

Cancer is a disease in which some of the body's cells grow uncontrollably and spread to other parts of the body. Cancerous tumors spread into, or invade, nearby tissues and can travel to distant places in the body to form new tumors (a process called metastasis).

Types of Genes that Cause Cancer

The genetic changes that contribute to cancer tend to affect three main types of genes—proto-oncogenes, tumor suppressor genes, and DNA repair genes.

- o of damage to DNA caused by harmful substances in the environment, such as the chemicals in tobacco smoke and ultraviolet rays from the sun.

Benign tumors do not spread into, or invade, nearby tissues. Sometimes this orderly process breaks down, and abnormal or damaged cells grow and multiply when they shouldn't. Many cancers form solid tumors, but cancers of the blood, such as leukemias, generally do not. When removed, benign tumors usually don't grow back, whereas cancerous tumors sometimes do. Benign tumors can sometimes be quite large, however. These cells may form tumors, which are lumps of tissue. Tumors can be cancerous or not cancerous (benign). Cancerous tumors may also be called malignant tumors.

Genetic changes that cause cancer can happen because:

- o of errors that occur as cells divide.

As the cancer continues to grow, additional changes will occur. Some can cause serious symptoms or be life threatening, such as benign tumors in the brain. Cancer is a genetic disease—that is, it is caused by changes to genes that control the way our cells function, especially how they grow and divide. (Our Cancer Causes and Prevention section has more information.)

- o they were inherited from our parents.