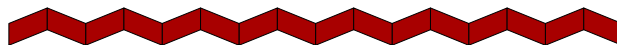




CANCER CLUSTERS ARE LIKELY NOT CLUSTERS AT ALL



Safety & Security Fact Sheet

Here are some thoughts on the risks in your work environment suggested by the increased awareness of cancer diagnoses among your coworkers and the perception that a cluster exists.

✓ **THERE IS A DIFFERENCE BETWEEN A TRUE CLUSTER AND A PERCEIVED CLUSTER.**

A disease cluster is the occurrence of a greater than expected number of cases of a particular disease within a group of people, a geographic area, or a period of time. For example, an outbreak of Salmonella infection related to specific foods served to attendees at a specific event is an example of a true cluster. A cancer cluster may be **suspected** when teachers or staff members report that coworkers have been diagnosed with cancer. This close relationship with coworkers diagnosed with cancer often leads to the recognition of others who have cancer, creating the **perception** that there are an unusual number of cases among coworkers. It is common for building occupants to wonder whether that these cancers are caused by some unknown, environmental factor in their work place.

✓ **CANCER IS MORE COMMON THAN MOST PEOPLE REALIZE.**

According to the American Cancer Society, more than one out of three Americans now living will eventually become a cancer victim. Because public health and medicine have conquered many infectious diseases, cancer has become the second leading cause of death in the United States, following heart disease. Given these statistics, it is not surprising to know several people in one's workplace who have cancer.

✓ **CANCER IS NOT JUST ONE DISEASE.**

Cancers are a group of more than 100 diseases characterized by uncontrolled growth and spread of abnormal cells throughout the body. Each type of cancer has certain known and suspected risk factors associated with it. Different types of cancers have differing rates of occurrence and different causes. We cannot assume that all the different types of cancers in a workplace share a common cause.

✓ **MOST CANCERS ARE RELATED TO LIFESTYLE, BEHAVIORAL CHOICES, AND FAMILY HISTORY.**

People are exposed to a variety of environmental factors for varying lengths of time, usually over many years, and these factors interact in ways that are still not fully understood. Furthermore, individuals have varying levels of susceptibility to these factors. Scientists estimate that more than half of all cancers are due to lifestyle and behavior choices including tobacco use, alcohol consumption, and diet. Other risk factors for some cancers include reproductive patterns, sexual behavior, lack of exercise, and exposure to sunlight and other forms of radiation. A family history of cancer may increase a person's chances of getting a cancer. Most environmental health scientists currently believe that a relatively small proportion of all cancers are associated with exposure to toxic substances.



✓ **THE DIAGNOSIS OF CANCER IS THE OUTCOME OF EVENTS THAT HAPPENED MANY YEARS AGO.**

When a cancer, for example mesothelioma, is suspected to be the result of exposure to a cancer-causing agent, in this case asbestos, the disease does not develop immediately. Carcinogenesis (the process by which normal cells are transformed into cancer cells) involves a series of changes within cells that usually occur over the course of many years. For adults, there is often a long period, 10 to 30 years or even more, between the exposure and diagnosis of cancer. Since the cancers we see now are generally related to a lifetime of certain habits or exposures to carcinogens, it is usually very difficult to pinpoint what caused a specific case of the cancer.

✓ **CANCER CLUSTERS CAN OCCUR BY CHANCE.**

Within any population, exposure, carcinogenesis, and diagnosis do not occur evenly over time and place. Therefore, the perception of increased or decreased incidence of cancer within a population is most likely due to random variation, even when unusually high or low rates can be statistically confirmed. Therefore, we can rarely conclude that a "statistically significant increase" was caused by an exposure to local environmental factors.

✓ **A SUSPECTED CANCER CLUSTER IS MORE LIKELY TO BE A TRUE CLUSTER IF IT INVOLVES:**

A large number of cases of one type of cancer, rather than several different types; a rare type of cancer, rather than a common type; or an increased number of cases of a certain type of cancer in an age group not usually affected by that type of cancer.



visit the
National Cancer Institute at www.cancer.gov,
National Institute of Environmental Health Sciences at www.niehs.nih.gov, or
National Institute for Occupational Safety and Health at www.cdc.gov/niosh/homepage.html.
If you need assistance, call the safety section at 571-423-2010.