

Glossary

Absolute risk: the overall risk of developing a disease over a specific period of time.

Adenocarcinoma: cancer that starts in the glandular tissue, such as in the ducts or lobules of the breast.

Adjuvant therapy: treatment used in addition to the main treatment. It usually refers to treatment after surgery to increase the chances of curing the disease or keeping it in check.

Angiogenesis: the formation of new blood vessels. Some cancer treatments work by blocking angiogenesis, thus preventing blood from reaching the tumor.

Brachytherapy: internal radiation treatment given by placing radioactive material directly into the tumor or close to it.

Cancer: develops when cells in the body begin to grow out of control. Cancer cells develop because of damage to DNA.

Carcinoma: a malignant tumor that begins in the lining layer (epithelial cells) of organs. At least 80 percent of all cancers are carcinomas.

Carcinoma in situ: a highly curable early stage of cancer in which the tumor is confined to the organ where it first developed.

Chemotherapy: treatment with drugs to destroy cancer cells. Chemotherapy is often used with surgery or radiation to treat cancer when the cancer has spread, when it has come back (recurred), or when there is a strong chance it could recur.

Clinical trials: research studies that test new drugs or treatments and compare them to current, standard treatments. Before a new treatment is used on people, it is studied in the lab. If lab studies suggest the treatment works, it is tested with patients. These human studies are called clinical trials.

Complete response: disappearance of all signs of cancer as a result of treatment; does not always equate to a cure.

Cytokine: a product of cells of the immune system that may stimulate immunity and cause the regression of some cancers.

Cytotoxic: toxic to cells; cell-killing.

Disease-free survival: length of time after treatment during which no evidence of cancer is found.

DNA (deoxyribonucleic acid): the genetic “blueprint” found in the nucleus of

each cell. DNA holds genetic information on cell growth, division, and function.

Enzyme: proteins that increase the rate of chemical reactions in living cells.

Estrogen: a female sex hormone produced primarily by the ovaries and in smaller amounts by the adrenal cortex. In breast cancer, estrogen may promote the growth of cancer cells.

Five-year survival: the percentage of patients in a population who have survived at least five years after diagnosis. Five years is the standard for most cancers when discussing survival.

Gene: a segment of DNA that contains information on hereditary characteristics, such as hair color, eye color, and height, as well as susceptibility to certain diseases.

Genetic testing: tests performed to see if a person has certain gene changes known to increase cancer risk. Such testing is recommended for those with specific types of family history. Genetic counseling should be part of the process.

Grade: reflects how abnormal the cancer looks under the microscope. There are several grading systems for different types of cancer. Each grading system divides cancer into those with the greatest abnormality, the least abnormality, and those in between. Cancers with more abnormal-appearing cells tend to grow and spread more quickly and have a worse prognosis (outlook).

Graft-versus-host disease (GVHD): the condition that results when the immune cells of a transplant (usually of grafted stem cells) from a donor attack the tissues of the person receiving the transplant.

Growth factors: a naturally occurring protein that causes cells to grow and divide. Too much growth factor production by some cancer cells helps them grow quickly. Other growth factors help normal cells recover from side effects of chemotherapy.

HER2: this oncoprotein is present in very small amounts on the outer surface of normal breast cells. About 25 to 30 percent of breast cancers have too much of this protein, which stimulates cell growth. A monoclonal antibody that attaches to the HER2 protein slows the growth of breast cancer cells and may stimulate the immune system to more effectively attack the cancer. Other types of cancer also have too much HER2.

Hereditary cancer syndrome: conditions associated with cancers that occur in several family members because of an inherited, mutated gene, such as BRCA1 and BRCA2 for breast and ovarian cancer. Other examples of syndromes include hereditary nonpolyposis colon cancer and familial adenomatous polyposis for colorectal cancer and von Hippel-Lindau disease for kidney cancer.

Hormone therapy: treatment with drugs that interfere with hormone production or hormone action, or the surgical removal of hormone-producing glands. Hormone therapy may kill cancer cells or slow their growth.

Immunotherapy: treatments that promote or support the body's immune system response to a disease such as cancer.

Leukemia: cancer of the blood or blood-forming organs. People with leukemia

often have a noticeable increase in white blood cells (leukocytes).

Lymph nodes: small bean-shaped collections of immune system tissue, such as lymphocytes, found along lymphatic vessels. Lymphocytes remove cell waste, germs, and other harmful substances from lymph. They help fight infections and also have a role in fighting cancer, although cancers sometimes spread through them.

Lymphoma: a cancer of the lymphatic system, a network of thin vessels and nodes throughout the body. Lymphoma involves a type of white blood cell called lymphocytes. The two main types of lymphoma are Hodgkin's disease and non-Hodgkin's lymphoma.

Mean: the average of a group of numbers.

Median: the middle number(s) in a group.

Metastasis: cancer cells that have spread to one or more sites elsewhere in the body, often by way of the lymph system or bloodstream. Regional metastasis is cancer that has spread to the lymph nodes, tissues, or organs close to the primary site. Distant metastasis is cancer that has spread to organs or tissues that are farther away (such as when prostate cancer spreads to the bones, lungs, or liver).

Monoclonal antibodies: antibodies made in the lab to lock onto specific antigens. Antigens are substances that can be recognized by the immune system. Monoclonal antibodies are used in chemotherapy and radioactive substances to deliver cancer treatment directly to cancer cells, not healthy cells. Monoclonal antibodies are also used to help classify and detect cancer cells under a microscope.

Mutation: a change in the DNA of a cell. All types of cancer are thought to be due to mutations that damage a cell's DNA. Most mutations happen after the person is born and are not genetically passed on to offspring.

Neoadjuvant therapy: treatment given before the main treatment.

Palliative treatment: treatment that relieves symptoms, such as pain, but is not expected to cure the disease. Its main purpose is to improve the patient's quality of life.

Partial response: in a clinical trial, tumor shrinkage by at least 50 percent

Pathologist: a doctor who specializes in diagnosis and classification of diseases by lab tests, such as examining cells under a microscope. The pathologist determines the specifics of a cancer diagnosis, such as its cell type and grade.

Progression-free survival: the length of time a patient has survived without noticeable growth of the cancer.

Radiation therapy: treatment with high-energy rays (such as X-rays) to kill or shrink cancer cells. The radiation may come from outside of the body (external radiation) or from radioactive materials placed directly in the tumor (brachytherapy or internal radiation).

Recurrence: the return of cancer after treatment. Local recurrence means that the cancer has come back at the same place as the original cancer. Regional

recurrence means that the cancer has come back after treatment in the lymph nodes near the primary site. Distant recurrence is when cancer metastasizes after treatment to distant organs or tissues (such as the lungs, liver, bone marrow, or brain).

Relative risk: the risk of disease in an affected (exposed) group compared with the risk in a control (unexposed) group.

Remission: complete or partial disappearance of the signs and symptoms of cancer in response to treatment. A remission may not be a cure.

Sarcoma: a malignant tumor growing from connective tissues, such as cartilage, fat, muscle, or bone.

Side effects: unwanted effects of treatment that can include hair loss, anemia (low red blood cell count), fatigue, thrombocytopenia (low platelet count), and neuropathy (nerve damage).

Stable disease: a state in which the cancer is neither growing nor shrinking.

Stage: Designation that indicates if and how far the cancer has spread. There is more than one system for staging different types of cancer. The most commonly used is the TNM system.

Stem cell transplant: procedure used to restock stem cells in the bone marrow when they have been destroyed by chemotherapy, radiation, or disease. Stem cells may be the patient's own (autologous transplant), or may come from someone else (allogeneic transplant).

Targeted therapy: treatment to attack the part of cancer cells that make them different from normal cells. Targeted agents tend to have fewer side effects than conventional chemotherapy drugs.

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