

Cancer Calls- Hope it is the Wrong Number

by Becky Sherek RN/MS Northern Health & Fitness Plus

It is often said that cancer can strike anyone. But you as a firefighter, the chances of getting the disease rise beyond random selection. Research has found that firefighters are significantly more likely to develop certain types of cancer and suffer fatal heart attacks. In previous issues I have written on the link between diabetes, stroke, and heart attacks and that was devastating enough. As I travel about doing medical evaluations for fire departments it amazes me how firefighters don't play their own health. This just can't be. The best equipment a fire department can have is healthy and "Fire Fit" firefighters. They need to be cared for and maintained just as all that equipment and tools that gets collected to fight the fire. Cancer calls can go out to anybody. We need to be aware and tackle deadly health risks that go beyond fighting fire. A focus on being "Fire Fit" and health issues need to start today or you could become the next statistic.

Why write about cancer?

Working as a nurse the past thirty some years I have cared for many patients who have had their life's disrupted by cancer of some kind. I got my own calling this past October with the diagnosis of basilar cell skin cancer in three locations. I don't remember asking for it either. When researching this enemy I came upon information on the increased cancer risks of firefighters and was dumbfounded. Firefighters and their families should understand the hazards of being on the job whether it is a burning structure or a chemical hazard. It is my goal to try to make this population of firefighters aware of all the potential health hazards they face just being a firefighter not just the hazards at the scene. Firefighters need to remember they are no tougher or maybe luckier than anyone else in society in the ability to avoid the risks of all the good ailments out there waiting to grab anyone that lets down their defense. Did you even know that firefighters are more likely to develop four different types of cancer than workers in other professions? Did you ever think you may be facing more battles off of the fire scene than at it? Fire fighters need to take precautions when fighting fires, and continuing after the battle is over and back at the fire house, the red lights and precautions should still exist.

What is cancer?

Cancer is the second leading cause of death in America, exceeded only by heart disease. Every year, cancer is diagnosed in more than a million people. The American Cancer Society reports cancer continues to cut a deadly swath across the globe, reporting 12 million new cases of malignancy diagnosed worldwide in 2007. They claimed the 7.6 million people died from the disease. As you can see I don't think that cancer is very selective in whom it wants.

Cancer is not a new phenomenon. There is evidence that prehistoric humans experienced cancer. Ancient Egyptian papyri dating to at least 3400 BC describe various tumors. Hippocrates is credited with designating the process as *karkinos* or, in Latin, "cancer," meaning "crab-like."

Doubtless this was because of the crab-like tenacity a malignant tumor sometimes seems to show in grasping the tissue it invades. Cancer may also be called malignancy, a malignant tumor, or a neoplasm (literally, a new growth). It was not until 1951 that the normal cell cycle and its role in cancer development were introduced.

There are many references and texts that attempt to define cancer. I found the easiest definition was to get down to the cell which is the basic unit of life. Our bodies are made up of billions of these cells that grow, divide, and then die in a predictable manner. These cells make it possible for each of us to carry out all kinds of functions needed to live. However, all of these functions can only be carried out by normal healthy cells. But like with everything else in life things go wrong. When cells stop behaving the way they should, serving no useful purpose in the body at all, they become cancerous cells. Clumps of these cancer cells then can form a mass which is known as a tumor, which continues to grow. As it grows, it may damage and invade nearby tissue. If a cancerous tumor outgrows its birthplace (called the primary cancer) and moves on to another place (called the secondary cancer site), it's referred to as metastasizing.

Cancer is not just one disease. The kicker is it is a group of more than 100 different and distinctive diseases. Cancer develops in almost any organ or tissue of the body, but certain types of cancer are more life-threatening than others. Most cancers are named for the type of cell or organ in which they start. Though your body has trouble detecting cancer cells on its own, there's an array of cancer treatment options to help.

Just 60 years ago a cancer diagnosis carried little hope for survival because doctors understood little about the disease and how to control it. Today about two-thirds of all Americans diagnosed with cancer live longer than five years. When someone has had no recurrence of cancer for five years after the initial diagnosis their survival significantly improves.

Firefighters Increased Cancer Risks

As I had said firefighters are at a far greater risk of developing certain cancers than people in many other professions, according to new research. So can you guess what they might be? Firefighters are more likely to develop multiple myeloma (50% increased risk), an elevated 50% risk of non-Hodgkin's lymphoma, prostate (28% increased risk), and testicular cancers (100% increased risk). Overall it was found that firefighters also have a "possible" elevated risk for several additional cancers, including melanoma and other skin cancers, leukemia, plus cancer of the brain, rectum, buccal cavity and oral pharynx, stomach, bladder, kidney and the colon. One of the studies that have been carried out at the University of Cincinnati by Grace LeMasters, Ph.D. reported these results in the Journal of Occupational and Environmental Medicine. Lemaster claims there is a direct correlation between the chemical exposure firefighters experience on the job and their increased risk of cancer. The study covered 110,000 firefighters and compared them to the general population to uncover this alarming information.

A brief run down on the four top cancers for firefighters include:

Multiple myeloma-is a progressive hematologic (blood) disease of the plasma cells which is incurable but treatable. Plasma cells are a type of white blood cell present in the bone marrow.

The increase in abnormal plasma cells can result in erosion of the bones. The disease also interferes with the function of your bone marrow and immune system, which can lead to anemia and infection. You may have multiple myeloma and not have symptoms, and would just be monitored by your doctor. There are various treatments available for this cancer type.

Non-Hodgkin's lymphoma-is a cancer of the lymphatic system (the body's blood filtering tissues that help to fight infection and disease). Like other cancers, lymphoma, occur when cells divide too much and too fast. Growth control is lost, and the lymphatic cells may overcrowd, invade and destroy lymphoid tissues and metastasize (spread) to other organs and can cause tumors. There are several types on non-Hodgkin's lymphoma, which are classified and treated by how quickly they spread.

Prostate cancer-is a cancer that forms in the tissues of the prostate (a gland in the male reproductive system found below the bladder and in front of the rectum). Prostate cancer usually grows slowly and initially remains to the prostate gland, where it may not cause serious harm. If left untreated, the prostate cancer can begin to invade tissues and cause damage, and it may spread to other areas of the body where it can significant harm. However, there are some forms of this cancer that can be aggressive and can spread quick to other parts of the body. This is the second leading cause of death in men. The survival rates have greatly improved. In the past 20 years, 5 year survival rates for all stages of prostate cancer combined have increased from 67% to 99%. This can be tested very easily by a simple PSA blood test and digital rectal exam.

Testicular Cancer-is a cancer of the male sex hormone. Testicular cancer is the most common cancer in American males between the ages of 15 and 34. The incidence of this cancer has risen over the last century, although the reason for this is not clear. This cancer is highly treatable when diagnosed early. Doctors classify testicular cancer as one of two types, seminoma and nonseminoma. Each type grows and spreads differently. Depending on the type and stage of the cancer, you may receive one of several types of treatments, or a combination.

Most men will discover testicular cancer themselves, either unintentionally or while doing a testicular self-examination to check for lumps. It is advised that a male should begin to examine his testicles beginning in their mid-teenage years and continuing throughout their life.

It's not only these four that you have to dodge as a firefighter. Firefighters have a "possible" elevated risk for several additional cancers, including melanoma and other skin cancers, leukemia, plus cancer of the brain, rectum, buccal cavity and oral pharynx stomach, colon and bladder.

Bladder cancer is one that really hit home being as I was in the process of researching firefighter cancers when across my e-mail I received a message in regards to one of the local firefighters. Yes, he had been undergoing treatment for bladder cancer and was just going back down to the Mayo for follow-up after his surgery and chemotherapy back in September. I spoke with him several times about his cancer experience and received a lot of information that I was not privy to before.

Bladder cancer was found to be 1.3 times more likely for firefighters than the general population. Unlike other cancers, which often have genetic roots, bladder cancer largely stems from environmental causes. The city of San Francisco and its fire departments are responding to this alarm of bladder cancer by providing free the NMP22 (R) BladderChek (R) Test to their firefighters annually. This is a urine test that can be done. Whether it is the departments pushing for screening or the individual firefighter taking responsibility for their wellbeing you need to know the risks you take being a firefighter and the steps you can take to beat the odds.

Where's the Hot Stop?

Firefighters are exposed to hazardous substances both at the scene of a blaze and at the fire station. You can't let your defenses down just because the blaze is out and under control. Firefighters are exposed to many potentially hazardous substances which include diesel engine exhaust, benzene, chloroform, soot, styrene, and formaldehyde. These substances can be inhaled or absorbed through the skin. When in fighting a fire you are protected from heat and chemicals but what about when you take your protective clothing off. Did you forget you are still at risk for inhaling cancer causing chemicals and having these chemicals absorbed through the skin? There is still uncertainty as to what components or mixture of chemicals is causing the cancers. I would say you had better be aware of this and keep your self safe. It is suggested that when returning from the fire that they take showers to meticulously wash all fire residue from their bodies to avoid skin exposure. Remember you are all sweaty and the pores of your skin are open and more likely to absorb this nasty chemical residue. So scrubbing up can limit the exposure to toxins and reduce your cancer risk. Firefighters are also advised to have their turnout gear professionally cleaned and avoid storing in the living corridors of the station. The frequency of the cleaning would however, be dependent on their level of activity.

It is advisable to have exhaust removal systems in the department. There is evidence that chemicals in diesel fumes may be linked to cancer, and multiple exposures in closed quarters can increase the risk and leave potentially toxic residues behind.

So yes there is a critical need for additional protective equipment to help avoid inhalation and skin exposures to known and suspected occupational carcinogens. But until it is found you need to use your best judgment in your own health risks and start today in living in a more health conscientious mode.

What are you Going to Do?

While genes and environment can affect your risk for cancer, so can everyday lifestyle choices on such as diet, exercise and smoking, never heard this before right. It

has been said that the environment, including diet and lifestyle, causes 60 to 90 percent of cancer. Now you heard it.

While there is no way for firefighters to completely avoid the on-the-job factors that may contribute to cancer, there are basic prevention and detection measures that can be done to reduce the risks.

- **Eat a healthy diet.** Diet is implicated in one-third of all cancer deaths and a large portion of heart attacks.
- **Finding ways to reduce stress.** Stress is a major element of a firefighter's life. Prolonged or unresolved stress can damage your health in many ways.
- **Exercising and focus on being "Fire Fit".** The combination of poor diet and physical inactivity are rapidly approaching smoking as the leading cause of preventable death in the United States.
- **Smoking.** Scary. Tobacco use is the leading preventable cause of death in the United States. More deaths are caused by tobacco use than by HIV, illegal drug use, alcohol use, motor vehicle injuries, suicides, and murder-----
COMBINED.
- **Educate yourself about cancer and your risks (on and off the job).** The biggest thing you have is to educate, educate and educate yourself.
- **Skin protection.** Protecting your skin from the sun's rays could prevent about 80 percent of all skin cancers. And being squeaky clean after a fire is another biggie.
- **Scheduling annual doctor visits or make sure you participate in your departments annual physical for respiratory fitting.**
- **Paying close attention to your body.** Learn self examination techniques to monitor body changes. Follow-up with a doctor if you notice any change or anything unusual.

Early detection is the best way to prevent cancer from becoming life threatening.

Scientists estimate that many cancer deaths in the United States could be prevented through lifestyle changes. Although there is no certain way to avoid all cancers, reducing individual risks factors significantly decreases the likelihood of contracting many forms of this devastating disease. With your increased risks of this disease process, arm yourself with the knowledge to protect yourself on and off the job. There are numerous sites online that have very good information on cancer and other related issues. The two following organizations out there in educating firefighters and supporting those that have been diagnosed with cancer I found to be very helpful. Don't be afraid to check it out yourself. It may be the best check-up you may get.

Firefighter Cancer Support Network (FCSN)

<http://www.firefightercancersupport.org>

Minnesota State Volunteer Firefighter Association (MSVFA)

http://www.msvfa.org/cancer_main_page.html