

What is Cancer?

Narrator

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Contrary to what many people believe, cancer isn't just one disease. There are more than 100 common types of cancer and many more subtypes, which can occur anywhere in the body.

Sarcomas: are cancers that originate in muscle, fibrous tissue or fat...known as soft tissue sarcomas... or in bone and cartilage.

Leukemias: are cancers of the blood cells, arising in the blood-forming organs... bone marrow, and the spleen.

Lymphomas: affect the lymphatic system, a network of vessels and nodes that acts as the body's filter. There are at least 30- and perhaps more- different types of lymphoma.

Carcinomas: the most common cancers, arise in the body's organs. About 80% of all cancers are carcinomas. Examples are cancers of the breast, prostate, stomach, colon and, as the skin is an organ, also include squamous and basal cell skin cancers.

There are a few cancers that don't fit into these major categories... Melanomas for example are not considered carcinomas even though they arise from skin cells, and certain types of brain tumors have their own classification.

Cancer begins in the body's cells. All parts of the body...organs, muscles, skin...even bones and blood... are composed of cells. Cells are constantly dividing and multiplying to replace old, damaged cells. Dividing is part of a normal cell's life span. Cells grow, divide, and die in an orderly fashion. However, if this orderly process is disrupted, and cells begin to grow out of control, they form excess tissue known as a tumor. In most cases, tumors are benign, meaning that they are not cancerous.

Benign tumors can occur almost anywhere. Although they may cause some health problems, depending on their size and location, and may have to be removed, they are usually not life threatening.

However, if cells are cancer cells, they grow, divide and eventually form malignant tumors. Malignant tumors, unlike benign tumors, invade and destroy surrounding tissues and nearby organs. Eventually, cancer cells break off and spread through the blood or lymphatic system to form new tumors in other parts of the body.

This process...the spread of cancer from its original site...is known as metastasis. Cancers that originate in the breast or colon for example, typically metastasize to the brain, lung, liver, or bone, forming new tumors there. Metastasis can be a slow process, occurring over a number of years, or can happen rapidly, within a few weeks. Scientists are not sure why.

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Left untreated, cancers continue to grow, invade, and spread... taking over and destroying the organs where they originate as well as those to which they spread and metastasize. As this happens, the person will eventually begin to experience symptoms related to the organs affected.

To understand what causes cancer to occur, we must look deeper into the cell at the genes that control the cell's growth and behavior and how the cell's normal function may be disrupted or damaged. Since it is the genes that regulate the normal orderly behavior of cells, abnormalities or damage to cells' genetic components cause it to behave abnormally... to become cancers. In some cases, people have inherited genes that may predispose them to cancer, while in other cases, genes are damaged by external, environmental factors, such as smoking, exposure to chemicals or ultraviolet radiation and perhaps even viruses. Not all of the causes of genetic cell damage are known, and in many cases, it's probably not one, but a combination of factors

John Mendelsohn, MD, President, M.D. Anderson Cancer Center

"There are still many unknowns. Research has unraveled many of the mysteries of cancer, and new discoveries are happening every day. The more we learn about cancer, the more targeted and specialized our therapies are becoming.

There was a time, not too long ago when a diagnosis of cancer was perhaps the worst medical news you could receive. But today, if you or someone you love has cancer, it's important to remember that many cancers that once were fatal are now curable and many more are treatable than ever before in history."