

[IMAGE]

## **Cancer Defense: The Power of Nutrition**

By Dr. James Meschino

Everyone knows about the dreaded C word, and far too many have direct experience with it in one way or another. A diagnosis of cancer alone can send shock waves through an entire family, office or even a community. And with cancer risk factors (carcinogenic foods, environmental hazards, sedentary lifestyles) on the rise, there's no better time to learn about a simple, painless step you can take to reduce your risk of developing cancer - or do your best to fight it if you've already been diagnosed. Yes, it's the power of nutrition - nature's best cancer defense.

If you haven't already heard about the book *Foods That Fight Cancer: Preventing Cancer Through Diet*, I strongly suggest you pick up a copy and recommend it to everyone you know. The book is authored by two leading cancer researchers, Drs. Richard Beliveau and Denis Gringas. Dr. Beliveau holds the chair in the Prevention and Treatment of Cancer at the University of Quebec in Montreal, and Dr. Gringas is a researcher in the Molecular Medicine Laboratory of UQAM-Sainte-Justine Hospital (Centre de Cancerologie Charles-Bruneau) and the University of Quebec at Montreal. Here's some of what they say about how food can fight cancer.

### **How Food Fights Cancer**

Cancer shield - Copyright © Stock Photo / Register Mark As stated in their book, "Nature supplies us with an abundance of foods rich in molecules with powerful anti-cancer properties, capable of engaging with the disease (cancer) without causing any harmful side effects. In many respects, these foods possess therapeutic properties on par with those of synthetic drugs". In a very precise but understandable manner, the two researchers outline the many biological targets affected by bioactive nutrients in foods that can help prevent cancer and be used in the adjunctive management of cancer. More specifically, they highlight the research showing how specific food-borne bioactive molecules can do the following

- Decrease free-radical damage to DNA, which is known to produce cancerous mutations;
- Strengthen immune system function, as various immune cells are known to destroy cancer cells (e.g., macrophages and killer-T cells);

- Inhibit angiogenesis (growth of new blood vessels) of developing tumors;
- Block key signal transduction pathways required for cancer cell replication;
- Stimulate pathways that induce programmed cell death (known as *apoptosis*) of existing and emerging cancer cells;
- Enhance detoxification, helping to neutralize and eliminate carcinogens in the body;
- Promote cellular differentiation, which decreases the risk of healthy cells from becoming cancer cells;
- Block the formation of dangerous nitrosamines (chemical compounds, some of which can cause cancer) in the body;
- Block the synthesis of dangerous forms of estrogen and testosterone, which are associated with reproductive organ cancers;
- Slow the rate of cell replication, which is a key factor in reducing the frequency of genetic mutations that may occur;
- Blocking receptor sites on cells to prevent over-stimulation of hormones and growth factors, which, in turn, slows down the rate of cell division;
- Reduce the synthesis of inflammatory prostaglandin (series-2), hormone-like chemical messengers which are also linked to increased cancer risk.

### **Key Cancer-Fighting Foods**

In addition to reviewing the worldwide evidence on this subject, the Nutrinome Project, a project conducted in their own lab, has shown that raw extracts from certain fruits and vegetables inhibit the growth of certain cancer cells to varying degrees. Using medulloblastoma cancer cells (a very aggressive brain tumor), they showed that extracts of certain fruits and vegetables could inhibit the growth of these cancer cells in the following order: garlic, beet, kale, red cabbage, onion, turnip, cranberry, carrot, potato, squash, cabbage, and tomato.

Since then, these researchers have gone further to show that blending some of these fruits and vegetables together into a cocktail and feeding it to immune-deficient mice, who were injected with human lung cancer cells under their skin, resulted in better health outcomes than occurred in nude mice who were injected with lung cancer cells, but did not receive the fruit and vegetable cocktail. (A more in-depth description of these experiments and pictures of the mice can be found in the book *Anti-Cancer: A New Way of Life*, by David Servan-Schreiber, MD, PhD.) The specific brewed cocktail given to these mice closely matched what would

be attainable for humans to mirror and included:

- Cabbage
- Blueberries
- Brussels sprouts
- Broccoli
- Garlic
- Scallions
- Turmeric
- Black pepper
- Cranberries
- Grapefruit
- Green tea

The implication is that individuals who have cancer may wish to use a daily cocktail of this nature in conjunction with their standard medical treatment, as a means to enhance certain biological mechanisms that may help their body fight the disease.

### **Anti-Cancer Foods for Daily Use**

For the rest of us, Drs. Beliveau and Gringas suggest there is a daily preventive threshold level of cancer-fighting foods that each of us should strive to attain. Their suggestions for the prevention of cancer include consumption of the following items each day:

- Brussels sprouts - ½ cup
- Broccoli, cauliflower, cabbage - ½ cup
- Garlic - 2 cloves
- Onions, shallots - ½ cup
- Spinach, watercress - ½ cup
- Soy (edamame, dry roasted beans) - ½ cup
- Freshly ground flaxseeds - 1 tablespoon
- Tomato paste - 1 tablespoon
- Turmeric - 1 teaspoon

- Black pepper - ½ teaspoon
- Blueberries, raspberries, blackberries - ½ cup
- Dried cranberries - ½ cup
- Grapes - ½ cup
- Dark chocolate (70 percent cacao) - 40 g
- Citrus juice - ½ cup
- Green tea - three 250 ml servings
- Red wine - 1 glass (5 ounces)

### **What About Supplements?**

While Drs. Beliveau, Gringas and Servan-Schreiber don't recommend the use of dietary supplements to prevent cancer, or in the adjunctive nutritional management of cancer, numerous studies have appeared in peer-reviewed medical and scientific journals in recent years showing important anti-cancer properties provided by various nutritional supplements. This includes studies demonstrating their ability to help prevent cancer, reduce cancer incidence, and be used in conjunction with medical practices as an adjunctive measure to enhance the efficacy of some forms of chemotherapy and/or slow the progression of cancer and/or decrease the recurrence of cancer.

As a practitioner who is affiliated with a leading cancer treatment facility in Toronto, my patients are provided with the best that medicine, diet *and* supplementation have to offer, based on the total pool of peer-reviewed scientific evidence. I have published numerous review papers on subjects pertaining to the use of nutritional supplements and cancer. I am also a lecturer on this subject in the Cancer Fellowship Program for medical doctors through the American Academy of Anti-Aging Medicine. So, I can proudly state that diet, nutrition and nutritional supplementation can all play a significant role in preventing and fighting cancer. Talk to *your* doctor to learn more.

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