



EATING YOUR WAY TO PROSTATE HEALTH

by Fran Worrall

The antidote to prostate cancer may be as close as your dinner table. Research increasingly shows that diet plays a big role in determining not only who gets the disease but also how quickly it progresses.

According to some researchers, prostate cancer, which strikes an estimated 200,000 American men each year, has become an epidemic in nations such as the United States and Western Europe where a high-fat diet is prevalent and many men eat inadequate amounts of fruits, grains and vegetables.

On the other hand, less prostate cancer is found in Asia, where the diet is rich in grains and soybean products. When Asian immigrants to North America adopt a Western diet, however, prostate cancer increases among that group too.

The diet-cancer connection

Is there a diet-prostate cancer connection? Many scientists and nutritionists think so. “The Western lifestyle is a major cause of prostate cancer, and the lifestyle factor most likely responsible is diet,” says Dr. Bill Nelson, an oncologist with the Brady Urological Institute at Johns Hopkins Medical Institutions in Baltimore. “The Western diet has long been thought to be too rich in animal fats and meats and too poor in fruits and vegetables.”

Nelson, a pioneer in the study of diet as preventive medicine, was the first scientist to discover that an enzyme called *glutathione-S transferase p* is responsible for protecting the body against prostate cancer. “When a man develops prostate cancer, it is the result of potentially toxic agents overtaking and destroying this helpful enzyme,” he explains.

The result is that prostate cells become vulnerable to cancer because they no longer have adequate protection. “Without the cancer-fighting enzyme, the cells are less able to detoxify the carcinogens.”

Nelson’s research led him to believe that diet is responsible, at least in part, for both the toxic agents that develop within the body and the wearing down of its protective enzymes. That revelation, in turn, prompted him to study whether or not *glutathione-S transferase p* might be stimulated by certain nutrients and, thus, more able to fend off prostate cancer.

You are what you eat

One promising cancer-fighting nutrient is lycopene, an antioxidant found in tomatoes, pink grapefruit, papaya, apricots and watermelon. According to a recent study conducted by Dr. Edward L. Giovannucci, a researcher and associate professor of medicine at Harvard Medical School in Boston, two or more servings of tomato sauce per week were associated with a 35 percent reduced risk of prostate cancer. “Lycopene is thought to protect against cancer by absorbing free radicals,” he explains. Free radicals are chemicals created during metabolism that can damage the genetic structure of cells and possibly lead to cancer.

Processed tomato products, such as tomato juice, tomato paste and marinara sauce, are the best sources of lycopene, says Kathy McCauley, manager of the nutrition and metabolic support team at Cancer Treatment Centers of America in Tulsa, OK. “You absorb five times as much lycopene from a paste or a sauce as you do from the tomato in its raw form. Apparently, the processing releases more of the powerful antioxidant.”

Of particular interest to Nelson is that lycopene – unlike many other substances – actually manages to reach the prostate gland. “You can’t say that about everything you swallow,” he says, including some antibiotics as well as many nutritional supplements.

Another promising cancer-fighting nutrient is selenium, a trace mineral found in a variety of foods including tuna, oysters, flounder, chicken, brown rice, oatmeal, eggs and Brazil nuts, which pack a whopping 840 micrograms per one-ounce serving.

Nelson's research found that selenium levels in the blood drop in all men over time, regardless of whether or not they have prostate cancer. Conversely, no other cancer increases more rapidly with age than prostate cancer. Nelson and other Johns Hopkins researchers began to wonder if there might be a correlation.

As it turns out, there is. In a recent Johns Hopkins study, men with the lowest levels of selenium were the most likely to develop prostate cancer, while men with the highest levels were almost 50 percent less likely to develop it. "Selenium is an essential component of *glutathione peroxidase*, another enzyme that helps the body fight off potentially toxic substances," says Nelson. "There's strong evidence that selenium supplementation could reduce the number of people diagnosed with prostate cancer."

Perhaps even more encouraging is that selenium may make a difference in a relatively short period of time – often within a few years. "You can take it later in life and still potentially change the course of the disease," he says.

In addition to lycopene and selenium, vitamin E also may reduce prostate cancer risk. Vitamin E is a fat-soluble antioxidant found in a variety of foods such as wheat germ oil, safflower oil, soybean oil, almonds, peanuts, asparagus, broccoli, spinach and turnip greens.

A recent study by the Memorial Sloan-Kettering Cancer Center in New York found that men who had higher blood levels of antioxidants, including vitamin E, were significantly less likely to develop prostate cancer. In another study from Finland, men who took a daily vitamin E supplement for up to eight years had almost half the deaths from prostate cancer as other men.

What about supplements?

While it's important to get adequate amounts of certain vitamins, minerals and other nutrients, popping pills isn't the best way to do it, says McCauley. "It's always preferable to get nutrients through the foods you eat. The absorption rate is higher."

Yet it's not always possible to get enough of a particular nutrient through food alone, she admits. If not, supplements can make up the difference. However, single supplementation is not a good idea, McCauley warns. "Nutritional supplements should be taken in conjunction with a high-quality multivitamin, which ensures better absorption."

How much is enough? The RDA, or required daily allowance, doesn't always provide the proper guideline for a particular vitamin or mineral, she notes. The RDA for selenium, for example, is 70 micrograms, but most nutritionists advocate taking more, typically 200 micrograms per day.

As for vitamin E, the RDA of 15 international units is woefully inadequate, says McCauley, who recommends dosages of 400 to 800 international units per day. Also, she advises, make sure to purchase a natural vitamin E supplement that contains a mixed tocopherol blend rather than a synthetic version. "It's much easier for the body to absorb the real thing."

McCauley doesn't recommend lycopene supplements. "They are too difficult to metabolize. Besides, it's easy to get lycopene from the foods we eat. One eight-ounce glass of tomato juice every morning provides a lot of protection," she says.

Tips to remember

Beyond boosting your intake of selenium, lycopene and vitamin E, there are other dietary practices that can reduce the risk of prostate cancer. Following are half a dozen suggestions from Giovannucci, McCauley and Nelson:

- *Eat your vegetables.* Cruciferous vegetables, such as bok choy, broccoli, brussels spouts, cabbage, collard greens, cauliflower, kale and turnips, are associated with reduced prostate cancer risk, says Giovannucci. "The reason may be that these vegetables contain a substance called sulfuraphane, which seems to protect the body from cancer by boosting its production of protective enzymes."
- *Get calcium from non-dairy sources.* Dairy products contain animal fats and hormones, both of which are harmful, notes McCauley. She suggests getting calcium from non-dairy sources such as leafy green vegetables, yogurt and soy products. The latter, in particular, may be especially beneficial, because soy products, such as soybeans, soymilk and tofu, contain cancer-fighting substances known as isoflavones.
- *Drink your tea.* Green tea, that is. "There are substances in green tea that are biologically active and that may prevent prostate cancer or prolong remission in patients who have the disease," says Nelson.

Several clinical trials of green tea components and their effect on various types of cancer are currently underway.

- *Don't fire up the grill.* When meat is cooked on a charcoal grill, cancer-causing agents form, says Nelson. One of these agents, PhIP, although not chemically very reactive on its own, is transformed in the liver into a chemical that attacks prostate cell DNA. "Charred meat is bad," he says. If you can't imagine life without a grilled ribeye or New York strip, at least follow a few basic guidelines, McCauley suggests. Choose high-quality lean cuts of meat, and buy smaller portions. Also, microwave the meat for a couple of minutes before throwing it on the grill, and turn it several times while cooking. "That minimizes charring and smoke exposure," she says.
- *Get creative with cooking.* Many people get stuck in a food rut, says McCauley. "They're scared to try anything new." She suggests experimenting with recipes that use prostate-healthy ingredients. For example, tofu, a bland cheese-like soy product that absorbs the flavors of other ingredients, is a good replacement for red meat in soups, stews and stir-fried meals as well as a healthy substitute for sour cream in dips and dressings.
- *Don't give up.* "It's never too late for good nutritional support," says McCauley. In fact, she notes, therapeutic supplementation during cancer treatment often lowers the PSA, a blood marker for prostate cancer. Giovannucci agrees. "Most studies have focused on diet before the disease, but it's prudent for men to follow the same recommendations after diagnosis. More and more, the evidence suggests that many of the same dietary factors that prevent prostate cancer also influence the progression of the disease."

Note to readers: If you are interested in participating in the Selenium and Vitamin E Cancer Prevention Trial, or SELECT, please call the National Cancer Institute's Cancer Information Service at 800/422-6237; or visit <http://cancer.gov/select> for criteria and other information. Sponsored by the National Cancer Institute, SELECT will involve approximately 32,000 men. It is the largest-ever prostate cancer prevention trial.

This article is lovingly dedicated to my father, James E. Worrall, a 10-year prostate cancer survivor.

About the Author...Fran Worrall



Fran Worrall is a freelance writer in Atlanta who specializes in health and wellness. For many years, she worked in the Atlanta office of Medical Economics Company, where she launched the company's dental publishing division. Since becoming a freelance writer, she has written for numerous healthcare magazines and newsletters including Boston University Clinical Dental Briefings, Cosmetic Dentistry for GPs, Dental Economics, Dental Practice Success, Medical Office Manager and Physician's Marketing. She has also co-written a consumer book on cosmetic dentistry.

RESOURCES

Kathy McCauley, RD, LD

Nutrition and Metabolic Support
Southwestern Regional Medical Center



Edward L. Giovannucci, MD, ScD

Associate Professor of Medicine
Harvard Medical School
Epidemiologist, Department of Medicine
Brigham and Women's Hospital



William G. Nelson, V., M.D., Ph.D.

Associate Professor of Urology,
Oncology, Pharmacology & Medicine
Johns Hopkins Medical Institutions
Associate Professor of Environmental
Health Sciences, Johns Hopkins School
of Hygiene and Public Health

