

Fighting Cancer with Food and Activity

Key to reducing cancer risk and progression are lifestyle choices we can control. These include the type and amount of food we eat, and the frequency and intensity of the physical activity we enjoy. Both diet and activity are lifestyle factors that affect the environment (or “terrain”) in which our cells reside. Actions we can take to encourage a “terrain” resistant to cancer growth include controlling weight, maintaining good circulation, eating plenty of plant foods (vegetables, fruits, whole grains, beans/legumes), and choosing healthy fats.

Control Your Weight

Being overweight or obese increases the risk of cancer.

Common cancers associated with obesity include cancers of the gastrointestinal tract (esophagus, gallbladder, colon, rectum) and hormone-related cancers (breast, uterus). It’s not just the number of pounds on the scale that is a concern, but perhaps more importantly the amount of stored fat compared to lean body mass (muscle) that makes up those pounds.

In addition to the amounts eaten, the type of foods and beverages we consume play a role in weight control. Diets plentiful in highly processed foods that are low in natural fiber and contain mainly refined carbohydrates (like white flour, sugar), as well as purified fats (like corn, cottonseed, safflower, soy oils) make it easy to consume excessive energy which favors fat storage. Excessive intake of simple sugars like fructose (as in high-fructose corn syrup) in the absence of fiber (as found in fruit) contribute to obesity by affecting the hormonal regulators of hunger and satiety.

Physical activity increases metabolic rate, allowing us to consume more food and more disease-fighting nutrients without gaining weight. Inactivity contributes to loss of lean body mass and favors fat accumulation. Excess stored fat in turn leads to insulin resistance, which is associated with chronically higher levels of insulin and insulin-like growth factor, both associated with a “terrain” more conducive to cancer growth. The link between obesity, diabetes, and cancer is currently being studied.

Most health authorities recommend that we maintain a healthy weight and avoid gaining weight during adulthood (preferably less than 11 pounds gained after the age of 18 years, assuming a healthy weight at 18). If weight loss is needed, it is best to avoid rapid weight loss of greater than 2 pounds/week. Extreme caloric restriction leading to rapid weight loss can deprive the body of key nutrients needed for optimal body functioning, as well as overwhelm the body’s detoxification systems by releasing too many potentially damaging environmental chemicals into the circulation for the body to neutralize and eliminate safely.

Maintain Good Circulation

Good circulation is critical for good health. You might think of it like this: circulation = energy = life. Optimizing energy flow or Qi (pronounced “chi” or “chee”) is a fundamental premise of Chinese medicine. Taking a more Western view, we might focus on supporting a healthy flow through our cardiovascular and digestive systems.

Our blood delivers oxygen and nutrients to our tissues, and the blood, bowels, kidney, liver, and lymphatic system remove the toxins. Regular physical activity supports good blood circulation and waste removal by stimulating the bowels and the lymph system. A diet rich in plant foods also helps to maintain a healthy circulatory system. Plant foods are generally lower in fat, especially saturated fats (hard at room temperature) that increase the tendency of the blood to thicken and clot. Plant foods are also rich in antioxidant and anti-inflammatory “protectors” that help to reduce cellular damage and inflammation that can lead to plaque buildup which ultimately affects blood flow. The fiber provided by plant foods supports regular waste removal via the bowels.

In addition to its role in supporting weight control and circulation, regular moderate physical activity helps to reduce several key biological indicators of cancer risk, including sex hormone levels, insulin resistance, and inflammation. Physical activity can also help strengthen the immune system, which plays an important role in controlling the growth and spread of cancer cells.

The current guidelines for moderate physical activity are 30–60 minutes at least 5 days/week. If walking is your activity of choice, aim for a minimum of 100 steps per minute (a 30-minute walk would be 3,000 steps or more). Or if you choose to walk on a treadmill, set the pace at 3–4 miles/hour (or a 15–20 minute mile).

According to recent research, simply moving rather than being sedentary is critical to good health. Sedentary behavior (sitting for prolonged periods of time) has emerged as a distinct risk factor for cancer, as well as other chronic diseases. It’s helpful to wear a pedometer and set a goal of 10,000 steps/day. When you check your pedometer mid-morning and find you have only done 1,500 steps, it can be a powerful incentive to get up and move more through the rest of the day.

Eat Plenty of Plant Foods

A diet that helps fight cancer is one that includes plenty of plant foods (vegetables, fruits, whole grains, and beans/legumes), while limiting processed (refined) foods, and red meats. Plant foods provide fiber, along with protective nutrients and phytochemicals.

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Fiber-rich foods help us to feel full with fewer calories, which supports weight control. Fiber also lowers the glycemic load or elevation of blood sugar after a meal. Frequent ingestion of meals and snacks low in fiber contribute to chronically elevated blood sugar, which is in turn associated with higher levels of insulin and insulin-like growth factor, both of which are associated with increased cancer risk. Fiber also speeds transit through the gastrointestinal tract, reducing exposure of gut mucosa to cancer-causing chemicals. Additionally, fiber enhances the excretion of carcinogens and helps normalize hormone levels, which in turn can reduce the risk of hormone-related cancers (like breast and uterine). Fiber also promotes the growth of “friendly bacteria” in the gastrointestinal tract. These “friendly bacteria” use fiber as a fuel source to produce some of the nutrients needed to keep the lining of the gut healthy, as well as some nutrients that are reabsorbed and used to keep our body systems working properly.

It’s recommended that we consume about 25-35 grams of fiber each day. (Table 1) You can estimate your fiber intake by figuring that every serving of vegetable or fruit provides about 2 grams of fiber, each serving of whole grains provides about 3 grams of fiber, and each serving of beans/legumes provides about 6 grams of fiber. To determine if a grain product promoted as “whole grain” actually is whole grain, check to make sure the first ingredient is whole, sprouted or malted wheat or grain. Wheat flour is actually white flour so be sure and read the label. You can also check the label to confirm that a serving of the grain product actually provides at least 3 grams of fiber.

Plant foods also provide a wide array of protective nutrients and phytochemicals that play important roles in maintaining health and preventing diseases like cancer. Phytochemicals are biologically active compounds produced by plants to protect them from damage from the environment. When we eat plants, these “plant protectors” in turn help to protect our body from damage that can lead to cancer and other chronic conditions.

**Table 1 – Getting Enough Fiber
(25-35 g/day)**

Food	Recommended Serving/day	Fiber/Serving (g)	Total Fiber (g)
Vegetables	4 -5	2	8 -10
Fruit	2 -3	2	4- 6
Whole Grains	2- 3	3	6- 9
Beans	1/2 - 1	6	3- 6
TOTAL			21-31

Serving = 1/2 cup cut-up fruit, vegetable; 1/2 cup cooked grains or beans; 1 slice bread

Phytochemicals are what give plants their color, taste, and fragrance. Plant foods with **BIG** color and **STRONG** flavor not only please the senses, but also help to protect our health. Carotenoids, found in deep orange, red, and green plants, are powerful antioxidants that help to protect our DNA from damage that can lead to cancer. Carotenoids are also the raw material from which retinol or vitamin A is made. Vitamin A not only supports the health of epithelial cells (skin, GI tract, genitor-urinary tract), but is also critically important for the normal functioning of the immune system, which works to search out and destroy cancer cells. Flavonoids, supplied by plants, protect tissues from oxidative damage (acting as antioxidants) and also have anti-inflammatory properties. The sulfur compounds (indoles, isothiocyanates, allyl sulfur) found in cruciferous vegetables (like arugula, broccoli, cabbage, kale) and in onions and garlic, and the terpenoids found in herbs and spices increase the activity of detoxification enzymes in the body.

To obtain a good supply of the plant protectors, it’s a good idea to eat at least 5 - 9 servings of vegetables and fruits every day. The range is based on body size and caloric intake. Smaller women need at least 5 servings every day, while larger people (most men) need at least 8 - 9 servings every day. A serving is a ½ cup cut-up vegetable or fruit, 1 cup raw leafy vegetable, or ¼ cup dried fruit. To insure adequate fiber and plant protector intake, it is best not to count iceberg lettuce, fruit juice, or white potatoes as you work toward your vegetable and fruit goal.



Choose Healthy Fats

To reduce cancer risk, limited fatty food and choose healthy fat. Not only are fatty and fried foods energy-dense, making weight control more challenging, but fat can be a source of fat-soluble contaminants. The rancid fats found in aged meats, cheeses, and deli meats can contribute to oxidative damage of body tissues contributing to cancer risk. To reduce ingestion of fat-soluble contaminants, it is helpful to eat smaller sized animals (like chickens) and fish (like sardines) that are lower on the food chain.

Staying Healthy

The larger, longer-lived animals (beef, lamb, pork) and fish store more contaminants in their fat. The EPA recommends that consumption of farmed salmon be limited to one serving (3 oz)/month. It is also helpful to limit or avoid full-fat dairy products and red meats, as well as processed foods made with hydrogenated (trans) fats. Not only are these fats unhealthy for the cardiovascular (circulatory) system, but research continues to show an association between red and deli meats and cancer (both cancer risk and cancer mortality). The current guideline is to limit red meat (beef, lamb, pork) consumption to 18 ounces per month.

Refined oils (corn, cottonseed, safflower, sunflower, soy) and processed and fried foods made with these oils are best minimized or avoided, because these oils tend to be pro-inflammatory. Chronic low-grade inflammation contributes to a “terrain” more permissive of cancer growth. The healthiest fats are those found in plant foods, like avocados, nuts, and seeds, because along with fat, these foods also provide nutrients and other plant protectors. Including some anti-inflammatory omega-3 fats in your diet several times each week is also helpful. While fish and seafood provide the most biologically active forms of omega-3 fatty acids (DHA and EPA), flaxseed, hemp, and chia seeds also provide these anti-inflammatory fats.

Reducing Cancer Risk and Progression

- Maintain a healthy weight
- Enjoy a physically active lifestyle:
 - 30-60 minutes/day moderate intensity activity
 - At least 10,000 steps/day
- Eat plenty of plant foods:
 - Vegetables (4-5 servings/day)
 - Fruits (2-3 servings/day)
 - Whole grains (2-3 servings/day)
 - Beans/legumes (3-4 servings/week)
- Limit fatty foods and choose healthy fats:
 - Minimize fried, savory snack foods, fast foods
 - Go easy on salad dressings, mayonnaise
 - Limit red meat (no more than 18 ounces/month)
 - Eat fish or seafood (not fried) 2-3 times each week (but farmed salmon no more than 1 serving/month)
- Avoid sweetened beverages and foods made with high-fructose corn syrup

Remember, you can use your fork to reduce cancer risk and progression by:

- Avoiding excess weight gain
- Eating plenty of vegetables, fruits, whole grains, beans
- Reducing the consumption of fatty foods
- Eating fish or seafood (not fried) 2-3 times each week
- Avoiding sweetened beverages & food made with high-fructose corn syrup

About the Author

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FOOD FOR THOUGHT: Healing Foods to Savor

by Sheila Kealey and Vicky A. Newman with Susan Faerber

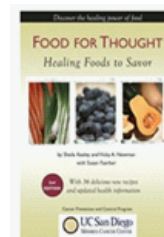
Order 2nd Edition <http://pub.etr.org/food4thought>

or phone 800-321-4407

This book will inspire you with practical tips on how to purchase and prepare delicious food with eye appeal that will nourish your body, protect your health, and nurture your spirit.

Food For Thought: Healing Foods to Savor features an alphabetical reference of vegetables, fruits, beans/legumes, and whole grains that includes:

- Great tasting recipes, each with complete nutritional analysis
- Storage and preparation tips
- Grocery shopping tips
- Serving ideas
- Healthy eating and living guidelines
- A guide to understanding protein, fats, carbohydrates, fiber, sodium, potassium, calcium and magnesium.



The cookbook sells for \$25 and quantity discounts are also available through ETR at <http://pub.etr.org/food4thought>.

All proceeds from the sale of this book go to the Cancer Prevention and Control Program of the Moores UCSD Cancer Center.

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