



The Cancer-Fighters in Your Food!

Learn more about phytochemicals, antioxidants and how to find them in your foods.



What are phytochemicals?

“Phytochemical” refers to a substance that occurs naturally in plants. They provide flavor, protection, color and smell to a plant.

When we eat foods that contain phytochemicals, they work to fight off cancer and stimulate our immune systems. Phytochemicals from food can even slow the growth rate of cancer and prevent further cell damage.



Expert Opinion

The American Institute of Cancer Research (AICR) recommends a diet high in plant foods to prevent cancer and reduce the risk of recurrence. Plant foods contain many natural cancer-fighters: phytochemicals, fiber, vitamins, antioxidants and minerals. AICR estimates that one third of common cancers could be prevented if Americans ate a healthy diet, maintained a healthy weight and got at least 30 minutes of daily physical activity.

What Are Antioxidants?

Many phytochemicals are antioxidants, as well as vitamins such as Vitamin C, E and A. Antioxidants protect the body's cells from damage, which may protect us from cancer and other conditions. Antioxidants help our immune systems stay in balance.

While our bodies produce some antioxidants, support from the diet is crucial and can have multiple benefits. For example, an orange that provides Vitamin C also supplies a variety of phytochemicals.



A Word about Supplements

AICR recommends that people get their nutrients through food and not rely on supplements—including antioxidant and phytochemical supplements—to reduce cancer risk. However, some groups of people benefit from taking supplements for specific health reasons. For more advice tailored to your specific needs, speak to your healthcare provider.

Phytochemicals and antioxidants from whole foods work together to boost your health.

Eating a **varied** diet filled with plant foods - vegetables, fruit, whole grains and beans – offers the most protection. While no one phytochemical or food can protect you from cancer, existing evidence has found that the nutrients in plant foods **work together** to prevent and fight cancer. Mix it up! Try to eat as many **types, combinations** and **colors** of food as you can!

How Much Should I Eat?

The amount of **plant foods** you need depends on age, physical activity and gender, but here are guidelines from the USDA to get your phytochemicals and antioxidants:

Fruits: 1½ -2 cups per day

Vegetables: 2-3½ cups per day

Whole grains: 3 servings per day (a serving equals 1 slice of bread or ½ cup rice, cooked cereal)

Legumes (peas, beans): 1-2½ cups per week

Looking For More Help?

Everyone needs support to make health changes. If you'd like more information on any of these topics or have other nutrition-related questions, make an appointment with one of the great UMHS outpatient dietitians!

Here is a sample of how to add plant foods throughout your day. Add other protein-dense foods to **round out** your meal, such as lean meat, nuts and low-fat dairy or dairy alternatives.



Breakfast:	Whole-grain wheat or oat cereal with blueberries
Snack:	Grapes
Lunch:	Vegetable-bean soup (minestrone) Apple
Snack:	Edamame beans (green soybeans)
Dinner:	Salad with mixed lettuce, herbs, tomatoes, onion, carrots and bell peppers, sprinkled with a tablespoon of nuts Steamed broccoli

Antioxidants & Phytochemicals Cheat Sheet

While there are many more sources and types, this infographic gives you an idea of how many options there are to eat cancer-fighting antioxidants and phytochemicals!

VITAMIN E

- nuts
- whole grains
- vegetables
- vegetable oil
- liver oil



VITAMIN C

- citrus fruits
- tomatoes
- green leafy veggies
- strawberries



VITAMIN A

- sweet potatoes
- cantaloupe
- broccoli
- carrots
- kale
- apricots
- squash
- collards
- prunes



CAROTENE

- pumpkin
- sweet potatoes
- carrots
- squash



SELENIUM

- brazil nuts
- fish/shellfish
- red meat
- grains
- eggs
- garlic
- milk



FLAVONOIDS

- soy
- red wine
- pomegranate
- cranberries
- blueberries
- tea



Infographic courtesy of visual.ly.com

Healthy Eating – Recipe:

Ginger-Carrot Salad with Cranberries

1 Tbsp. freshly squeezed lemon juice
½ tsp. honey
1 tsp. freshly grated or finely minced ginger
1/8 tsp. cinnamon
Pinch of salt
2 cups grated or julienned carrots (can use part cabbage)
¼ cup dried cranberries
2 Tbsp. sliced almonds or peanuts

In medium bowl, whisk together lemon juice, honey, ginger, cinnamon and salt. Toss with carrots, cabbage and cranberries. Garnish with sliced almonds or peanuts and serve.

Makes 4 servings. Per serving: 73 calories, 2 g total fat (>1 g saturated fat), 15 g carbohydrates, 1 g protein, 2 g dietary fiber, 58 mg sodium.

Recipe courtesy of the American Institute for Cancer Research 2015.

Nearly every component of this fresh, crunchy salad has multiple phytochemicals and antioxidants! You can also try adding other fresh vegetables, such as broccoli!



Resources:

1. American Institute for Cancer Research

<http://www.aicr.org>

2. University of Michigan Health Blogs

<http://uofmhealthblogs.org>

3. University of Michigan Cancer Center

<http://www.mcancer.org>

4. UMHS Patient Food and Nutrition Services Healthy Eating Tip of the Month

<http://www.med.umich.edu/pfans/services/tip.html>



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