

Glossary of Selected Terms

Adjuvant Therapy

Treatment given after the primary treatment to increase the chances of a cure. Adjuvant therapy may include chemotherapy, radiation therapy, hormone therapy, or biological therapy.

Alcohol

A chemical substance found in beer, wine, and liquor. Alcohol is also found in some medicines, mouthwashes, essential oils (scented liquid taken from plants), and household products.

Allele

Different forms of genes that usually come in pairs.

Amino Acid

Smaller molecular units that make up proteins.

Anaphase

Third phase of mitosis. The chromosome pairs separate and move towards opposite poles of the cell.

Apoptosis

A type of cell death in which a series of molecular steps in a cell leads to its death. This is the body's normal way of getting rid of unneeded or abnormal cells. The process of apoptosis may be blocked in cancer cells. Also called programmed cell death.

Aromatase Inhibitor

A drug that prevents the formation of estradiol, a female hormone, by interfering with an aromatase enzyme. Aromatase inhibitors are used as a type of hormone therapy for postmenopausal women who have hormone-dependent breast cancer.

Atypical Hyperplasia

A benign (noncancerous) condition in which cells look abnormal under a microscope and are increased in number.

Axilla

The underarm or armpit.

Axillary Lymph Node

A lymph node in the armpit region that drains lymph channels from the breast.

Behavior

The actions displayed by an organism in response to its environment.

Benign

Not cancerous. Benign tumors do not spread to other parts of the body.

Bias

In a scientific research study or clinical trial, a flaw in the study design or the method of collecting or interpreting information. Biases can lead to incorrect conclusions about what the study or clinical trial showed.

Biological Therapy

Treatment used to stimulate or restore the immune system's ability to fight diseases.

Biopsy

Removal of cells or tissues from the body so they can be analyzed by a pathologist.

Biotechnology

The application of engineering and technology to study biology.

Blinding

In a clinical trial, the process of withholding information about whether a participant is part of an investigational or control group. In a single-blind study the patient is not told what treatment he or she is receiving. In a double-blind study neither the patient nor the research team knows. Blinding is done to limit bias in a clinical trial.

Body Fluid

Liquid parts of the body, including blood, saliva and urine.

Body Mass Index (BMI)

A measurement of the relative percentages of fat and muscle mass in the human body, in which weight (kg) is divided by height (m) and the result used as an index of obesity.

BRCA1

Gene on chromosome 17 that normally helps to suppress cell growth. A person who inherits an altered version of the BRCA1 gene has a higher risk of getting breast, ovarian, or prostate cancer.

BRCA2

Gene on chromosome 13 that normally helps to suppress cell growth. A person who inherits an altered version of the BRCA2 gene has a higher risk of getting breast, ovarian, or prostate cancer.

Breast

Glandular organ located on the chest. The breast is made up of connective tissue, fat, and breast tissue that contains the glands that can make milk. Also called mammary gland.

Breast Conserving or Breast-Sparing Surgery

An operation to remove the breast cancer but not the breast itself. Types of breast-conserving and breast-sparing surgery include lumpectomy (removal of the lump), quadrantectomy (removal of one quarter, or quadrant, of the breast), and segmental mastectomy (removal of the cancer as well as some of the breast tissue around the tumor and the lining over the breast muscles below the tumor).

Breast Reconstruction

Surgery to rebuild the shape of the breast after a mastectomy.

Calcification

Deposit of calcium in the breast tissue. Appears as small white spots on a mammogram.

Cancer

A term for diseases in which abnormal cells divide without control. Cancer cells can invade nearby tissues and can spread to other parts of the body through the blood and lymph systems.

Carcinoma

Cancer that begins in the skin or in tissues that line or cover internal organs.

Carcinoma in Situ

A group of abnormal cells that remain in the tissue in which they first formed. These abnormal cells may become cancerous and spread into nearby normal tissue.

Carrier

An individual possessing an unexpressed, recessive trait that can be passed on to others.

Cell

Basic unit of life. Collection of organelles held within a membrane.

Cell Checkpoint

Control mechanisms that verify whether the processes at each phase of the cell cycle have been accurately completed before advancing into the next phase.

Cell Cycle

Series of events that cells go through as they grow and divide.

Cell Membrane

Flexible barrier around the cell. Controls what enters and leaves a cell.

Centriole

Organelles that help organize cell division.

Chemotherapy

Treatment that uses drugs to kill cancer cells.

Chromatid

One of two identical parts of a duplicated chromosome.

Chromosome

Structure in the cell nucleus that contains all the genetic information of an organism.

Clinical Trial

A type of research study that uses volunteers to test new methods of screening, prevention, diagnosis, or treatment of a disease. Also called a clinical study.

Codon

A three nucleotide sequence of mRNA (nucleotide triplet).

Control Group

The standard by which experimental observations are evaluated. In many clinical trials, one group of patients will be given an experimental drug or treatment, while the control group is given either a standard treatment for the illness or a placebo.

Core Biopsy

The removal of a tissue sample with a wide needle for examination under a microscope.

Cyclophosphamide

A chemotherapy drug which binds to DNA, prevents DNA replication, and induces cell death.

Cyst

A sac or capsule in the body that may be filled with fluid or other material.

Cytokinesis

Division of the cytoplasm during mitosis.

Cytoplasm

The material in the cell which takes up space between the cell membrane and other structures.

Data and Safety Monitoring Boards

An independent group of experts who monitor patient safety and treatment efficacy data while a clinical trial is ongoing.

Deletion

A type of chromosome aberration in which a segment of the chromosome is removed or lost.

Diagnosis

The process of identifying a disease by the signs and symptoms.

Diagnostic Trial

A clinical trial examining new tests or procedures that identify cancer.

Diethylstilbestrol (DES)

A synthetic form of the hormone estrogen that was prescribed to pregnant women between about 1940 and 1971 because it was thought to prevent miscarriages. DES may increase the risk of uterine, ovarian, or breast cancer in women who took it. It also has been linked to an increased risk of clear cell carcinoma of the vagina or cervix in daughters exposed to DES before birth.

Deoxyribonucleic Acid (DNA)

The molecule inside a cell nucleus that carries genetic information and passes it from one generation to the next.

DNA Sequencing

The determination of the sequence of nucleotides in a sample of DNA.

Dominant

The one of a pair of alternative alleles that masks the effect of the other when both are present in the same cell or organism.

Doxorubicin

A chemotherapy drug which fights cancer growth by moving between DNA base pairs. This prevents DNA replication and protein synthesis, and eventually causes cell death.

Duct

Vessel in the body through which fluids pass.

Ductal Carcinoma in Situ (DCIS)

A noninvasive condition in which abnormal cells are found in the lining of a breast duct. The abnormal cells have not spread outside the duct to other tissues in the breast. In some cases, ductal carcinoma in situ may become invasive cancer and spread to other tissues.

Eligibility Criteria

The features or characteristics of the potential subject that determine whether he or she can be included in a clinical trial. Eligibility criteria can be general (age, sex, cancer type) or more specific (cancer stage, tumor characteristics).

Endocrine System

Body system made up of glands and cells that make and release hormones. The endocrine system controls growth, sexual development, sleep, hunger and the way the body uses food.

Endpoint

In a clinical trial, an endpoint is a measurable outcome that indicates an intervention's effectiveness.

Environment

A system of independent components affected by natural phenomena and human activity.

Environmental Tobacco Smoke (ETS)

Smoke that comes from the burning of a tobacco product and smoke that is exhaled by smokers. Inhaling environmental tobacco smoke is called involuntary or passive smoking. Also known as secondhand smoke.

Estradiol

A form of the hormone estrogen.

Estrogen

Hormone that promotes the development and maintenance of female sex characteristics.

Exercise

Bodily exertion for the sake of developing and maintaining physical fitness.

Excisional Biopsy

A surgical procedure in which an entire lump or suspicious area is removed for diagnosis. The tissue is then examined under a microscope.

External Radiation

Radiation therapy that uses a machine to aim high-energy rays at the cancer. Also called needle biopsy.

False Negative

A test result that indicates that a person does not have a specific disease or condition when the person actually does have the disease or condition.

False Positive

A test result that indicates that a person has a specific disease or condition when the person actually does not have the disease or condition.

Family Health History

A record of a patient's background regarding health and disease events of blood relatives. A patient's family medical history may be important in diagnosing existing conditions.

Fine Needle Aspiration

The removal of tissue or fluid with a needle for examination under a microscope.

Fluorescent in Situ Hybridization (FISH)

A process which vividly paints chromosomes or portions of chromosomes with fluorescent molecules. This technique is useful for identifying chromosomal abnormalities and gene mapping.

Founder Mutation

A mutation present in the DNA of one or more individuals who are founders of a distinct population.

Frameshift Mutation

A type of mutation in which one or more paired nucleotides are inserted or deleted in the coding region of the gene, which causes the triplet codons to be read in the wrong frame; the resulting polypeptide has a garbled amino acid sequence from the mutated codon.

G0 Phase

Phase of the cell cycle during which cells increase in size and make new proteins and organelles.

G1 Checkpoint

Checkpoint between the G1 and S phases of the cell cycle. The cell must be large enough to clear the checkpoint and enter the S phase.

G1 Phase

Phase of the cell cycle during which cells do not divide.

G2 Checkpoint

Checkpoint between the G2 and mitotic phases of the cell cycle. The cell must be large enough and DNA completely replicated to clear the checkpoint and enter mitosis.

G2 Phase

Phase of the cell cycle during which cells prepare for mitosis.

Gel Electrophoresis

The process in which molecules (such as proteins, DNA, or RNA fragments) can be separated according to size and electrical charge by applying an electric current to them. The current forces the molecules through pores in a thin layer of gel, a firm jelly-like substance. Smaller fragments usually travel further than larger ones.

Gene

The functional and physical unit of heredity passed from parent to offspring. Genes are pieces of DNA, and most genes contain the information for making a specific protein.

Gene Expression

The process by which proteins are made from the instructions encoded in DNA. Genome All of the DNA contained in an organism, which includes both the chromosomes within the nucleus and the DNA in mitochondria

Genetics

The study of heredity.

Genetic Counselor

A person who counsels individuals on the probabilities, dangers, diagnosis, and treatment of inherited diseases.

Genetic Testing

Analyzing DNA to look for a genetic alteration that may indicate an increased risk for developing a specific disease or disorder.

Genotype

The genetic makeup of an organism, as distinct from its expressed features or phenotype.

Gland

An organ that makes one or more substances, such as hormones, digestive juices, sweat, tears, saliva, or milk. Endocrine glands release directly into the bloodstream. Exocrine glands release the substances into a duct or opening to the inside or outside of the body.

HER2/neu Gene

Gene that codes for Human epidermal growth factor receptor 2 (HER2/neu), a protein involved in normal cell growth. It is found in high levels on some breast cancer cells.

Herceptin

A trademarked name for the anti-cancer drug trastuzumab. (See trastuzumab)

Heredity

An inherited disorder in which affected individuals have a higher-than-normal chance of developing a disease.

Heterozygous

Having dissimilar pairs of genes for any hereditary characteristic.

Histologic grade

A description of a tumor based on how abnormal the cancer cells look under a microscope and how quickly the tumor is likely to grow and spread. Grading systems are different for each type of cancer.

Homozygous

Having identical pairs of genes for any given pair of hereditary characteristic.

Hormone

One of many chemicals made by glands in the body. Hormones circulate in the bloodstream and control the actions of certain cells or organs.

Hormone Receptor Test

A test to measure the amount of certain proteins, called hormone receptors, in cancer tissue. Hormones can attach to these proteins. A high level of hormone receptors may mean that hormones help the cancer grow.

Hormone Therapy

Treatment that adds, blocks, or removes hormones. To slow or stop the growth of certain cancers (such as prostate and breast cancer), synthetic hormones or other drugs may be given to block the body's natural hormones.

Immune System

The complex group of organs and cells that defends the body against infections and other diseases.

Incision

A cut made in the body to perform surgery.

Incisional Biopsy

A surgical procedure in which a portion of a lump or suspicious area is removed for diagnosis. The tissue is then examined under a microscope.

Inflammatory Breast Cancer

A type of breast cancer in which the breast looks red and swollen and feels warm. The skin of the breast may also show the pitted appearance called peau d'orange (like the skin of an orange). The redness and warmth occur because the cancer cells block the lymph vessels in the skin.

Infertile

Unable to produce children.

Informed Consent

Consent by a patient to undergo a medical or surgical treatment or to participate in an experiment after the patient understands the risks involved.

Infusion

The slow injection of a fluid into a vein or tissue.

Inheritance

Manner in which genes and traits are passed from parents to children.

Inoperable

Not suitable for surgery.

Insertion

A type of chromosomal abnormality in which a DNA sequence is inserted into a gene, disrupting the normal structure and function of that gene.

Institutional Review Board (IRB)

A group of scientists, doctors, clergy, and consumers that reviews and approves the action plan for every clinical trial. There is an IRB at every health care facility that does clinical research. IRBs are designed to protect the people who take part in a clinical trial. IRBs check to see that the trial is well designed, legal, ethical, does not involve unnecessary risks, and includes safeguards for patients.

Internal Radiation

A procedure in which radioactive material sealed in needles, seeds, wires, or catheters is placed directly into or near a tumor. Also called brachytherapy, implant radiation, or interstitial radiation therapy.

Interphase

Part of the cell cycle in which the cell grows and prepares to divide.

Intraductal Carcinoma

A noninvasive, precancerous condition in which abnormal cells have not spread outside the duct to other tissue in the breast. In some cases, intraductal carcinoma may become invasive cancer and spread to other tissues, although it is not known at this time how to predict which lesions will become invasive. Also called ductal carcinoma in situ.

Intravenous

Into or within a vein. A way of giving a drug or other substance through a needle or tube inserted into a vein.

Investigational Group

In a clinical trial, the group that receives the new agent or intervention being tested. Also known as the control group.

Invasive Cancer

Cancer that has spread beyond the layer of tissue in which it developed and is growing into surrounding, healthy tissues. Also called infiltrating cancer.

Ionizing Radiation

High-energy radiation capable of producing ionization in substances through which it passes.

Lobe

A portion of the breast.

Lobular Carcinoma in Situ (LCIS)

A condition in which abnormal cells are found in the lobules of the breast. Not usually invasive cancer; however, having lobular carcinoma in situ in one breast increases the risk of developing breast cancer in either breast.

Local Therapy

Treatment that affects the cells in the tumor and area surrounding the tumor.

Lumpectomy

Surgery to remove the tumor and a small amount of normal tissue around it.

Lymph

The clear fluid that travels through the lymphatic system and carries cells that help fight infections and other diseases. Also called lymphatic fluid.

Lymph Node

Part of the lymphatic system. Lymph nodes filter lymph fluid and store white blood cells.

Lymph Vessel

A thin tube that carries lymph (lymphatic fluid) and white blood cells through the lymphatic system. Also called lymphatic vessel.

Lymphedema

A condition in which excess fluid collects in tissue and causes swelling. It may occur in the arm or leg after lymph vessels or lymph nodes in the underarm or groin are removed or treated with radiation.

Lymphatic System

Body system of tissues and organs that make, store and carry white blood cells. A major part of the immune system.

Lymphovascular Invasion

The spread of cancer cells to the blood and lymphatic tissue.

Macroscopic

Something that can be seen without a microscope.

Magnetic Resonance imaging (MRI)

A procedure in which radio waves and a powerful magnet linked to a computer are used to create detailed pictures of areas inside the body. These pictures can show the difference between normal and diseased tissue. MRI makes better images of organs and soft tissue than other scanning techniques, such as computed tomography (CT) or x-ray.

Malignant

Cancerous. Malignant tumors can spread to other parts of the body.

Mammogram

An X-ray of the breast.

Mastectomy

Surgery that removes the breast.

Meiosis

Type of cell division in which each daughter cell receives half the amount of DNA as the parent cell. Meiosis occurs during formation of egg and sperm cells in mammals.

Menopause

The time of life when a woman's menstrual periods stop.

Metaphase

Second phase of mitosis, during which the chromosomes line up across the center of the cell.

Metastasis

The spread of cancer from one part of the body to another.

Microcalcification

Tiny deposit of calcium that may be found in an area of rapidly dividing cells. Many microcalcifications clustered together may be a sign of cancer.

Microscope

Device that produces magnified images of structures too small to see with the unaided eye.

Mitosis

The process by which a single parent cell divides to make two new daughter cells. Each daughter cell receives a complete set of chromosomes from the parent cell. The process allows the body to grow and replace cells.

Monoclonal Antibody

A laboratory-produced substance that can locate and bind to cancer cells wherever they are in the body. Many monoclonal antibodies are used in cancer detection or therapy; each one recognizes a different protein on certain cancer cells. Monoclonal antibodies can be used alone, or they can be used to deliver drugs, toxins, or radioactive material directly to a tumor.

mRNA

Messenger RNA.

Mutagen

Environmental factors that cause mutations.

Mutation

Any change in the DNA of a cell. Mutations may be caused by mistakes during cell division, or they may be caused by exposure to DNA-damaging agents in the environment. Mutations can be harmful, beneficial, or have no effect.

Neoadjuvant Therapy

Treatment given before the primary treatment. Examples of neoadjuvant therapy include chemotherapy, radiation therapy, and hormone therapy.

Nodule

A growth or lump that may be benign (not cancer) or malignant (cancer).

Nondisjunction

An error in cell division where the chromosomes fail to disjoin, so that both pass to the same daughter cell.

Nuclear Envelope

The double-layered membrane that surrounds the nucleus of a cell.

Nucleic Acid

A large molecule composed of nucleotide subunits.

Nucleotide

A building block of RNA and DNA that consists of a base, a sugar, and a phosphate group.

Nucleus

Directs the major activities of the cell and stores the genetic information, known as DNA.

Nutrition

The processes by which an organism assimilates food and uses it for growth and maintenance.

Obesity

A condition marked by an abnormally high, unhealthy amount of body fat.

Oncogene

A mutated proto-oncogene. Oncogene can promote or allow the uncontrolled growth of cancer. Alterations can be inherited or caused by an environmental exposure to carcinogens.

Oncologist

A specialist in oncology.

Oncology

The branch of medicine that deals with the study of tumors.

Operable

Capable of being treated by surgery.

Organelle

Specialized compartment that carries out specific functions within the cell.

Ovary

One of a pair of female reproductive glands in which the ova, or eggs, are formed. The ovaries are located in the pelvis, one on each side of the uterus.

Overweight

Being too heavy for one's height. Excess body weight can come from fat, muscle, bone, and/or water retention. Being overweight does not always mean being obese.

Paclitaxel

A drug which inhibits cellular division and induces cell death.

Pathologist

A doctor who identifies diseases by studying cells and tissues under a microscope.

Pathology

The study of the origin, nature and course of diseases.

Pathology Report

The description of cells and tissues made by a pathologist based on microscopic evidence, and sometimes used to make a diagnosis of a disease.

Pedigree

A record of one's ancestors, offspring, siblings, and their offspring that may be used to determine the pattern of certain genes or disease inheritance within a family.

Peptide Bond

The chemical link joining amino acids in peptides and proteins.

Phenotype

Physical characteristics of an organism.

Placebo

An inactive substance resembling a medication, given for psychological effect or as a control in evaluating a medicine believed to be active.

Point Mutation

Gene mutation involving a single nucleotide.

Polymerase Chain Reaction (PCR)

A laboratory method used to make many copies of a specific DNA sequence.

Prevention

Any activity which reduces the burden of mortality or morbidity from disease.

Prevention Trials

Clinical trials which look for the best way to prevent cancer from occurring or recurring.

Primary Tumor

The original tumor.

Principal Investigator

The researcher in charge of an experiment or research project, such as a clinical trial.

Progesterone

Hormone in females that is involved in the menstrual cycle, pregnancy and embryogenesis.

Progestin

Any natural or laboratory made substance that has some or all of the biologic effects of progesterone, a female hormone.

Proliferate

To increase in number. Cells proliferate through cell division.

Prophase

First and longest phase of mitosis. The chromosomes condense and become visible.

Prophylactic Mastectomy

Surgery to reduce the risk of developing breast cancer by removing one or both breasts before disease develops. Also called preventive mastectomy.

Protein

Compounds made of carbon, hydrogen, oxygen and nitrogen and serves as a structural and regulatory substance.

Protocol

A predefined written procedural method in the design and implementation of experiments.

Proto-oncogene

A gene with many functions in the cell, including providing signals for cell division. Can mutate into an oncogene.

Quality of Life

The overall enjoyment of life.

Quality of Life Trials

Many clinical trials assess the effects of cancer and its treatment on the quality of life. These studies measure aspects of an individual's sense of well-being and ability to carry out various activities.

Radiation

Energy released in the form of particles or electromagnetic waves. Common sources of radiation include radon gas, cosmic rays from outer space, and medical x-rays.

Radiation Therapy

The use of high-energy radiation from x-rays, gamma rays, neutrons, protons, and other sources to kill cancer cells and shrink tumors. Radiation may come from a machine outside the body (external radiation therapy), or it may come from radioactive material placed in the body near cancer cells (internal radiation therapy). Systemic radiation therapy uses a radioactive substance, such as a radiolabeled monoclonal antibody, that travels in the blood to tissues throughout the body.

Radioactive Fallout

Airborne radioactive particles that fall to the ground during and after an atomic bombing, nuclear weapons test or nuclear plant accident.

Radiology

The use of radiation, such as X-rays, or other imaging techniques to diagnose or treat disease.

Radon

A radioactive gas found in some homes that in sufficient concentrations can cause health problems.

Randomization

Process of assigning patients to treatment so that each patient has an equal chance of receiving either treatment and so that no bias is introduced in the assignment.

Receptor

A molecule inside or on the surface of a cell that binds to a specific substance and causes a specific physiologic effect in the cell.

Recessive

Relating to the form of a gene that is not expressed as a trait in an individual unless two of the same genes are inherited, one from each parent.

Recurrent Cancer

Cancer that has returned after a period of time during which the cancer could not be detected. The cancer may come back to the same place as the original (primary) tumor or to another place in the body. Also called recurrence.

Replication

The process by which DNA copies itself in order to make a new genome to pass on to a daughter cell.

Ribosome

Organelle that manufactures proteins.

Risk Factor

A characteristic, condition, or behavior that increases the possibility of disease or injury. Risk reduction involves methods that reduce the severity of the risk or the likelihood of the risk from occurring.

Risk Reduction

Behavior used to lessen the chance of getting a disease.

RNA

Ribonucleic Acid is the carrier of the genetic information from the nucleus into the cytoplasm.

Screening

Checking for disease when there are no symptoms.

Screening Trial

A clinical trial testing the best way to find cancer in its early stages.

Sentinel Lymph Node

The first lymph nodes to which cancer cells are likely to spread from a primary tumor.

Sentinel Lymph Node Biopsy

Removal and examination of the sentinel node(s). To identify the sentinel lymph node(s), the surgeon injects a radioactive substance, blue dye, or both near the tumor. The surgeon then uses a scanner to find the sentinel lymph node(s) containing the radioactive substance or looks for the lymph node(s) stained with dye. The surgeon then removes the sentinel node(s) to check for the presence of cancer cells.

Side Effect

A problem that occurs when treatment affects healthy tissues or organs. Some common side effects of cancer treatment are fatigue, pain, nausea, vomiting, decreased blood cell counts, hair loss, and mouth sores.

Smoking

To draw tobacco smoke into the mouth and exhale it.

Smoking Cessation

Effort to stop smoking tobacco products.

Sonogram

A computer picture of areas inside the body created by bouncing high-energy sound waves (ultrasound) off internal tissues or organs.

Specimen

A sample of a substance for examination or study.

S Phase

Period of the cell cycle during which chromosomes are replicated.

Spindle Checkpoint

Checkpoint between metaphase and anaphase of mitosis. The chromosomes must be correctly attached to the spindle fibers for the checkpoint to be cleared and the cell to enter anaphase.

Spindle Fiber

Microtubule that helps separate chromosomes during mitosis.

Stage

The extent of a cancer in the body. Staging is usually based on the size of the tumor, whether lymph nodes contain cancer, and whether the cancer has spread from the original site to other parts of the body.

Staging

Performing exams and tests to learn the extent of the cancer within the body, especially whether the disease has spread from the original site to other parts of the body. It is important to know the stage of the disease in order to plan the best treatment.

Staining

To treat a specimen with a dye to make it more visible in a microscope.

Stereotactic Biopsy

A biopsy procedure that uses a computer and a 3-dimensional scanning device to find a tumor site and guide the removal of tissue for examination under a microscope.

Sun Protection Factor (SPF)

A scale for rating the level of sunburn protection in sunscreen products. The higher the sun protection factor, the more sunburn protection it gives. Sunscreens with a value of 2 through 11 give minimal protection against sunburns. Sunscreens with a value of 12 through 29 give moderate protection. Sun protection factors of 30 or higher give high protection against sunburn.

Sun Safety

Behavior to minimize exposure to the sun's harmful rays.

Sunscreen

A substance that helps protect the skin from the sun's harmful rays. Sunscreens reflect, absorb, and scatter both ultraviolet A and B radiation to provide protection against both types of radiation. Using lotions, creams, or gels that contain sunscreens can help protect the skin from premature aging and damage that may lead to skin cancer. A lotion, spray or other topical product that helps protect the skin from the sun's ultraviolet (UV) radiation, and reduces sunburn and other skin damage that may lead to skin cancer.

Supportive Care

Care given to improve the quality of life of patients who have a serious or life-threatening disease. The goal of supportive care is to prevent or treat as early as possible the symptoms of the disease, side effects caused by treatment of the disease, and psychological, social and spiritual problems related to the disease or its treatment. Also called palliative care, comfort care, and symptom management.

Surgeon

A doctor who removes or repairs a part of the body by operating on the patient.

Surgery

Procedure to remove or repair a part of the body or to find out if disease is present.
Performed by a surgeon.

Symptom

An indication that a person has a condition or disease. Some examples of symptoms are headache, fever, fatigue, nausea, vomiting, and pain.

Systemic Therapy

Treatment using substances that travel through the bloodstream, reaching and affecting cells all over the body.

Targeted Therapy

A type of treatment that uses drugs or other substances, such as monoclonal antibodies, to identify and attack specific cancer cells without harming normal cells.

Telophase

Last phase of mitosis. The chromosomes uncoil.

Tissue

A group or layer of cells that work together to perform a specific function.

Tobacco

A plant (*Nicotiana tabacum*) with leaves that have high levels of the addictive chemical nicotine. The leaves may be smoked (cigarettes, cigars, and pipes), applied to the gums (dipping and chewing tobacco), or inhaled (snuff). Tobacco leaves also contain many cancer-causing chemicals, and tobacco use and exposure to secondhand tobacco smoke have been linked to many types of cancer and other diseases.

Total Mastectomy

Removal of the breast. Also called simple mastectomy.

Trait

An identifying characteristics of an organism.

Transcription

The process of converting the genetic code from DNA into mRNA.

Transducer

A hand-held device that directs sound waves through the skin during an ultrasound.

Translation

The process of converting the genetic code from RNA into proteins.

Trastuzumab

A type of monoclonal antibody used to detect or treat some types of cancer. Monoclonal antibodies are laboratory-produced substances that can locate and bind to cancer cells. Trastuzumab blocks the effects of the growth factor protein HER2, which transmits growth signals to breast cancer cells. Also called Herceptin.

Treatment trials

A clinical trial to test new treatments.

Tumor

An uncontrolled or abnormal growth of cells that serve no physiological function.

Tumor Marker

A substance sometimes found in the blood, other body fluids, or tissues. A high level of tumor marker may mean that a certain type of cancer is in the body. Examples of tumor markers include CA 125 (ovarian cancer), CA 15-3 (breast cancer), CEA (ovarian, lung, breast, pancreas, and gastrointestinal tract cancers), and PSA (prostate cancer). Also called biomarker.

Tumor Suppressor Gene

One of a pair of genes that causes the cell to make a protein that controls cell growth. Cancer may develop when the tumor suppressor protein does not work because of mutations in the genes. These mutations can be inherited or acquired.

Ultrasound

A procedure in which high-energy sound waves (ultrasound) are bounced off internal tissues or organs and make echoes. The echo patterns are shown on the screen of an ultrasound machine, forming a picture of body tissues called a sonogram.

Vaccine

A substance or group of substances meant to cause the immune system to respond to a tumor or to microorganisms, such as bacteria or viruses. A vaccine can help the body recognize and destroy cancer cells or micro organisms.

X-ray

A type of high-energy radiation. In low doses, x-rays are used to diagnose diseases by taking pictures inside of the body. In high doses, x-rays are used to treat cancer.