

# The Major Killers of Americans: Research and Prevention

Humans need oxygen to live. Our lungs take in air that contains oxygen. Our heart pumps the blood that goes to the lungs to fill our blood full of oxygen and then pumps that blood all over from our toes to our brain. Without oxygen our toes die. Without oxygen we die. Healthy eating makes sure oxygen and the blood that carries it get to vital organs that keep us alive.

## Heart Disease: The Number One Killer

The greatest advance in the recent understanding of heart disease is the discovery that it can be virtually eliminated by controlling three factors—cholesterol, smoking, and blood pressure.

### Cholesterol

The heart's job is to get oxygen rich blood to our limbs and our brain. Less oxygen rich blood can get where it needs to go if cholesterol narrows our blood vessels just like traffic jams prevent us from driving our cars easily. Cholesterol is a waxy, fat-like substance.<sup>i</sup> Cholesterol is made in the liver to be used in the manufacture of hormones and cell membranes. Only livers produce it. Therefore, cholesterol is only found in animal products like meat, eggs and dairy (milk, ice cream, butter).<sup>ii</sup>

Choosing lean cuts of meat is not enough; cholesterol is mainly in the lean portion. Many people are surprised to learn that chicken contains as much cholesterol as beef. Every four-ounce serving of beef or chicken or ½ an egg contains 100 milligrams of cholesterol.<sup>iii</sup> Every 100 mg of cholesterol in your daily diet adds roughly 5 points to your cholesterol level.

LDL cholesterol is the "bad" cholesterol. When too much of it circulates in the blood, it can clog arteries, increasing your risk of heart attack and stroke.<sup>iv</sup> The Framingham Heart Study showed that if cholesterol levels stay below 150, a heart attack is extremely unlikely.<sup>v</sup> The National Cholesterol Education Program recommends decreasing saturated fat and cholesterol and increasing fiber in the diet.<sup>vi</sup>

### What should I eat?

The US government recommends increasing the soluble fiber in your diet by eating foods such as oatmeal, kidney beans, brown rice and apples.<sup>vii</sup>

Studies have shown that replacing animal protein with soy protein (like tofu) reduces blood cholesterol levels even when the total amount of fat and saturated fat in the diet remain the same.<sup>viii</sup> Anything that did not have a liver or come from something that did will not have cholesterol. So fruits, grains, vegetables are all 100% cholesterol free.

### What should I avoid?

"Bad" fats—saturated and, especially, trans fats—increase disease risk. Foods high in bad fats include *red meat, butter, cheese, and ice cream*, as well as processed foods made with trans fat from partially *hydrogenated oil*. The key to a healthy diet is to choose foods that have more good fats than bad fats—vegetable oils instead of butter, beans instead of beef—and that do not contain any trans fat.<sup>ix</sup>

If it had a liver, it has cholesterol. Your liver makes all the cholesterol you need. If you need to lower your cholesterol you have to substitute plant products for animal products that contain cholesterol. Non-dairy milk like almond milk or soy milk for cow milk; ¼ cup of applesauce in lieu of each egg in pancakes or baked goods are two examples. Meatless crumbles instead of hamburger for tacos or chili and instead of

butter try Fleischmann's unsalted margarine sticks, Smart Balance® Light Original Buttery Spread with Flax or for baking use Crisco. Look for the word parve which means dairy free.

“Low-fat,” “reduced fat,” or “fat-free” processed foods are not necessarily “healthy,” usually the producer replaces fat with sugar.<sup>x</sup>

## Blood Pressure

"Blood pressure" is the force of blood pushing against the walls of the arteries as the heart pumps blood.<sup>xi</sup> High blood pressure is a serious condition that can lead to heart failure, stroke, kidney failure, and other health problems.<sup>xii</sup> About 1 in 3 adults in the United States has high blood pressure. The condition itself usually has no signs or symptoms.<sup>xiii</sup>

## What should I eat?

A low-fat, high-fiber diet, even without lowering salt intake, can lower blood pressure by as much as 10 percent. Vegetables and fruits which are rich in potassium, helps lower blood pressure<sup>xiv</sup>. Particularly good foods for potassium are lima beans, bananas, melons, potatoes, prunes, raisins and squash.<sup>xv</sup>

## What should I avoid?

Salt-eat less than 1 teaspoon a day, which includes salt added to canned or processed foods.<sup>xvi</sup> Learn to prepare food with different spices and seasonings, such as fresh garlic, onion, or cilantro instead of salt. Avoid salty snacks, such as potato chips.

## Cancer: The Number Two Killer

The body is made up of cells that have different functions. Cancer cells do not function like normal cells. Cancer cells grow so fast that they crowd out normal cells and prevent the normal cells from functioning properly. When cancer cells grow on a certain part of the body, a doctor might have to operate to remove the cells. Other people have to take special chemicals or get treated with radioactive rays to get rid of the cancer cells. Some people recover, for some it is fatal.<sup>xvii</sup>

The National Cancer Institute estimates that as many as 50 percent to 75 percent of cancer deaths in the United States are caused by human behaviors such as smoking, physical inactivity, and poor dietary choices.<sup>xviii</sup> The National Research Council released a technical report, "Diet, Nutrition, and Cancer," showing that diet was probably the greatest single factor in the epidemic of cancer.<sup>xix</sup>

What Dr. Campbell found from 27 years of research was that low-animal protein diets inhibited the **initiation** of cancer regardless of how much carcinogen was administered to animals, and that animal protein (flesh or milk) consistently and strongly promoted cancer **growth**. The safe proteins were from plants, including wheat and soy. High plant protein diets did not promote cancer, only animal protein from flesh or milk.

Breast cancer: animal-based foods place a woman at risk for breast cancer. Animal proteins cause early age of menarche (age of first menstruation), high blood cholesterol, late menopause, and high exposure to female hormones during child bearing years, all of which are risk factors for breast cancer.

Milk sugar *lactose* is broken down in the body to galactose and if galactose is not adequately broken down may damage a woman's ovaries. Women with particularly low levels of these enzymes who consume dairy products have a risk of ovarian cancer that can be triple that of other women.

Prostate cancer -21,660 participant government study states men who drink 1 glass of whole milk per day had double the risk for fatal prostate cancer and concluded that this study further links dairy and prostate cancer.

By definition, fiber cannot be digested by humans early in the digestive process. Fiber, therefore, survives to the intestines where it moves food more quickly through the intestines, helping to eliminate carcinogens (things in the body that can cause cancer).<sup>xx</sup> Without adequate fiber, estrogen can be reabsorbed from the intestine into the bloodstream. High levels of estrogen are linked to a higher risk of breast cancer.<sup>xxi</sup>

Many studies indicate that animal fat in foods increases one's risk for cancer, and it may also adversely affect breast cancer survival rates for those who have cancer.<sup>xxii</sup> Meat and milk are also linked to both prostate and ovarian cancers because animal fat increases hormone production in the body.<sup>xxiii</sup>

### **What should I eat?**

Dietary fiber, principally found in whole grain cereals and beans, may help prevent cancer of the colon and rectum. It also may reduce risk of breast cancer, perhaps by lowering cholesterol and gender hormones.<sup>xxiv</sup> Examples of whole grains are oats, brown rice, and whole wheat bread. Examples of beans include black beans, pinto beans, kidney beans, garbanzo beans, soybeans/tofu and lentils.

Several vitamins have shown anticancer activity: beta-carotene (the form of vitamin A found in dark green and yellow vegetables and fruits), vitamins C (in citrus fruit and broccoli) and vitamin E, and the mineral selenium may help prevent cancer.<sup>xxv</sup> Also, diets rich in all fruits and vegetables decrease the risk of getting cancers of the colon, mouth, pharynx, esophagus, stomach, and lung, and may reduce the risk of prostate cancer.<sup>xxvi</sup> Soybeans/tofu contains many substances that are anticarcinogens, including lignans and phytoestrogens. A diet that is rich in soybeans may be one reason for the lower incidence of breast cancer in Asia.

### **What should I avoid?**

Eat whole grains not refined grains like pasta or bread that have white flour.

Esophagus, stomach, colon cancer may be caused by eating processed meat<sup>xxvii</sup> such as salami, hot dog, ham, and salted meat. So avoid eating processed meat.

Avoid fat of all types. Total fat intake of greater than 30 percent of total calories can increase the risk of developing some cancers.<sup>xxviii</sup>

### **Stroke: The Number Three Killer**

A stroke is a brain attack cutting off vital blood flow and oxygen to the brain. If a stroke does not kill the patient it is a leading cause of serious, long-term adult disability. Ischemic stroke occurs when arteries are blocked by blood clots or by the gradual build-up of plaque and other fatty deposits. About 87 percent of all strokes are ischemic.

Women are twice as likely to die from stroke than breast cancer annually. Major stroke risk factors include high blood pressure, smoking and high cholesterol levels. Many people with diabetes have health problems that are also stroke risk factors.<sup>xxix</sup> Carotid artery plaque also is a risk factor of non-fatal transient ischemic attack (TIA) and minor ischemic stroke (MIS) "mini-strokes".<sup>xxx</sup> Once a person suffers a stroke or transient ischemic attack (TIA), they are at high risk for having a secondary stroke.<sup>xxxi</sup>

## What should I eat?

Consuming more whole grains, fruits, and vegetables helps keep cholesterol levels low which reduces the risk of stroke.<sup>xxxii</sup>

Example of cholesterol per cup of some foods:

	<b>TVP-1 c reconstituted</b>	<b>Hamburger (80% lean)-1 c</b>	<b>Dry pinto beans, cooked-1c</b>	<b>1 c almond milk</b>	<b>1 c 2% milk</b>
Calories	160	556	206	40	124
Fat (grams)	0	36g	1g	3	4.8
<b>Cholesterol (mg)</b>	<b>0</b>	<b>194mg</b>	<b>0</b>	<b>0</b>	<b>20</b>
Fiber	8g	0	15.4g	2g	0
price	.68	\$2.60	.16		

<sup>i</sup> <http://www.cdc.gov/cholesterol/>

<sup>ii</sup> [http://www.heart.org/HEARTORG/Conditions/Cholesterol/AboutCholesterol/About-Cholesterol\\_UCM\\_001220\\_Article.jsp](http://www.heart.org/HEARTORG/Conditions/Cholesterol/AboutCholesterol/About-Cholesterol_UCM_001220_Article.jsp);  
<http://nihseniorhealth.gov/highbloodcholesterol/whatishighbloodcholesterol/01.html>

<sup>iii</sup> Pennington JAT. *Bowes and Church's Food Values of Portions Commonly Used*. New York: Harper and Row, 1989.

<sup>iv</sup> [http://www.heart.org/HEARTORG/Conditions/Cholesterol/AboutCholesterol/About-Cholesterol\\_UCM\\_001220\\_Article.jsp](http://www.heart.org/HEARTORG/Conditions/Cholesterol/AboutCholesterol/About-Cholesterol_UCM_001220_Article.jsp)

<sup>v</sup> Castelli WP. Making practical sense of clinical trial data in decreasing cardiovascular risk. *Am J Cardiol*. August 16, 2001;88(4A):16F-20F.

<sup>vi</sup> National Cholesterol Education Program. Third report of the expert panel on detection, evaluation, and treatment of high blood cholesterol in adults (adult treatment panel III). Full Report. *NIH Publication No. 02-5215*. September 2002.

<sup>vii</sup> <http://nihseniorhealth.gov/highbloodcholesterol/therapeuticlifestylechanges/01.html>

<sup>viii</sup> Carroll KK, Giovannetti PM, Huff MW, Moase O, Roberts DC, Wolfe BM. Hypocholesterolemic effect of substituting soybean protein for animal protein in the diet of healthy young women. *Am J Clin Nutr*. 1978;31:1312-21.

<sup>ix</sup> <http://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/fats-and-cholesterol/>

<sup>x</sup> <http://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/fats-and-cholesterol/>

<sup>xi</sup> <http://www.nhlbi.nih.gov/health/health-topics/topics/hbp/>

<sup>xii</sup> <http://www.nhlbi.nih.gov/health/health-topics/topics/hbp/>

<sup>xiii</sup> <http://www.nhlbi.nih.gov/health/health-topics/topics/hbp/>

<sup>xiv</sup> <http://www.nhlbi.nih.gov/hbp/prevent/factors/supls.htm>

<sup>xv</sup> <http://www.nhlbi.nih.gov/hbp/prevent/factors/supls.htm>

<sup>xvi</sup> <http://www.nhlbi.nih.gov/health/health-topics/topics/hbp/>

<sup>xvii</sup> <http://healthadministration.uc.edu/news-and-resources/articles/health-library-cancer>

<sup>xviii</sup> Cancer Trends Progress Report—2005 Update, National Cancer Institute, NIH, DHHS. Available at:  
<http://progressreport.cancer.gov>.

<sup>xix</sup> Committee on Diet, Nutrition, and Cancer, National Research Council. *Diet, Nutrition, and Cancer*. Washington, DC: National Academy Press; 1982

<sup>xx</sup> Risch HA, Jain M, Choi NW, et al. Dietary factors and the incidence of cancer of the stomach. *Am J Epidemiol* 1985;122:947-59.

<sup>xxi</sup> Wynder EL, Rose DP, Cohen LA. Diet and breast cancer in causation and therapy. *Cancer* 1986;58:1804-13.

<sup>xxii</sup> Wynder EL, Rose DP, Cohen LA. Diet and breast cancer in causation and therapy. *Cancer* 1986;58:1804-13.

<sup>xxiii</sup> Rose DP, Boyar AP, Wynder EL. International comparisons of mortality rates for cancer of the breast, ovary, prostate, and colon, and per capita food consumption. *Cancer* 1986;58:2363-71.

<sup>xxiv</sup> Glade MJ. Food, nutrition, and the prevention of cancer: a global perspective. American Institute for Cancer Research/World Cancer Research Fund, American Institute for Cancer Research, 1997. *Nutrition*. June 1999;15(6):523-526.

---

<sup>xxv</sup> Glade MJ. Food, nutrition, and the prevention of cancer: a global perspective. American Institute for Cancer Research/World Cancer Research Fund, American Institute for Cancer Research, 1997. *Nutrition*. June 1999;15(6):523-526.

<sup>xxvi</sup> Cancer Trends Progress Report—2005 Update, National Cancer Institute, NIH, DHHS. Available at:  
<http://progressreport.cancer.gov>.

<sup>xxvii</sup> New findings in a Uruguayan study published recently in the *British Journal of Cancer* revealed that eating large amounts of processed meat definitively increases the chances of developing colon, rectum, stomach, esophagus, and lung cancers. University of the Republic in Montevideo researchers looked at data spanning from 1996 to 2004 of 6,060 men and women—a control group of 2,532 and 3,528 of which had cancer (including esophagus, stomach, colon, and kidney)—and found all the cancers except renal cell carcinoma (kidney) to be “significantly associated with elevated risks for processed meat consumption.” The researchers also found that the processed meats with the strongest cancer-site ties were mortadella, salami, hot dog, ham, and salted meat.

<sup>xxviii</sup> <http://cancer.stanford.edu/information/nutritionAndCancer/reduceRisk/>

<sup>xxix</sup> Castelli WP. Making practical sense of clinical trial data in decreasing cardiovascular risk. *Am J Cardiol*. August 16, 2001;88(4A):16F-20F.

<sup>xxx</sup> <http://www.ncbi.nlm.nih.gov/pubmed/23092047>

<sup>xxxi</sup> <http://www.ncbi.nlm.nih.gov/pubmed/23088414>

<sup>xxxii</sup> Fung TT, Stampfer MJ, Manson JE, Ruxrode KM, Willett WC, Hu FB. Prospective study of major dietary patterns and stroke risk in women. *Stroke*. 2004;35:2014-2019