Cancer and Nutrition
What to Eat and What to Avoid

By Donald Abrams, MD

According to a survey conducted by the American Institute for Cancer Research, 94 percent of Americans recognize tobacco as a cause of avoidable cancers, 87 percent recognize ionizing and UV light, but only 51 percent appreciate the contribution of diet and nutrition.

In fact, it is estimated that 30 percent of avoidable cancers may be attributed to what we eat and what we don’t eat, a proportion equivalent to those caused by tobacco use.

Data continues to mount that cancer patients consuming the Standard American Diet—which abbreviated SAD for a reason—have worse outcomes than those who select a more prudent menu.

The American Institute for Cancer Research/World Cancer Research Fund’s “Food, Nutrition, Physical Activity, and Cancer Prevention: A Global Perspective” lists nine recommendations for cancer risk reduction, with the tenth being: “After treatment, cancer survivors should follow the recommendations for cancer prevention.”

Foods to Increase or Incorporate Into the Diet

Fruits and vegetables are important components of the cancer-fighting diet. It is ideal to consume five to nine servings of fruits and vegetables per day, yet recent data from the Centers for Disease Control suggests that only 14 percent of adults in the U.S. are consuming even the minimum five servings a day. Fruits and vegetables are rich in fiber and vitamins and are our most potent source of antioxidants. In addition, they contain a number of phytonutrients that are being found to promote anticancer activity.

Broccoli in particular has been shown in numerous scientific studies to reduce the risk of many malignant cancers.

Cruciferous vegetables—broccoli, cauliflower, brussel sprouts, cabbage, kale, collard greens, and radishes to name a few—are particularly potent cancer fighters. Not only are they high in vitamin C and soluble fiber, but they also contain phytochemicals such as sulforaphane, indole-3-carbinol, and diindolylmethane, which have impressive anticancer properties. Broccoli in particular has been shown in numerous scientific studies to reduce the risk of many malignant cancers.

Some studies suggest that raw broccoli may be more potent than cooked, but blanching, steaming, or stir-frying cruciferous vegetables does not decrease their potency significantly. In addition to cruciferous vegetables, I advise patients that adding orange-yellow vegetables to the shopping list offers a good source of beta-carotene as well as color and variety to the diet.

For leafy greens, I favor those that are also cruciferous so we get a two-for-one, both the glucosinolates as well as the folate in the leafy green foliage.

Heavily pigmented fruit—the berries, red grapes, and pomegranates—are important and powerful antioxidants. Patients who are receiving active radiation treatment may be advised to avoid antioxidant supplements as they could interfere with radiation. Whole food sources of antioxidants, like berries, however, are likely not concentrated enough to affect radiation or chemotherapy drugs that work via oxidative damage to tumor DNA. Therefore, I recommend that my patients eat an antioxidant-rich diet, even during active treatment; but I often advise that they delay antioxidant supplementation, especially if our goal is cure.

A plant grown outdoors organically is a much richer medicine than conventionally grown produce.

Regarding produce, and all food for that matter, I encourage my patients to eat organic as much as possible. This is only partly to avoid the pesticides, herbicides, and fertilizers that have no right to be in our bodies, but because an organically grown plant needs to fight to protect itself from other plants, birds, insects, and the sun. And the only way a plant can protect itself is by making chemicals called phytalexins, which, fortunately for us, are often the phytonutrients that benefit us. So a plant grown outdoors organically is a much richer medicine than conventionally grown produce.

I do appreciate that it may not be realistic or affordable for some to consume organic produce. We live in a country where for the price of the organic apple that I end my lunch with daily, someone can purchase a double cheeseburger, fries, and a sugary soft drink. If one can’t buy organic all the way, www.organic.org is a good resource for avoiding the most toxic conventional products.

Garlic is a powerhouse in the cancer-fighting kitchen.

When it comes to adding both flavor and nutrients to a dish, garlic and onion are great ways to enhance a meal. Garlic is a powerhouse in the cancer-fighting kitchen. It is also antifungal, anti-inflammatory and helps to lower blood pressure and cholesterol.

Ginger and turmeric are great options too. Ginger not only helps to relieve nausea but research has shown that it has anticancer effects. Turmeric, a spice that is widely used in India, providing the yellow pigment of curry, also has been demonstrated in vitro to inhibit cancer at many stages of the cell cycle. Adding black pepper to turmeric increases absorption of the active ingredients a thousandfold.

Shiitake mushrooms are enjoyed in Asia for their immune-enhancing, antitumor and antiviral, and general antibiotic properties. They are rich in amino acids and fiber and are a good source of vitamins, particularly B12 and ergosterol, which is converted by sunlight into vitamin D. Shiitakes also contain an antitumor polysaccharide known as lentinan, which triggers lymphokinens, interferon, and interleukin. This cascade augments natural killer-cell function. Shiitake, maitake, and enoki mushrooms and their constituents are often used concurrently with chemotherapy and radiation in Japan as adjuvant therapies.

All edible mushrooms must be cooked. While button mushrooms (Agaricus species), commonly sliced raw and tossed into salads, actually contain a carcinogenic, agartine, that is mostly inactivated with cooking. There is some suggestion that the Agaricus species (white buttons, cremini, and portobello mushrooms) may have an aromatase-inhibitor-like effect. (Aromatase inhibitors stop tumor growth by blocking estrogen production.)

Things to Avoid or Limit

It is as important to know what to include in a well-balanced diet as it is to know what to avoid or limit. The first of the AICR guidelines to address food says simply to avoid sugary drinks. I went to the microphone at the 2007 meeting to ask if all sugary drinks are the same. One could drink a cola beverage, a fruit punch (which is likely glucose and high fructose corn syrup) or one could squeeze three oranges every morning.

The response from the podium was a surprising, “energetically, they are all the same.” That is to say, when we eat an orange, the fiber slows the absorption of the sugar into the bloodstream. But when we juice the orange, and separate the sugar from the fiber, we get the same spike as we do with any other sugary beverage. So I now only juice twice a week!

I also recommend limiting the consumption of energy-dense foods, specifically processed foods that contain

Copyright 2013 by O’Shaughnessy’s. All rights reserved. Direct reprint requests to editor@beyondthe.com

---

Ginger is the rhizome of Zingiber oficinalis. Native to South Asia, it lends its name to a family of plants that includes turmeric and cardamom.

Termites is a perennial ginger native to the wet tropics of Southeast Asia. The rhizomes —boiled, dried, and finely ground—provide the key spice in curry.
large amounts of added sugar or its act-
alikes, ones that are high in fat but without
a lot of fiber. I feel that sugar listed in the
“Nutrition Facts” box is okay since that’s
the sugar that fuels our brain, but I advise
avoiding foods that include sugar, fructose,
syrups, crystals, dextrin, maltodextrin, ad
infinitum, in the ingredients list.

It is also important to limit consuming
red meats and to avoid processed meats
together. Research has shown that there is
a direct correlation between consuming
increasing amounts of red meat and colon
cancer. Beef has also been associated
with pancreatic cancer. In their natural
environment cows eat grass. Most cows
today are primarily corn-fed. The result
is that a cow that predominantly eats
corn will in turn produce fat that is high
in omega-6 fatty acids, those that promote
inflammation and platelet aggregation.

In place of beef, I
encourage patients to eat
deep cold-water fish like
salmon, albacore tuna, black
cod, herring, mackerel, and
sardines, which are rich in
omega-3 fatty acids, anti-
inflammatory, and may also
be a bit antidepressant. If
poultry and eggs are part
of the diet, they should also
be organic to minimize the
imbalance of omega-6 to
omega-3 in conventional
products.

Alcohol consumption, if
not completely eliminated,
should be limited to one drink a day
for women and two for men. Women at
high risk for breast cancer should limit
themselves to one alcoholic beverage a
week. An ideal drink of choice would be
a glass of red wine, as it contains
resveratrol, which is considered to be an antiaging and
life-extending phytoneutrient that is less
available in white wine or other alcoholic
beverages.

Would that we had learned
more about nutrition during our
training?

Green Tea, a Superfood
The drink I recommended the most
to my patients is green tea. It contains
polyphenols, particularly ECGC, which
is a potent antioxidant and has cancer
risk-reducing properties similar to what
is found in cruciferous vegetables. Green
tea is revered as a powerful medicine,
particularly in Asia, more than any other
beverage. It has been shown to prevent
heart disease and strokes, reduce cancer
risk, regulate blood sugar, lower blood
pressure, boost immunity, increase bone
density, help prevent arthritis, facilitate
weight loss, prevent ulcers, slow aging,
increase fertility, and fight colds and flu.
I typically recommend that my patients
drink four large teacups (about 1 liter) of
green tea daily.

Achieving a well-rounded, balanced diet
is palatable and beneficial to our health
and well-being. Would that we had learned
more about nutrition during our training? In
these days of health care reform and focus
on wellness, please share this information
with all of your patients so that we are not
only creating awareness about beneficial
ways to reduce cancer risk through diet
and nutrition but we are also promoting a
healthier lifestyle and a healthier society.

Suggested Resources
Abrams DI and Weil A. (eds) Integrative
Oncology.  Oxford University Press, New
York, 2009.

American Institute for Cancer Research/
World Cancer Research Fund. Food,
Nutrition, Physical Activity and Cancer

Beliveau R, Gringas D. Foods to Fight

Gonzalez CA, Riboli E. Diet and cancer
prevention: Contributions from the European Prospective Investigation into
Cancer and Nutrition (EPIC) study. Eur J

Celestial Arts, 2009.

Kushi LH, Byers T, Doyle C et al.
American Cancer Society Guidelines on
Nutrition and Physical Activity for cancer
prevention: Reducing the risk of cancer
with healthy food choices and physical
activity. CA Cancer J Clin. 2006; 56:254-
81.

Servan-Schreiber D. Anticancer: A New

Donald Abrams, MD, is an integrative oncol-
ologist at the UCSF Osher Center for Integrative
Medicine. He is also chief of hematology and
oncology at San Francisco General Hospital.
This article was written for San Francisco Med-
icine, the journal of the SF Medical Society, and
is reprinted with permission.