



Prevention

National Cancer Prevention Month February 2016

CANCER PREVENTION

CANCER STATISTICS

Cancer is among the leading causes of death worldwide. In 2012 there were 14 million new cases and 8.2 million deaths worldwide.

The number of new cancer cases will rise to 22 million over the next twenty years.

More than 60 percent of the world's new cancer cases occur in Africa, Asia and Central and South America; 70 percent of the world's cancer deaths occur in these regions.

In 2015, an estimated 1,658,370 new cases of cancer were diagnosed in the United States and 589,430 people died from the disease. The most common cancers are breast cancer, lung cancer, prostate cancer, colon and rectum cancer, bladder cancer, melanoma of the skin, non-Hodgkin lymphoma, thyroid cancer, kidney and renal cancer, endometrial cancer, leukemia, and pancreatic cancer.

The number of new cases of cancer (cancer incidence) is 455 per 100,000 men and women per year (based on 2008-2012 cases).

The number of cancer deaths (cancer mortality) is 171 per 100,000 men and women per year (based on 2008-2012 deaths).

Cancer mortality is higher among men than women (208 per 100,000 men and 145 per 100,000 women). It is highest in African American men (262 per 100,000) and lowest in Asian/Pacific Islander women (91 per 100,000) based on 2008-2012 deaths.

The number of people living beyond a cancer diagnosis reached nearly 14.5 million in 2014 and is expected to rise to almost 19 million by 2024.

Approximately 40 percent of men and women will be diagnosed with cancer at some point during their lifetimes (based on 2010-2012 data). In 2014, an estimated 15,780 children and adolescents ages 0 to 19 were diagnosed with cancer and 1,960 died of the disease.

The national expenditures for cancer care in the United States totaled nearly \$125 billion in 2010 and could reach \$156 billion in 2020.

CANCER DEATH-RATE TRENDS IN THE US

The best indicator of progress against cancer is a change in age-adjusted mortality (death) rates, although other measures, such as quality of life, are also important. Incidence is also important, but it is not always straightforward to interpret changes in incidence. For example, if a new screening test detects many cancer cases that would never have caused a problem during someone's life (called over-diagnosis), the incidence of that cancer would appear to increase even though the death rates do not change.

But a rise in incidence can also reflect a real increase in disease, as is the case when an increase in exposure to a risk factor causes more cases of cancer. In this scenario the increased incidence would likely lead to a rise in mortality from the cancer.

In the United States, the Overall Cancer Death Rate has Declined since the Early 1990's !!

The most recent Annual Report to the Nation on the Status of Cancer published March 2015 shows 2002 to 2011 cancer death rates **DECREASED BY:**

- 1.8 percent per year among men**
- 1.4 percent per year among women**
- 2.1 percent per year among children ages 0-14**
- 2.3 percent per year among children ages 0-19**

Although death rates for many individual cancer types have also declined, rates for a few cancers have stabilized or even increased.

As the overall cancer death rate has declined, the number of cancer survivors has increased. These trends show that progress is being made against the disease, but much work remains. Although rates of smoking, a major cause of cancer, have declined, the U.S. population is aging, and cancer rates increase with age. Obesity, another risk factor for cancer, is also increasing.

At least One-Third of all Cancer Cases are Preventable!

PREVENTION offers the most Cost Effective Long-term Strategy for the Control of Cancer

Tobacco: Tobacco use is the single greatest avoidable risk factor for cancer mortality worldwide, causing an estimated 22% of cancer deaths per year. In 2004, 1.6 million of the 7.4 million cancer deaths were due to tobacco use. Tobacco smoking causes many types of cancer, including cancers of the lung, esophagus, larynx (voice box), mouth, throat, kidney, bladder, pancreas, stomach and cervix. About 70% of the lung cancer burden can be attributed to smoking alone. Second-hand smoke (SHS), also known as environmental tobacco smoke, has been proven to cause lung cancer in nonsmoking adults. Smokeless tobacco (also called oral tobacco, chewing tobacco or snuff) causes oral, esophageal and pancreatic cancer.

Physical Inactivity, Dietary Factors, Obesity and being Overweight: Dietary modification is another important approach to cancer control. There is a link between overweight and obesity to many types of cancer such as esophagus, colon and rectum, breast, endometrium and kidney. Diets high in fruits and vegetables may have a protective effect against many cancers. Conversely, excess consumption of red and preserved meat may be associated with an increased risk of colorectal cancer. In addition, healthy eating habits that prevent the development of diet-associated cancers will also lower the risk of cardiovascular disease. Regular physical activity and the maintenance of a healthy body weight, along with a healthy diet, will considerably reduce cancer risk. National policies and programs should be implemented to raise awareness and reduce exposure to cancer risk factors, and to ensure that people are provided with the information and support they need to adopt healthy lifestyles.

Alcohol Use: Alcohol use is a risk factor for many cancer types including cancer of the oral cavity, pharynx, larynx, esophagus, liver, colon and rectum and breast. Risk of cancer increases with the amount of alcohol consumed. The risk from heavy drinking for several cancer types (e.g. oral cavity, pharynx, larynx and esophagus) substantially increases if the individual is also a heavy smoker.

Infections: Infectious agents are responsible for almost 22% of cancer deaths in the developing world and 6% in industrialized countries. Viral hepatitis B and C cause cancer of the liver; human papilloma virus infection causes cervical cancer; the bacterium *Helicobacter pylori* increases the risk of stomach cancer. In some countries the parasitic infection schistosomiasis increases the risk of bladder cancer and in other countries the liver fluke increases the risk of cholangiocarcinoma of the bile ducts. Preventive measures include vaccination and prevention of infection and infestation.

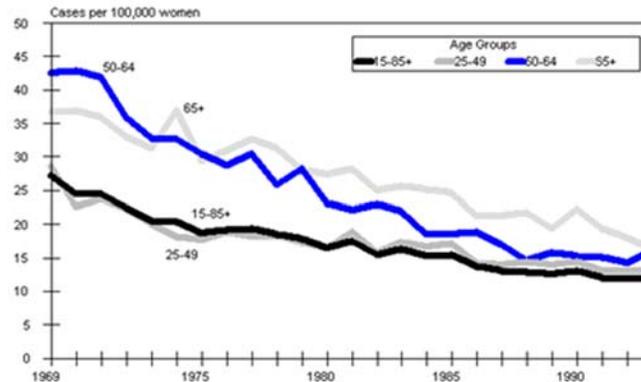
Environmental Pollution: Environmental pollution of air, water and soil with carcinogenic chemicals accounts for 1–4% of all cancers. Exposure to carcinogenic chemicals in the environment can occur through drinking water or pollution of indoor and ambient air. In Bangladesh, 5–10% of all cancer deaths in an arsenic-contaminated region were attributable to arsenic exposure. Exposure to carcinogens also occurs via the contamination of food by chemicals, such as aflatoxins or dioxins. Indoor air pollution from coal fires doubles the risk of lung cancer, particularly among non-smoking women. Worldwide, indoor air pollution from domestic coal fires is responsible for approximately 1.5% of all lung cancer deaths. Coal use in households is particularly widespread in Asia.

Occupational Carcinogens: More than 40 agents, mixtures and exposure circumstances in the working environment are carcinogenic to humans and are classified as occupational carcinogens. Occupational carcinogens are causally related to cancer of the lung, bladder, larynx and skin, leukemia and nasopharyngeal cancer. Mesothelioma (cancer of the outer lining of the lung or chest cavity) is to a large extent caused by work-related exposure to asbestos. Occupational cancers are concentrated among specific groups of the working population, for whom the risk of developing a particular form of cancer may be much higher than for the general population. About 20–30% of the male and 5–20% of the female working-age population (people aged 15–64 years) may have been exposed to lung carcinogens during their working lives, accounting for about 10% of lung cancers worldwide. About 2% of leukemia cases worldwide are attributable to occupational exposures.

Radiation: Ionizing radiation is carcinogenic to humans. Knowledge on radiation risk has been mainly acquired from epidemiological studies of the Japanese A-bomb survivors as well as from studies of medical and occupational radiation exposure cohorts. Ionizing radiation can induce leukemia and a number of solid tumors, with higher risks at young age at exposure. Residential exposure to radon gas from soil and building materials is estimated to cause between 3% and 14% of all lung cancers, making it the second cause of lung cancer after tobacco smoke. Radon levels in homes can be reduced by improving the ventilation and sealing floors and walls. Ionizing radiation is an essential diagnostic and therapeutic tool. To guarantee that benefits exceed potential radiation risks radiological medical procedures should be appropriately prescribed and properly performed, to reduce unnecessary radiation doses, particularly in children. Ultraviolet (UV) radiation, and in particular solar radiation, is carcinogenic to humans, causing all major types of skin cancer, such as basal cell carcinoma, squamous cell carcinoma and melanoma. Globally in 2000, over 200 000 cases of melanoma were diagnosed and there were 65 000 melanoma-associated deaths. Avoiding excessive exposure, use of sunscreen and protective clothing are effective preventive measures. UV-emitting tanning devices are now also classified as carcinogenic to humans based on their association with skin and ocular melanoma cancers.

THE MOST PREVENTABLE CANCERS in the US

The Most Dramatic Cancer Reduction Ever Recorded is Cervical Cancer in Women. This is due to **Strang's** Introduction of the Pap Test in 1940. (see chart below).



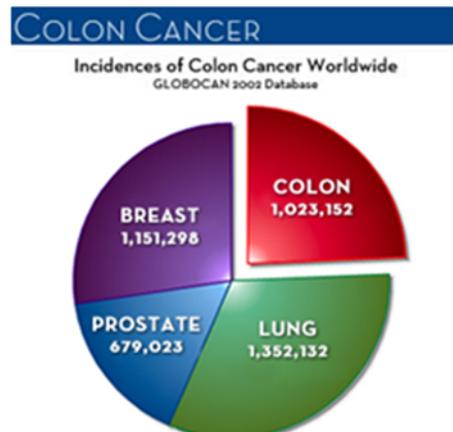
Strang has been at the forefront of cancer detection and prevention research for 82 years. The single largest cancer prevention modality, the Pap test, was developed in collaboration with the founder of Strang and Dr. Papanicolaou.

Strang was founded in 1933 by Dr. Elise Strang L'Esperance and opened by first lady Eleanor Roosevelt. Dr. L'Esperance collaborated with Dr. George Papanicolaou, a medical scientist, whose research led to the early detection of cancer of the cervix. This breakthrough resulted in the Pap test; In 1940 Strang was the first medical facility to introduce this test into clinical practice.

The Pap test developed at **Strang for early detection of cervical cancer continues to save millions of women's lives worldwide!**

Lung and Related Cancers due to Tobacco can be Avoided by Not Smoking.

Colon and Rectal Cancer are mostly preventable by testing the stool for blood and endoscopy (colonoscopy and sigmoidoscopy) to remove polyps that precede cancer. Early Strang research showed polyps could be detected and removed by sigmoidoscopy. Worldwide these tests could prevent most of the 1,023,152 cases. (see chart below).



Sources: The National Institutes of Health National Cancer Institute, the American Cancer Society the World Health Organization and the International Agency for Research on Cancer.

For further information on cancer risk factors and screening visit: www.strang.org

10 IMPORTANT DO'S and DON'TS about CANCER

1. Don't use Tobacco

Using any type of tobacco puts you on a collision course with cancer. Smoking has been linked to various types of cancer — including cancer of the lung, bladder, cervix and kidney. And, chewing tobacco has been linked to cancer of the oral cavity and pancreas. Even if you don't use tobacco, exposure to second hand smoke might increase your risk of lung cancer. Avoiding tobacco — or deciding to stop using it — is one of the most important health decisions you can make. It's also an important part of cancer prevention. If you need help quitting tobacco, ask your doctor about stop-smoking products and other strategies for quitting

2. Eat a Healthy Diet

Although making healthy selections at the grocery store and at mealtime can't guarantee cancer prevention, it might help reduce your risk. Consider these guidelines:

Eat plenty of fruits and vegetables. Base your diet on fruits, vegetables and other foods from plant sources — such as whole grains and beans. Limit fat. Eat lighter and leaner by choosing fewer high-fat foods, particularly those from animal sources. High-fat diets tend to be higher in calories and might increase the risk of overweight or obesity — which can, in turn, increase cancer risk.

3. Limit Alcohol Consumption

If you choose to drink alcohol, do so only in moderation. The risk of various types of cancer — including cancer of the breast, colon, lung, kidney and liver — increases with the amount of alcohol you drink and the length of time you have been drinking regularly.

4. Maintain a Healthy Weight, be Physically Active

Maintaining a healthy weight might lower the risk of various types of cancer, including cancer of the breast, prostate, lung, colon and kidney. Physical activity counts, too. In addition to helping you control your weight, physical activity on its own might lower the risk of breast cancer and colon cancer. Adults who participate in any amount of physical activity gain some health benefits. For substantial health benefits strive to get at least 150 minutes a week of moderate aerobic activity or 75 minutes a week of vigorous aerobic physical activity. You can also do a combination of both. As a general goal, include at least 30 minutes of physical activity in your daily routine — and if you can do more, even better.

5. Avoid Skin Exposure to Sunlight

Skin cancer is one of the most common kinds of cancer — and one of the most preventable. Try these tips:

Avoid midday sun. Stay out of the sun between 10 a.m. and 4 p.m., when the sun's rays are strongest. Stay in the shade when you're outdoors. Use sunglasses that block UVA and UVB rays. Wear a broad-brimmed hat.

Always apply sunscreen, the highest is SPF 50, and use at least SPF 30. Use generous amounts of sunscreen when you're outdoors, and reapply often. Do not use outdated sunscreen. Use cosmetics with a high sun protection factor.

Cover exposed areas. Wear tightly woven, loose fitting clothing that covers as much of your skin as possible.

Keep in mind that a typical white cotton T-shirt has an SPF of 4, so use other types of protection as well. Some fabrics have an SPF in excess of 100. Avoid tanning beds and sunlamps; these are just as damaging as natural sunlight.

6. Get Immunized

Cancer prevention includes protection from certain viral infections. Talk to your doctor about immunization against: Hepatitis B can increase the risk of developing liver cancer. The hepatitis B vaccine is recommended for certain high-risk adults — such as adults who are sexually active but not in a mutually monogamous relationship, people with sexually transmitted infections, intravenous drug users, men who have sex with men, and health care or public safety workers who might be exposed to infected blood or body fluids.

Human papillomavirus is a sexually transmitted virus that can lead to cervical and other genital cancers as well as squamous cell cancers of the head and neck. The HPV vaccine is recommended for girls and boys age 9 to 12; vaccine can be given up to the age of 26 but is less effective.

7. Avoid Risky Behaviors

Practice safe sex. Limit your number of sexual partners and use a condom when you have sex. The more sexual partners you have in your lifetime, the more likely you are to contract a sexually transmitted infection — such as HPV which causes the majority of cervical cancers and may also increase the risk of cancer of the throat, anus, penis, vulva and vagina.

10 IMPORTANT DO'S and DON'TS about CANCER

8. Ensure Adequate Levels of Vitamin D

Low levels of Vitamin D, which can be determined in a blood sample, may be associated with an increased risk of colon, breast, prostate, and pancreatic cancer. In areas of minimal sun exposure, such as the North-Eastern US, the recommended daily allowance of Vitamin D under age 70 is 600 IU a day and over age 70 is 800 IU a day.

9. Check your House for Radon Levels

Radon is a radioactive gas released from rocks and soil. Radioactive particles from radon can lead to lung cancer. Testing the air is the only way to know if your home has elevated radon levels. Radon testing and corrective action when necessary is recommended.

10. Get Regular Medical Care

Regular self-exams and screenings for various types of cancers — such as cancer of the skin, colon, prostate, cervix, lung and breast — can increase your chances of discovering cancer early when treatment is most likely to be successful. Ask your doctor about the best cancer screening schedule for you.

The Strang Cancer Prevention Cookbook

Reduce your Risk for Cancer by Eating a Healthy Diet!

Coriander, Fennel, & Pepper-Crusted Tuna 4 Servings



Spice Blend : 1 tablespoon coriander seeds, 1 tablespoon fennel seeds, 2 teaspoons black peppercorns, **Tuna:** 1 1/2 pounds tuna (4 pieces about 1 1/2 inches thick), 1 tablespoon olive oil

To prepare the spice blend, grind all the spices in a small food processor or spice grinder until they are powdery. Spread the spice mixture evenly on a large plate.

Rinse the tuna fillets and pat dry. Place one side of each piece of tuna into the spice mixture. Shake off any excess.

In a large nonstick skillet over medium-high heat, heat 2 tablespoons of the olive oil. Carefully place 2 tuna fillets, spiced side down, into skillet. A spice crust should form within 1 minute. Using tongs, turn over the tuna, lower the heat to medium, and cook for 2 to 5 minutes, to desired doneness. Transfer to a plate and loosely cover with foil to keep warm. Repeat the process with the remaining tuna fillets, adding 1 more teaspoon of oil to skillet.

Calories 207, protein 40g, carbohydrates 0g, fat 5g, cholesterol 74mg, dietary fiber 0g, saturated fat 1g

Tuna is potentially a good source of omega-3 fatty acids.

Recipe by Laura Pensiero, R.D. Owner, GigiTrattoria, Rinebeck, New York



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