶ Probiotics support maintenance of digestive and immune health; benefits are strain specific
- There are at least two types of probiotics in all yogurts- Lactobacillus and Streptococcus
- The live cultures in both act to predigest lactose, making them better tolerated by those who are lactose intolerant

## 6. Yogurt / Kefir



- A low-fat blend of carbohydrates and protein may help cut hunger and reduce overall weight
- Promising health benefits found in individuals with: lactose intolerance, constipation, diarrheal disease, colon cancer, H. pylori infection, and allergies
- Not only promotes digestive health, but stimulates a healthy immune system
- Good source of calcium, B vitamins, and vitamin K making them beneficial for bone health





## 6. Yogurt / Kefir



- Randomized double-blind studies have provided evidence of probiotic effectiveness for the treatment of acute diarrhea and antibiotic induced diarrhea, and prevention of cow-milk induced food allergy in infants and young children
- Preliminary studies show **reduced anxiety, depression, low mood** in those who increase intake of probiotics
- **Boost immune support**

## 5. Flaxseed



- ▶ Support maintenance of heart and immune health
- ▶ Provides soluble fiber, lignans, and Omega-3 fats in addition to vitamin B6, folate, and magnesium
- Protects against heart disease by **reducing LDL cholesterol**
- **Lignans** can help **maintain colon and breast health** by **binding to circulating estrogens** and other substances that might promote cell growth

## 5. Flaxseed



- One of the most concentrated food sources alpha-linoleic acid (ALA), an omega-3 fatty acid- a readily used form of energy and fatty acid essential for proper skin function
- Provides an **anti-inflammatory effect** including reduction of C-reactive protein
- Have been found to have a **laxative effect**, decreasing symptoms of constipation and increasing frequency of bowel movements- important for digestive health and prevention of colon cancer

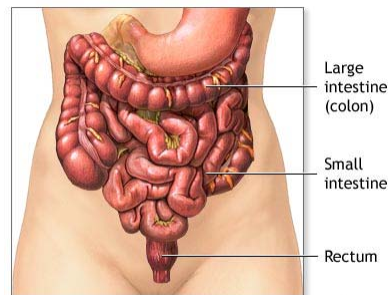
## 5. Flaxseed



- Just 2 tablespoons of flaxseed offers 4 grams of fiber- as much fiber as 1 cup of cooked oatmeal
- To get the same amount of lignans in 2 tablespoons flax, you would need to eat 30 cups of broccoli
- Add ground flaxseeds to your morning oatmeal, pancakes, or yogurt

## 4. Cruciferous Vegetables

The consumption of cruciferous vegetables has been associated with a reduced risk of lung, stomach, colon, and rectal cancers, as well as reduced risk of heart disease



ADAM

## 4. Cruciferous Vegetables

- ▶ May enhance detoxification of undesirable compounds; bolsters cellular antioxidant defenses
- ▶ What sets these vegetables apart from others are their sulfur-containing compounds, glucosinolates, which not only give these veggies their distinctive smell but also their health-promoting benefits
- ▶ Glucosinolates may help prevent cancer by assisting the body in ridding itself of carcinogens or by protecting normal cells from transforming into cancer cells, according to the Linus Pauling Institute.

## 4. Cruciferous Vegetables



- Cabbage, broccoli, bok choy, collard greens, cauliflower, and Brussels are in the family of cruciferous vegetables
- The health benefits associated with cruciferous vegetables has been attributed to their high concentration of **glucosinolates**, a sulfur-compound
- Cruciferous vegetables help protect against DNA damage

## 4. Cruciferous Vegetables



- Broccoli and other cruciferous vegetables are full of **sulforaphane** and other antioxidants that help to protect healthy cells from damage caused by free radicals.
- But when it comes to the veggies, **raw or lightly cooked** may be better: recent research has found that boiling in water has a "leaching effect."
- Broccoli is a concentrated source of heart-healthy nutrients-fiber, folic acid, vitamin B6, vitamin E, niacin, magnesium, potassium, and some omega-3
- Has the **same amount of calcium per ounce as a glass of milk!**



## 4. Cruciferous Vegetables



- Cabbage is one of the oldest known vegetable around and provides an inexpensive source of vitamins K, A and C, and fiber
- Cabbage also provides bone-building calcium, and promotes women's health by **improving estrogen detoxification and reduce the incidence of breast cancer**
- Brussels sprouts provide a rich source of vitamins K, A and C, and fiber as well as folate
- Brussels sprouts enhance activity of the body's natural defense system to protect against disease

## 4 ½ Leafy Greens



- ▶ Functional Components: Phytochemicals such as carotenoids, sulforaphanes, apigenin, and lutein/zeaxanthin.
- ▶ What they do: Carotenoids block carcinogens from entering cells (cancer protective), sulforaphanes and apigenin provide heart protection, lutein reduces blindness in the elderly, and zeaxanthin enhances immune function.
- ▶ Foods: Spinach, kale, collard greens, broccoli, broccoli rabe, broccoli sprouts, arugula and other leafy greens.

### 3. Soy



- Soy is a protein-rich bean with numerous health benefits
- Soybeans contain important plant chemicals known as isoflavones which have powerful antioxidant properties
- Lower cancer incidence—overall cancer and some specific types such as breast cancer—in Asia compared to the United States according to the American Institute for Cancer Research

### 3. Soy



- ▶ Supports maintenance of bone and immune health, and healthy brain function; for women, supports menopausal health
- ▶ Try including tofu in some of your favorite recipes.
- ▶ Get your isoflavones by choosing soft, silken tofu and adding it to the cheese sauce mixture when making lasagna.
- ▶ Other recipes that work well with tofu additions include quiches, veggie dips, quesadillas, chili, chocolate mousse and even baked goods!

### 3. Soy



- Soy protein sources include edamame, tofu, tempeh, soymilk, miso, and soynuts
- Isoflavones have demonstrated a **reduced risk of prostate cancer in men and breast cancer in women**
- The powerful isoflavones are also ideal for protection against **heart disease and stroke**
- Adding 25 grams of soy protein to the diet has shown to **lower blood cholesterol level by 12-15%**
- **Heavy GMO crop – buy organic**

### 2. Tomatoes



- Tomatoes get their red color from **lycopene**, a potent antioxidant that helps protect the body from disease
- Though lycopene has received most of the attention for providing health benefits, it is the synergistic effect of all nutrients in tomatoes that provides them with their optimal health-promoting benefits
  - carotenoids, vitamin C, vitamin K, potassium, and many more!

## 2. Tomatoes



- Processed tomato products are most easily absorbed by the body- tomato sauce, tomato juice, tomato paste, and tomato puree
- Tomato components can potentially **stop the proliferation of several types of cancer cells including breast, lung, and endometrium**
- Diets the incorporate tomatoes can lower prostate cancer risk, and risk of stomach and pancreatic cancers according to The Cancer Research Group

## 2. Tomatoes



- One study tracked a large group of men for six years and found that those who ate the most tomato products had a **35% lower risk of early prostate cancer and 53% lower risk of advanced prostate cancer**
- Tomato and tomato product consumption has shows to **provide protection against LDL oxidation** and reduce the risk of developing cardiovascular disease
- Lycopene in tomatoes may even help protect against UV damage!



## 1. Oats, Oatmeal, and Oat bran



- Whole grains offer a variety of antioxidants and vitamins, and are packed with fiber, known to help protect against high cholesterol and regulate blood sugar levels, which can safeguard against diabetes.
- And one type of whole grain in particular — oats — has a unique antioxidant called avenanthramides that can offer additional protection against cholesterol.

## 1. Oats, Oatmeal, and Oatbran



- **Beta-glucan, soluble fiber**, is a key component of the health benefits provided by oats
- There are 3 grams of soluble fiber in 1.5 cups of oatmeal or ½ cup of oat bran-- enough to lower your cholesterol
- Recent studies have shown that eating a bowl of oatmeal may not only help you out of that "morning fog" but will help ward off that afternoon "slump" in energy many of us often feel
- Oats, oatmeal, and oat bran help to **stabilize blood sugar**

## The Health “Halo” Effect

Foods that sound "healthy" but aren't

### "Bran" Muffins



- Fat-Filled Bran Muffins
- Store-bought and café muffins may seem like a healthy food choice, but too often their whole grains are lost in a sea of oversized portions, sugar, sodium, and fat — a resounding diet trap.
- To add insult to injury, some store-bought muffins skip out on the whole-grain ingredients and many don't contain enough to counteract the sugar and fat in your diet anyway.
- You can keep your muffins from becoming a diet trap by making them yourself and boosting the fiber fill-up with oat bran and [ground flaxseed](#) — just refrain from using supersized muffin tins to maintain diet portions.
- Dunkin Donuts Honey Bran Raisin muffin- 440 calories, 13 g fat, 74 g carbohydrate, 4 g fiber, 7 g protein

## Granola



- Granola: Sugar Overload
- More than any other food, granola has tricked the diet industry into thinking it's healthy, when really those organic, all-natural whole grain and nut mixes are packed with calories, fat, and sugar.
- Just a ½ cup serving of granola can easily have upwards of 200 calories, not to mention at least 10 grams of sugar
- To get the crunch you crave, make your own healthy mix to skip out on added sugars
- Measure your portions carefully, and sprinkle granola on top of yogurt instead of eating it alone.

## Dried Fruit



- Dried Fruit: Sugary Saboteur
- Dried fruits are great sources of concentrated vitamins, minerals, and fiber, but — and it's a big but to avoid — you have to limit your intake because you're also getting very concentrated calories and sugar.
- Consider prunes, which are dried plums: Just one cup of prunes contains more than 400 calories and 45 grams of sugar while one cup of fresh plum has just 76 calories and 16 sugar grams.
- Plus, when you eat fresh fruit you get the added water content that can help you feel full.

## Caesar Salad



- Caesar Salad Calorie-Bomb
- Romaine lettuce, the foundation of Caesar salad, is richer in vitamins and minerals than iceberg lettuce, so that's a good start.
- But look past the leaves, and you'll see plenty of diet trips, such as high-fat dressing, calorie-rich cheese, and fatty croutons.
- Just because you ask for dressing on the side when you order your salad doesn't mean you're spared all the excess calories
- A fully-loaded Caesar can top 800 calories. Instead, top your greens with grilled chicken strips and a drizzle of balsamic vinegar.

## Juice



- A drink that's 100 percent fruit juice sounds like a healthy way to check off your daily fruit needs.
- The problem is, even if you're drinking unadulterated juice (not a *juice drink*, a diet trap with tons of added sugar and sometimes barely 10 percent real juice), you're missing out on the fiber and the nutrients available only in the whole food, especially fruits with edible peels.
- Moderation matters for this health food. Serving sizes for store-bought juice in bottles and at juice bars and cafes are out of control
- And if you're not careful, you can add hundreds of calories to your daily diet through juice.
- Scale down your fruit juice servings to one 4-ounce glass a day, or skip fruit juice entirely and just eat the real thing.



## Naked Juice

**100% JUICE**

**Nutrition Facts**  
Serving Size 8 fl oz (240mL)  
Servings Per Container About 2

Amount Per Serving	8 fl oz	per bottle
<b>Calories</b>	130	250
Calories from fat	0	0
<b>% Daily Values**</b>		
<b>Total Fat</b> 0g*	0%	0%
Saturated Fat 0g	0%	0%
Trans Fat 0g		
<b>Cholesterol</b> 0mg	0%	0%
<b>Sodium</b> 10mg	1%	1%
<b>Potassium</b> 340mg	9%	19%
<b>Total Carb.</b> 29g	10%	18%
Dietary Fiber 0g	0%	0%
Sugars 29g		
<b>Protein</b> 1g		
Vitamin A	0%	0%
Vitamin C	0%	0%
Calcium	2%	4%
Iron	2%	4%

\*Amount in 8 fl oz. Per bottle contributes an additional 10mg sodium, 310mg potassium, 26g carbohydrate (20g sugars), 1g protein.  
\*\*Percent Daily Values are based on a 2,000 calorie diet.

ALL SUGARS ARE FOUND NATURALLY IN THE FRUIT. NOT A LOW CALORIE FOOD.

**shake well!**  
separation is natural  
**INGREDIENTS:** APPLE JUICE, BANANA PUREE, STRAWBERRY PUREE, BLACKBERRY PUREE, RASPBERRY PUREE, NATURAL FLAVORS.

DIST BY: NAKED JUICE CO.  
MONROVIA, CA 91016  
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## Margarine

- Margarine can be a better choice than butter, particularly for people who are concerned about their heart health
- But not all margarines are created equal: Many stick forms contain **hidden trans fat**, which can be even worse for your heart than the saturated fat in butter.
- When choosing a stick, go for the brand with the lowest levels of fat and cholesterol.
- If you're at risk for heart disease, choose a brand that has been fortified with plant stanols and sterols, which can help reduce bad cholesterol levels.

## Turkey Burgers



- Diet-Busting Turkey Burgers
- Turkey is generally thought of as a fit and trim alternative to red meat, but depending on the cut and preparation, a burger **can easily have more fat than a lean cut of beef**, not to mention the calories from the bun you save when you just eat a cut of meat.
- Look for the leanest ground turkey
- Regardless of your patty preference, go light on the condiments, layering vegetables onto a whole-grain bun or lettuce wrap instead of cheese and mayo .

## Vitamin Water



- Calorie and sugar-packed vitamin waters
- Yes, they contain some vitamins. They also contain about 200 calories per bottle, which translates to a 20-pound weight gain in a year if not burned off
- One serving contains about 30 grams of sugar
- The majority of us get enough of vitamins added to vitamin waters from diet
- Any additional vitamins are excreted in urine

## Vegetable Chips



- The deceitful vegetable chip
- A vegetable in the tasty form of a chip may sound like a great choice, but most nutrition labels read the same as a calorie-dense potato chip
- Veggie chips contain vegetable powders- once a vegetable is processed into a chip, it has lost many of its nutrients
- *Ingredients: Potato Flour, potato starch, expeller pressed safflower oil, salt, sugar, tomato paste, turmeric, spinach powder, beetroot powder.*
- One serving (1 oz) of vegetable chips contains 150 calories, 9 g fat, and 16 g carbs
- One serving (1 oz) of lays potato chips contains 160 calories, 10 g fat, and 15 g carbs

## Let's Get Cooking!

