

Cancer Association of South Africa (CANSA)



Fact Sheet: a Glossary of Cancer and Related Health Terminology

Introduction

Language is the most extensively used symbol system in social behaviour. It can also, of all symbol systems, be the most subject to interpretation. When one hears doctors talking amongst themselves, and sometimes even when talking to patients, they often tend to forget that they are using words and terms that are foreign to their patients. Receiving a cancer diagnosis can feel like waking up in a foreign country - like a place where one does not know the language and customs, and one has no map to find the way home.



[Picture Credit: South West Regional Cancer Program]

This concise glossary intends to demystify some of the scientific (medical) language and terms used by doctors and other health professionals when talking about cancer, its treatment, and related matters. It also intends to clarify some of the terminology used in patient reports, e.g. pathology and other hospital/laboratory reports.



ablation: surgical removal of body tissue.

abnormal cells: cells that do not look or act like the healthy cells of the body.

abnormal growths: if one hears this term, the doctor could be talking about many things, from a polyp in the colon to a tumour. An abnormal growth can be benign, which is cancer-free; or it may be malignant, meaning it has cancer cells. It can also be "precancerous" meaning it could turn into cancer.

ABO blood group system: a system used to group human blood into different types, based on the presence or absence of certain markers on the surface of red blood cells. The four main blood types are A, B, O, and AB. For a blood transfusion, the ABO blood group system is used to match the blood type of the donor and the person receiving the transfusion. People with blood type O can donate blood to anyone and are called universal donors. People with blood type AB can accept blood from all donors and are called universal recipients. People with type A or B can receive matching blood or type O blood.

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January 2021

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abscess: an enclosed collection of pus in tissues, organs, or confined spaces in the body. An abscess is a sign of infection and is usually swollen and inflamed.

absorption: The process of taking nutrients from the digestive system into the blood so they can be used in the body.

acetone: a chemical substance found naturally in small amounts in plants, trees, volcanoes, and forest fires. Acetone is also made by the body when fats are broken down. It is also found in tobacco smoke, car exhaust, and trash landfills. In industry, acetone is used in some plastics, fibres, medicines, household cleaners, glues, and nail polish removers. Being exposed to high levels of acetone may irritate the skin, eyes, nose, throat, and lungs. It can cause headaches, nausea, vomiting, dizziness, confusion, loss of consciousness, and other health problems.

achlorhydria: a lack of hydrochloric acid in the digestive juices in the stomach. Hydrochloric acid helps digest food.

acid: a chemical that gives off hydrogen ions in water and forms salts by combining with certain metals. Acids have a sour taste and turn certain dyes red. Some acids made by the body, such as gastric acid, can help organs work the way they should. An example of an acid is hydrochloric acid. Acidity is measured on a scale called the pH scale. On this scale, a value of 7 is neutral, and a pH value of less than 7 to 0 shows increasing acidity.

acid-base balance: in medicine, the state of having the right amount of acid and base in the blood and other body fluids. Keeping a normal acid-base balance is important for the body to work the way it should. Also called acid-base equilibrium.

acquired immunodeficiency syndrome (Aids): a disease caused by the human immunodeficiency virus (HIV). People with acquired immunodeficiency syndrome are at an increased risk for developing certain cancers and for infections that usually occur only in individuals with a weak immune system. Also called Aids.

acral lentiginous: a kind of lentiginous skin melanoma. It is also known as subungual melanoma; acral lentiginous melanoma is observed on the palms, soles and under the nails. It occurs on non hair-bearing surfaces of the body which may or may not be exposed to sunlight; it is also found on mucous membranes. Unlike other forms of melanoma, acral lentiginous melanoma does not appear to be linked to sun exposure.

acrylonitrile: a substance used to make plastics, rubber, and textiles. Being exposed to acrylonitrile may increase the risk of developing certain cancers, such as lung, brain, or prostate cancer.

actinic keratosis: a thick, scaly patch of skin that may become cancer. It usually forms on areas exposed to the sun, such as the face, scalp, back of the hands, or chest. It is most common in people with fair skin. Also called senile keratosis and solar keratosis.

active surveillance: a treatment plan that involves closely watching a patient's condition but not giving any treatment unless there are changes in test results that show the condition is getting worse. Active surveillance may be used to avoid or delay the need for treatments such as radiation therapy or surgery, which can cause side effects or other problems. During active surveillance, certain exams and tests are done on a regular schedule. It may be used in the treatment of certain types of cancer, such as prostate cancer, urethral cancer, and intraocular (eye) melanoma. It is a type of expectant management.

activities of daily living: the tasks of everyday life. These activities include eating, dressing, getting into or out of a bed or chair, taking a bath or shower, and using the toilet. Instrumental activities of daily living are activities related to independent living and include preparing meals, managing money, shopping, doing housework, and using a telephone. Also called ADL.

acupuncture: the technique of inserting thin needles through the skin at specific points on the body to control pain and other symptoms. It is a type of complementary and alternative medicine.

acute: a rapidly developing health condition which usually comes on quickly and which may cause severe symptoms but lasts only for a short time; transient; some side effects may be of short duration; may be sudden or severe.

acute leukaemia: a rapidly progressing cancer that starts in blood-forming tissue such as the bone marrow, and causes large numbers of white blood cells to be produced and enter the blood stream.

adenoma: a benign tumour formed from glandular structures in epithelial tissue.

acute lymphoblastic leukaemia: a type of leukaemia (blood cancer) that comes on quickly and is fast growing. In acute lymphoblastic leukaemia, there are too many lymphoblasts (immature white blood cells) in the blood and bone marrow. Also called acute lymphocytic leukaemia and ALL.

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acute myeloblastic leukaemia: an aggressive (fast-growing) disease in which too many myeloblasts (immature white blood cells that are not lymphoblasts) are found in the bone marrow and blood. Also called acute myelogenous leukaemia, acute myeloid leukaemia, acute nonlymphocytic leukaemia, AML, and ANLL.

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acute myeloid leukaemia: an aggressive (fast-growing) disease in which too many myeloblasts (immature white blood cells that are not lymphoblasts) are found in the bone marrow and blood. Also called acute myeloblastic leukaemia, acute myelogenous leukaemia, acute nonlymphocytic leukaemia, AML, and ANLL.

acute nonlymphocytic leukaemia: an aggressive (fast-growing) disease in which too many myeloblasts (immature white blood cells that are not lymphoblasts) are found in the bone marrow and blood. Also called acute myeloblastic leukaemia, acute myelogenous leukaemia, acute myeloid leukaemia, AML, and ANLL.

acute promyelocytic leukaemia: an aggressive (fast-growing) type of acute myeloid leukaemia in which there are too many immature blood-forming cells in the blood and bone marrow. It is usually marked by an exchange of parts of chromosomes 15 and 17. Also called APL and promyelocytic leukaemia.

adenocarcinoma: cancer that begins in glandular (secretory) cells. Glandular cells are found in tissue that lines certain internal organs and makes and releases substances in the body, such as mucus, digestive juices, or other fluids. Most cancers of the breast, pancreas, lung, prostate, and colon are adenocarcinomas.

adenocarcinoma in situ: a condition in which abnormal cells are found in the glandular tissue that lines certain internal organs, such as the uterus, cervix, lung, pancreas, and colon. Adenocarcinoma in situ, which occurs most often in the cervix, may become cancer and spread to nearby normal tissue. Also called AIS.

adenoid cystic carcinoma: a rare type of cancer that usually begins in the salivary glands.

adenoma: a tumour that is not cancer. It starts in gland-like cells of the epithelial tissue (thin layer of tissue that covers organs, glands, and other structures within the body).

adenosarcoma: a tumour that is a mixture of an adenoma (a tumour that starts in the gland-like cells of epithelial tissue) and a sarcoma (a tumour that starts in bone, cartilage, fat, muscle, blood vessels, or other connective or supportive tissue). An example of an adenosarcoma is Wilms tumour.

adenopathy: large or swollen lymph glands.

adenosquamous carcinoma: a type of cancer that contains two types of cells: squamous cells (thin, flat cells that line certain organs) and gland-like cells.

adjunct agent: in cancer therapy, a drug or substance used in addition to the primary therapy.

adjunct therapy: another treatment used together with the primary treatment. Its purpose is to assist the primary treatment. Also called adjunctive therapy.

adjuvant therapy: additional cancer treatment given after primary treatment to lower the risk that the cancer will come back.

adnexal mass: a lump in tissue near the uterus, usually in the ovary or fallopian tube. Adnexal masses include ovarian cysts, ectopic (tubal) pregnancies, and benign (not cancer) or malignant (cancer) tumours.

adrenal cancer: cancer that forms in the tissues of the adrenal glands (two glands located just above the kidneys). The adrenal glands make hormones that control heart rate, blood pressure, and other important body functions. Adrenal cancer that starts in the outside layer of the adrenal gland is called adrenocortical carcinoma. Adrenal cancer that starts in the centre of the adrenal gland is called malignant pheochromocytoma.

adrenocortical cancer: a rare cancer that forms in the outer layer of tissue of the adrenal gland (a small organ on top of each kidney that makes steroid hormones, adrenaline, and noradrenaline to control heart rate, blood pressure, and other body functions). Also called adrenocortical carcinoma and cancer of the adrenal cortex.

adrenocortical carcinoma: a rare cancer that forms in the outer layer of tissue of the adrenal gland (a small organ on top of each kidney that makes steroid hormones, adrenaline, and noradrenaline to control heart rate, blood pressure, and other body functions). Also called adrenocortical cancer and cancer of the adrenal cortex.

advanced cancer: cancer that has spread to other places in the body and usually cannot be cured or controlled with treatment.

aggressive: a tumour or disease that forms, grows, or spreads quickly. It may also describe treatment that is more severe or intense than usual.

aggressive cancer cells: cells that are fast-growing and have a tendency to spread beyond the area where they started.

Aids-related cancer: a type of cancer that is more likely to occur in people who are infected with the human immunodeficiency virus (HIV). AIDS-related cancers include Kaposi sarcoma, non-Hodgkin lymphoma, cervical cancer, Hodgkin lymphoma, and cancers of the mouth, throat, liver, lung, and anus.

alcohol: (1) in chemistry, an alcohol is any organic compound in which the hydroxyl functional group (–OH) is bound to a carbon. The term alcohol originally referred to the primary alcohol ethanol (ethyl alcohol), which is used as a drug and is the main alcohol present in alcoholic beverages. (2) according to the International Agency for Research on Cancer (IARC) there is sufficient evidence for the carcinogenicity of alcoholic beverages in humans. The occurrence of malignant tumours of the oral cavity, pharynx, larynx, oesophagus and liver is causally related to the consumption of alcoholic beverages. Alcoholic beverages are carcinogenic to humans (Group 1).

alkali: a chemical that can dissolve in water, combine with acids to form salts, and make acids less acidic. Alkalis have a bitter taste and turn certain dyes blue. Some alkalis can help the body work the way it should. An example of an alkali is sodium hydroxide.

allogeneic transplantation: a procedure where cells, tissue, or organs are transplanted from a compatible donor.

alopecia: lack or loss of hair from areas of the body where hair is usually found. Alopecia can be a side effect of some cancer treatments.

alternative cancer therapy: cancer treatment used in the place of conventional cancer treatments such as cancer drugs or radiotherapy. It may include diet, exercise, chemicals, herbs, devices, and manual procedures. The treatments are not supported by scientific evidence, either because no

proper testing has been conducted, or because testing did not demonstrate statistically significant efficacy.

ampullary cancer: cancer that forms in the ampulla of Vater (an enlargement of the ducts from the liver and pancreas where they join and enter the small intestine). Symptoms include jaundice, abdominal pain, nausea, vomiting, and weight loss. Also called ampulla of Vater cancer.

amygdalin: a substance found in the pits of some fruits, such as apricots, and in raw nuts and plants. Amygdalin has been used in some countries as a treatment for cancer, but it has not been shown to work in human clinical trials. It is not approved for use in the United States. Amygdalin is sometimes called vitamin B17.

anaemia: levels of red blood cells that are lower than normal.

anal cancer: cancer that forms in tissues of the anus. The anus is the opening of the rectum (last part of the large intestine) to the outside of the body.

anal Pap smear: a procedure in which cells are scraped from the lining of the anus (the opening of the rectum to the outside of the body) and looked at under a microscope. It is used to find cancer and changes in cells that may lead to cancer. An anal Pap smear can also show conditions that are not cancer, such as infection or inflammation. Also called anal Pap test.

anaplastic: a term used to describe cancer cells that divide rapidly and have little or no resemblance to normal cells.

androgen deprivation: treatment to suppress or block the production or action of male hormones. This is done by having the testicles removed, by taking female sex hormones, or by taking drugs called antiandrogens. Also called androgen ablation and androgen suppression.

angiogenesis: growth of new blood vessels that cells need to grow.

angiogenesis inhibitor: a substance that may prevent the formation of blood vessels; in cancer treatment, this type of drug stops the growth of new blood vessels that provide nutrients to tumours.

angiogram: an X-ray procedure where a special dye is used to help show up blood vessels and blood flow. Sometimes used to identify certain kinds of tumours.

angioimmunoblastic T-cell lymphoma: an aggressive (fast-growing) type of T-cell non-Hodgkin lymphoma marked by enlarged lymph nodes and hypergammaglobulinemia (increased antibodies in the blood). Other symptoms may include a skin rash, fever, weight loss, or night sweats.

angiosarcoma: a type of cancer that begins in the cells that line blood vessels or lymph vessels. Cancer that begins in blood vessels is called hemangiosarcoma. Cancer that begins in lymph vessels is called lymphangiosarcoma.

antibody therapy: a drug containing an antibody that is specially made to target certain cancer cells.

antibody: a protein made by white blood cells that is part of the body's immune system; each antibody binds to a certain antigen (foreign substance, such as bacteria) and helps the body fight the antigen.

antiemetic: a medicine that helps prevent or ease queasiness and vomiting, common side effects of some cancer treatments. The doctor may prescribe more than one drug. It is usually pills taken right before or after treatment. If in the hospital, the patient may get the medicine directly in a vein.

antigen: a substance that causes the body to make an immune response. This immune response often involves making antibodies

antioncogene: a type of gene that makes a protein called a tumour suppressor protein that helps control cell growth. Mutations (changes in DNA) in antioncogenes may lead to cancer. Also called tumour suppressor gene.

antioxidant: a substance that protects the body from damage by oxidizing agents. Oxidising agents are always present in the body and are often beneficial. However, when large amounts of oxidants

are present in cells, they can cause damage, especially to DNA. This can lead to abnormal cell growth. Antioxidants include beta-carotene and vitamins A, C and E.

apoptosis: a normal cell process in which a genetically programmed series of events leads to the death of a cell. Cancer cells may block apoptosis.

asbestos: a group of minerals that take the form of tiny fibres. Asbestos has been used as insulation against heat and fire in buildings. Loose asbestos fibres breathed into the lungs can cause several serious diseases, including lung cancer and malignant mesothelioma (cancer found in the lining of the lungs, chest, or abdomen). Asbestos that is swallowed may cause cancer of the gastrointestinal tract.

asbestosis: a lung disease caused by breathing in particles of asbestos (a group of minerals that take the form of tiny fibres). Symptoms include coughing, trouble breathing, and chest pain caused by scarring and permanent damage to lung tissue. Asbestosis increases the risk of lung cancer and malignant mesothelioma (cancer found in the lining of the lungs, chest, or abdomen).

astrocyte: a specific type of cell found in the brain.

astrocytoma: a tumour of the brain which originates from astrocytes.

ATM gene: inheriting one abnormal ATM gene has been linked to an increased rate of breast cancer in some families because the abnormal gene stops the cells from repairing damaged DNA.

atypical ductal hyperplasia: abnormal cells that have accumulated in a breast duct. The cells have increased in number and fill almost the entire duct. The cells can keep changing until they become DCIS. Atypical ductal hyperplasia can increase the risk of a future breast cancer.

atypical hyperplasia: a benign (not cancer) breast condition where breast cells are growing rapidly (proliferating); the proliferating cells look abnormal under a microscope; although atypical hyperplasia is not breast cancer, it increases the risk of breast cancer.

atypical lobular hyperplasia: abnormal cells that have accumulated in a breast lobule. The cells have increased in number and fill almost the entire lobule. It's possible for the cells to keep changing until they become LCIS. Atypical lobular hyperplasia can increase the risk of a future breast cancer.

atypical squamous cells of undetermined significance: a finding of abnormal cells in the tissue that lines the outer part of the cervix. Atypical squamous cells of undetermined significance is the most common abnormal finding in a Pap test. It may be a sign of infection with certain types of human papillomavirus (HPV). It may also be a sign of a benign (not cancer) growth, such as a cyst or polyp or, in menopausal women, of low hormone levels. More testing, such as an HPV test, may be needed. Also called ASC-US and ASCUS.

atypical squamous cells, cannot exclude a high-grade lesion: a finding of abnormal cells in a Pap test. It means there are abnormal squamous cells in the tissue that lines the outer part of the cervix. Atypical squamous cells, cannot exclude a high-grade lesion may be a sign of a high-grade squamous intraepithelial lesion (HSIL), which may become cervical cancer if untreated. More testing may be needed. Also called ASC-H.

atypical teratoid/rhabdoid tumour: an aggressive cancer of the central nervous system, kidney, or liver that occurs in very young children. Also called AT/RT and ATT/RHT.

autologous bone marrow: refers to a person's own bone marrow. Bone marrow is the soft, sponge-like tissue in the centre of most large bones that produces white blood cells, red blood cells, and platelets.

autologous bone marrow transplantation: a procedure in which bone marrow is removed from a person, stored, and then given back to the person after intensive treatment.

autologous stem cell transplantation: a procedure in which blood-forming stem cells (cells from which all blood cells develop) are removed, stored, and later given back to the same person.

autologous tumour cell: a cancer cell from an individual's own tumour.

axillary lymph node: a lymph node in the armpit region that drains lymph from the breast and nearby areas.

axillary lymph node dissection: surgical procedure to remove lymph nodes found in the armpit region. Also called axillary dissection.

B

B cell: a type of white blood cell that makes antibodies. B cells are part of the immune system and develop from stem cells in the bone marrow. Also called B lymphocyte.

B lymphocyte: a type of white blood cell that makes antibodies. B lymphocytes are part of the immune system and develop from stem cells in the bone marrow. Also called B cell.

barium sulphate: a silver-white metallic compound made from the mineral barite. It is mixed with water and used in barium swallows and barium enemas to help show parts of the digestive system on an X-ray.

barium swallow: the process of getting x-ray pictures of the oesophagus or the upper gastrointestinal (GI) tract (oesophagus, stomach, and duodenum). The x-ray pictures are taken after the patient drinks a liquid that contains barium sulphate (a form of the silver-white metallic element barium). The barium sulphate coats and outlines the inner walls of the oesophagus and the upper GI tract so that they can be seen on the x-ray pictures.

Barrett oesophagus: a condition in which the cells lining the lower part of the oesophagus have changed or been replaced with abnormal cells that could lead to cancer of the oesophagus. The backing up of stomach contents (reflux) may irritate the oesophagus and, over time, cause Barrett oesophagus.

basal cell: a small, round cell found in the lower part (or base) of the epidermis, the outer layer of the skin.

basal cell cancer: cancer that begins in the lower part of the epidermis (the outer layer of the skin). It may appear as a small white or flesh-coloured bump that grows slowly and may bleed. Basal cell cancers are usually found on areas of the body exposed to the sun. Basal cell cancers rarely metastasize (spread) to other parts of the body. They are the most common form of skin cancer. Also called basal cell carcinoma.

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B-cell acute lymphoblastic leukaemia: an aggressive (fast-growing) type of leukaemia (blood cancer) in which too many B-cell lymphoblasts (immature white blood cells) are found in the bone marrow and blood. It is the most common type of acute lymphoblastic leukaemia (ALL). Also called B-cell acute lymphocytic leukaemia and precursor B-lymphoblastic leukaemia.

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B-cell leukaemia / lymphoma 2 protein: a protein that helps control whether a cell lives or dies by blocking a type of cell death called apoptosis. The gene for the B-cell leukaemia/lymphoma 2 protein is found on chromosome 18, and transfer of the B-cell leukaemia/lymphoma 2 gene to a different chromosome is seen in many B-cell leukaemias and lymphomas. This causes the B-cell leukaemia/lymphoma 2 protein to be made in larger amounts, which may keep cancer cells from dying. Also called BCL2.

B-cell lymphoma: a type of cancer that forms in B cells (a type of immune system cell). B-cell lymphomas may be either indolent (slow-growing) or aggressive (fast-growing). Most B-cell lymphomas are non-Hodgkin lymphomas. There are many different types of B-cell non-Hodgkin lymphomas. These include Burkitt lymphoma, chronic lymphocytic leukaemia/small lymphocytic

lymphoma (CLL/SLL), diffuse large B-cell lymphoma, follicular lymphoma, and mantle cell lymphoma. Prognosis and treatment depend on type and stage of the cancer.

basal-like breast cancer: basal-like is one of the four main molecular subtypes of breast cancer. Basal-like breast cancer is hormone-receptor negative and HER2-negative; also called triple-negative breast cancer.

Bellini duct carcinoma: a rare type of kidney cancer that grows and spreads quickly. It begins in the duct of Bellini in the kidney. Also called BDC.

benign: non-cancerous; not spreading; usually a more mild disease.

benign phyllodes tumour: a rare benign (not cancer) breast condition similar to a fibroadenoma; a lump may be felt, but is usually painless.

benign prostatic hyperplasia: a benign (not cancer) condition in which an overgrowth of prostate tissue pushes against the urethra and the bladder, blocking the flow of urine. Also called benign prostatic hypertrophy and BPH.

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benzene: a chemical that is used widely by the chemical industry, and is also found in tobacco smoke, vehicle emissions, and gasoline fumes. Exposure to benzene may increase the risk of developing leukaemia.

benzo(a)pyrene: a chemical that comes from certain substances when they are not burned completely. It is found in car exhaust, smoke from wood fires, tobacco, oil and gas products, charred or grilled foods, and other sources. It may also be found in water and soil. Benzo(a)pyrene can cause a skin rash, a burning feeling, skin colour changes, warts, and bronchitis. It may also cause cancer. It is a type of polycyclic aromatic hydrocarbon. Also called 3,4-benzpyrene.

beta carotene: a substance found in yellow and orange fruits and vegetables and in dark green, leafy vegetables. The body can make vitamin A from beta carotene. Beta carotene is being studied in the prevention of some types of cancer. It is a type of antioxidant.

beta human chorionic gonadotrophin (beta-HCG): a hormone normally found in the blood and urine during pregnancy. It may also be produced by some tumour cells. An increased level of beta-human chorionic gonadotropin may be a sign of cancer of the uterus, ovary, liver, stomach, pancreas or lung, or gestational trophoblastic disease. Beta-human chorionic gonadotropin may also be produced in response to certain conditions that are not cancer. Also called β -hCG.

Betel quid with tobacco: a type of smokeless tobacco that is made in India and is widely used throughout Asia. It is a mixture of tobacco, crushed areca nut (also called betel nut), spices, and other ingredients. It is used like chewing tobacco and is placed in the mouth, usually between the gum and cheek. Betel quid with tobacco contains nicotine and many harmful, cancer-causing chemicals. Using it can lead to nicotine addiction and can cause cancers of the lip, mouth, tongue, throat, and oesophagus. Also called gutka.

bilateral prophylactic mastectomy: surgical procedure to remove both breasts in order to reduce the risk of developing breast cancer.

bilateral salpingo-oophorectomy: surgical procedure to remove both ovaries and both fallopian tubes.

bile: a fluid made by the liver and stored in the gallbladder. Bile is excreted into the small intestine, where it helps digest fat.

bile duct: a tube through which bile passes in and out of the liver.

bile duct cancer: a rare cancer that forms in the bile ducts. A bile duct is a tube that carries bile (fluid made by the liver) between the liver and gallbladder and the small intestine. Intrahepatic bile duct cancer is found inside the liver. Extrahepatic bile duct cancer is found outside the liver. Also called cholangiocarcinoma.

biliary cirrhosis: a type of chronic liver disease in which the tubes that carry bile (fluid that helps digest fat) out of the liver become damaged or blocked over time. This can cause bile and toxic substances to build up in the liver, which may lead to cirrhosis (scarring of the liver) and liver failure. It may also increase the risk of liver cancer. Biliary cirrhosis may be caused by gallstones, injury to the bile ducts, autoimmune disorders, and certain other conditions.

biologic agent: a substance that is made from a living organism or its products and is used in the prevention, diagnosis, or treatment of cancer and other diseases. Biologic agents include antibodies, interleukins, and vaccines. Also called biological agent and biological drug.

biologic therapy: a therapy that targets something specific to the biology of the cancer cell, as opposed to chemotherapy, which attacks all rapidly dividing cells; often used to describe therapies that use the immune system to fight cancer (immunotherapy). Trastuzumab (Herceptin) is an example of a biological or targeted therapy agent.

biomarker: a substance found in blood, other body fluids or tissues that can be measured and is a sign of disease or another process in the body (normal or abnormal); it also may be used to see how well the body responds to a treatment for a disease.

biopsy: the removal of a small section of the tumour, the sample will be analysed by a histopathologist in order to establish a precise diagnosis. Surgical procedure. This may be a needle biopsy, where a very fine needle is used to take a tiny sample of the tumour. Occasionally a surgeon may remove the whole tumour prior to diagnosis; a resection biopsy.

bivalent vaccine: a vaccine that works by stimulating an immune response against two different antigens, such as two different viruses or other microorganisms. For example, Cervarix is a bivalent vaccine that helps protect the body against infection with two different types of human papillomaviruses (HPV).

bladder cancer: cancer that forms in tissues of the bladder (the organ that stores urine). Most bladder cancers are transitional cell carcinomas (cancer that begins in cells that normally make up the inner lining of the bladder). Other types include squamous cell carcinoma (cancer that begins in thin, flat cells) and adenocarcinoma (cancer that begins in cells that make and release mucus and other fluids). The cells that form squamous cell carcinoma and adenocarcinoma develop in the inner lining of the bladder as a result of chronic irritation and inflammation.

blast cell: immature cells found in bone marrow; they are not fully developed, and therefore, do not yet carry out any particular function within the body; in normal humans, up to five percent of the cells found in bone marrow are blast cells.

blastic phase chronic myelogenous leukaemia: a phase of chronic myelogenous leukaemia in which 20% or more of the cells in the blood or bone marrow are blast cells (immature blood cells). When tiredness, fever, and an enlarged spleen occur during the blastic phase, it is called blast crisis.

blastoma: a type of cancer, more common in children, that is caused by malignancies in precursor cells, often called blasts; examples are neuroblastoma, medulloblastoma and retinoblastoma.

blood cell count: a measure of the number of red blood cells, white blood cells, and platelets in the blood. The amount of haemoglobin (substance in the blood that carries oxygen) and the haematocrit (the amount of whole blood that is made up of red blood cells) are also measured. A blood cell count is used to help diagnose and monitor many conditions. Also called CBC, complete blood count, and full blood count.

blood cell count with differential: a measure of the number of red blood cells, white blood cells, and platelets in the blood, including the different types of white blood cells (neutrophils, lymphocytes, monocytes, basophils, and eosinophils). The amount of hemoglobin (substance in the blood that carries oxygen) and the hematocrit (the amount of whole blood that is made up of red blood cells) are also measured. A blood cell count with differential is used to help diagnose and monitor many different conditions, including anemia and infection. Also called CBC with differential.

blood chemistry study: a test done on a sample of blood to measure the amount of certain substances in the body. These substances include electrolytes (such as sodium, potassium, and chloride), fats, proteins, glucose (sugar), and enzymes. Blood chemistry studies give important information about how well a person's kidneys, liver, and other organs are working. An abnormal amount of a substance in the blood can be a sign of disease or side effect of treatment. Blood chemistry studies are used to help diagnose and monitor many conditions before, during, and after treatment. Also called blood chemistry test.

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<https://www.cancer.gov/publications/dictionaries/cancer-terms?expand=B>

bone marrow transplant: a procedure to replace damaged or destroyed bone marrow with healthy bone marrow stem cells; bone marrow is the soft, fatty tissue inside your bones; stem cells are immature cells in the bone marrow that give rise to all blood cells.

bone marrow: the spongy tissue inside some of one's bones, such as the hip and thigh bones; it contains stem cells; the stem cells can develop into the red blood cells that carry oxygen through the body, the white blood cells that fight infections, and the platelets that help with blood clotting.

bone marrow aspiration: a procedure in which a small sample of bone marrow (soft, sponge-like tissue in the centre of most bones) and bone is removed. A small area of skin and the surface of the bone underneath are numbed with an anaesthetic. Then a special wide needle is pushed into the bone. A sample of liquid bone marrow is removed with a syringe attached to the needle. The syringe is then removed and the needle is rotated to remove a sample of the bone and the bone marrow. Both the bone marrow and bone samples are sent to a laboratory to be looked at under a microscope.

bone marrow biopsy: in cases of abnormal blood counts, such as unexplained anaemia, high white cell count, and low platelet count, it is necessary to examine the cells of the bone marrow; in adults, the sample is usually taken from the pelvic bone, typically from the posterior superior iliac spine; this is the prominence of bone on either side of the pelvis underlying the "bikini dimples" on the lower back/upper buttocks.

bone marrow cancer: cancer that forms in the blood-forming stem cells of the bone marrow (soft sponge-like tissue in the centre of most bones). Bone marrow cancer includes leukaemias and multiple myeloma.

Bone marrow metastasis: cancer that has spread from the original (primary) tumour to the bone marrow.

bone marrow transplant: a procedure in which a patient receives healthy blood-forming cells (stem cells) to replace their own stem cells that have been destroyed by disease or by the radiation or high doses of anticancer drugs that are given as part of the procedure. The healthy stem cells may come from the bone marrow of the patient or a donor. A bone marrow transplant may be autologous (using a patient's own stem cells that were collected from the marrow and saved before treatment), allogeneic (using stem cells donated by someone who is not an identical twin), or syngeneic (using stem cells donated by an identical twin). Also called BMT.

bone metastasis: cancer that has spread from the original (primary) tumour to the bone.

bone scan: a test done to check for signs of cancer in the bones. A small amount of radioactive material is injected into the bloodstream. It collects in the bones, especially abnormal areas, and is detected by a scanner. Bone scans can show cancer as well as benign bone diseases (like arthritis).

bone scintigraphy: a procedure to check for abnormal areas or damage in the bones. A very small amount of radioactive material is injected into a vein and travels through the blood. The radioactive material collects in the bones and is detected by a scanner (a special camera that takes pictures of the inside of the body). A bone scintigraphy may be used to diagnose bone tumours or cancer that has spread to the bone. It may also be used to help diagnose fractures, bone infections, or other bone problems. Also called bone scan.

bone-seeking radioisotope: a radioactive substance that is given through a vein, and collects in bone cells and in tumour cells that have spread to the bone. It kills cancer cells by giving off low-level radiation.

boron phenylalanine: a substance used in a type of radiation therapy called boron neutron capture therapy. Boron phenylalanine is injected into a blood vessel and collects in tumour cells. The patient then receives radiation therapy with atomic particles called neutrons. The neutrons react with boron phenylalanine to kill the tumour cells without harming normal cells. Also called BPA.

boronophenylalanine-fructose complex: a substance used in a type of radiation therapy called boron neutron capture therapy. Boronophenylalanine-fructose complex is injected into a blood vessel and collects in tumour cells. The patient then receives radiation therapy with atomic particles called neutrons. The neutrons react with the boron in boronophenylalanine-fructose complex, producing radioactive particles that kill the tumor cells without harming normal cells. Also called BPA-F.

botox: a toxin made by the bacterium *Clostridium botulinum*. It can cause food poisoning. The drug Botox is a form of the toxin that can be used in small amounts to treat certain medical conditions. These include severe underarm sweating and severe muscle spasms in the neck and shoulders. Botox is also used to smooth wrinkles on the face. It is being studied in the treatment of pain in patients with skin leiomyomas (benign smooth muscle tumours) and other conditions. Also called botulinum toxin A and botulinum toxin type A.

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bowel: the long, tube-shaped organ in the abdomen that completes the process of digestion. The bowel has two parts, the small bowel and the large bowel. Also called intestine.

Bowen disease: a skin disease marked by scaly or thickened patches on the skin and often caused by prolonged exposure to arsenic. The patches often occur on sun-exposed areas of the skin and in older white men. These patches may become malignant (cancer). Also called precancerous dermatitis and precancerous dermatosis.

Bowman-Birk inhibitor concentrate: a substance that is made from soybeans and is being studied in the prevention of cancer. It blocks the action of enzymes that are needed for cancer cells to form. It is a type of protease inhibitor. Also called BBIC.

BPA: a substance used in a type of radiation therapy called boron neutron capture therapy. BPA is injected into a blood vessel and collects in tumour cells. The patient then receives radiation therapy with atomic particles called neutrons. The neutrons react with BPA to kill the tumour cells without harming normal cells. Also called boron phenylalanine.

BPA-F: a substance used in a type of radiation therapy called boron neutron capture therapy. BPA-F is injected into a blood vessel and collects in tumor cells. The patient then receives radiation therapy with atomic particles called neutrons. The neutrons react with the boron in BPA-F, producing radioactive particles that kill the tumour cells without harming normal cells. Also called boronophenylalanine-fructose complex.

BPH: a benign (not cancer) condition in which an overgrowth of prostate tissue pushes against the urethra and the bladder, blocking the flow of urine. Also called benign prostatic hyperplasia and benign prostatic hypertrophy.

brachytherapy: procedure in which radioactive material sealed in needles, seeds, wires or catheters is placed directly into or near a tumour; also called internal radiation, implant radiation or interstitial radiation therapy.

BRAF (V600E) kinase inhibitor RO5185426: a drug used to treat Erdheim-Chester disease (a very rare type of histiocytosis) and advanced melanoma. It is used in patients whose disease has a mutated (changed) form of a gene called BRAF. It is also being studied in the treatment of other types of cancer. BRAF (V600E) kinase inhibitor RO5185426 blocks certain proteins made by the mutated BRAF gene, which may help keep cancer cells from growing. It is a type of kinase inhibitor and a type of targeted therapy agent. Also called PLX4032, RG7204, vemurafenib, and Zelboraf.

BRAF (V600E) mutation: a specific mutation (change) in the BRAF gene, which makes a protein that is involved in sending signals in cells and in cell growth. This BRAF gene mutation may be found in some types of cancer, including melanoma and colorectal cancer. It may increase the growth and spread of cancer cells. Checking for this BRAF mutation in tumour tissue may help to plan cancer treatment.

BRAF gene: a gene that makes a protein called B-RAF, which is involved in sending signals in cells and in cell growth. This gene may be mutated (changed) in many types of cancer, which causes a change in the B-RAF protein. This can increase the growth and spread of cancer cells.

BRAF kinase inhibitor: a substance that blocks a protein called BRAF. BRAF is a kinase enzyme that helps control cell growth and signaling. It may be found in a mutated (changed) form in some types of cancer, including melanoma and colorectal cancer. Blocking mutated BRAF kinase proteins may help keep cancer cells from growing. Some BRAF kinase inhibitors are used to treat cancer.

brain metastasis: cancer that has spread from the original (primary) tumour to the brain.

Brain stem glioma: a tumour located in the part of the brain that connects to the spinal cord (the brain stem). It may grow rapidly or slowly, depending on the grade of the tumour.

brain stem tumour: a tumour in the part of the brain that connects to the spinal cord (the brain stem).

brain tumour: the growth of abnormal cells in the tissues of the brain. Brain tumours can be benign (not cancer) or malignant (cancer).

Brassica vegetable: a member of the family of vegetables that includes broccoli, Brussels sprouts, cabbage, cauliflower, collard greens, kale, and turnips. These vegetables contain substances that may protect against cancer. Also called cruciferous vegetable.

BRCA1: an abnormal gene, known as BReast CAncer gene 1, associated with a higher risk of developing breast cancer.

BRCA2: an abnormal gene, known as BReast CAncer gene 2, associated with a higher risk of developing breast cancer.

Breakthrough pain: a sudden increase in pain that may occur in patients who already have chronic pain from cancer, arthritis, fibromyalgia, or other conditions. Breakthrough pain usually lasts for a

short time. During breakthrough pain, the level of pain may be severe but the type of pain and where it is in the body are usually the same as the patient's chronic pain. Breakthrough pain may occur with stress, illness, and certain activities, such as exercising or coughing, or when the dose of pain medicine that the patient is taking wears off. Breakthrough pain is usually not a symptom of a new condition or a condition that has gotten worse. Also called pain flare.

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 cancer: cancer that forms in tissues of the breast. The most common type of breast cancer is ductal carcinoma, which begins in the lining of the milk ducts (thin tubes that carry milk from the lobules of the breast to the nipple). Another type of breast cancer is lobular carcinoma, which begins in the lobules (milk glands) of the breast. Invasive breast cancer is breast cancer that has spread from where it began in the breast ducts or lobules to surrounding normal tissue. Breast cancer occurs in both men and women, although male breast cancer is rare.

breast carcinoma in situ: there are 3 types of breast carcinoma in situ: ductal carcinoma in situ (DCIS), lobular carcinoma in situ (LCIS), and Paget disease of the nipple. DCIS is a non-invasive 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, DCIS may become invasive cancer and spread to other tissues. At this time, there is no way to know which lesions could become invasive. LCIS is a condition in which abnormal cells are found in the lobules of the breast. This condition seldom becomes invasive cancer. However, having LCIS in one breast increases the risk of developing breast cancer in either breast. Paget disease of the nipple is a condition in which abnormal cells are found in the nipple only. Also called stage 0 breast carcinoma in situ.

breast density: a measure used to describe the relative amounts of fat and tissue in the breasts as seen on a mammogram.

breast duct ectasia: a benign (not cancer) condition in which a milk duct under the nipple widens and thickens. This can cause the milk duct to become blocked and fluid to build up inside it. There are usually no symptoms, but sometimes there may be a thick nipple discharge or redness or tenderness of the nipple and nearby breast tissue. Breast duct ectasia is most common in women who are near menopause or have gone through it. Also called mammary duct ectasia.

breast duct endoscopy: a method used to examine the lining of the breast ducts to look for abnormal tissue. A very thin, flexible, lighted tube attached to a camera is inserted through the nipple, and threaded into the breast ducts deep in the breast. Tissue and fluid samples may be removed during the procedure.

breast implant: a silicone gel-filled or saline-filled sac placed under the chest muscle to restore breast shape.

breast-conserving surgery: an operation to remove the cancer and some normal tissue around it, but not the breast itself. Some lymph nodes under the arm may be removed for biopsy. Part of the chest wall lining may also be removed if the cancer is near it. Also called breast-sparing surgery, lumpectomy, partial mastectomy, quadrantectomy, and segmental mastectomy.

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Breslow depth: a measure of how deeply a melanoma tumour has grown into the skin. The tumour thickness (depth) is usually measured from the top of the tumour to the deepest tumour cells. If the tumour is ulcerated (the skin is broken), it is measured from the base of the ulcer to the deepest tumour cells. Breslow depth is used to help determine the stage of cancer. Thicker tumours are linked with lower survival rates. Also called Breslow thickness.

Breslow thickness: the depth a melanoma lesion extends below the skin surface measured in millimetres.

BRM therapy: a type of treatment that uses substances made from living organisms to treat disease. These substances may occur naturally in the body or may be made in the laboratory. Some BRM therapies stimulate or suppress the immune system to help the body fight cancer, infection, and other diseases. Other BRM therapies attack specific cancer cells, which may help keep them from growing or kill them. They may also lessen certain side effects caused by some cancer treatments. Types of BRM therapy include immunotherapy (such as vaccines, cytokines, and some antibodies), gene therapy, and some targeted therapies. Also called biological response modifier therapy, biological therapy, and biotherapy.

bronchial adenoma: cancer that forms in tissues of the bronchi (large air passages in the lungs including those that lead to the lungs from the windpipe).

bronchial brush biopsy: a procedure in which cells are taken from the inside of the airways that lead to the lungs. A bronchoscope (a thin, tube-like instrument with a light and a lens for viewing) is inserted through the nose or mouth into the lungs. A small brush is then used to remove cells from the airways. These cells are then looked at under a microscope. A bronchial brush biopsy is used to find cancer and changes in cells that may lead to cancer. It is also used to help diagnose other lung conditions. Also called bronchial brushing.

bronchial brushing: a procedure in which cells are taken from the inside of the airways that lead to the lungs. A bronchoscope (a thin, tube-like instrument with a light and a lens for viewing) is inserted through the nose or mouth into the lungs. A small brush is then used to remove cells from the airways. These cells are then looked at under a microscope. A bronchial brushing is used to find cancer and changes in cells that may lead to cancer. It is also used to help diagnose other lung conditions. Also called bronchial brush biopsy.

bronchial washing: a procedure in which cells are taken from the inside of the airways that lead to the lungs. A bronchoscope (a thin, tube-like instrument with a light and a lens for viewing) is inserted through the nose or mouth into the lungs. A mild salt solution is washed over the surface of the airways to collect cells, which are then looked at under a microscope. Bronchial washing is used to find infections. It may also help find cancer or changes in cells that may lead to cancer.

bronchoscope: a thin, tube-like instrument used to examine the inside of the trachea, bronchi (air passages that lead to the lungs), and lungs. A bronchoscope has a light and a lens for viewing, and may have a tool to remove tissue.

bronchoscopy: a procedure that uses a bronchoscope to examine the inside of the trachea, bronchi (air passages that lead to the lungs), and lungs. A bronchoscope is a thin, tube-like instrument with a light and a lens for viewing. It may also have a tool to remove tissue to be checked under a microscope for signs of disease. The bronchoscope is inserted through the nose or mouth. Bronchoscopy may be used to detect cancer or to perform some treatment procedures.

Burkitt leukaemia: a rare, fast-growing type of leukaemia (blood cancer) in which too many white blood cells called B lymphocytes form in the blood and bone marrow. It may start in the lymph nodes as Burkitt lymphoma and then spread to the blood and bone marrow, or it may start in the blood and bone marrow without involvement of the lymph nodes. Both Burkitt leukaemia and Burkitt lymphoma have been linked to infection with the Epstein-Barr virus.

Burkitt lymphoma: an aggressive (fast-growing) type of B-cell non-Hodgkin lymphoma that occurs most often in children and young adults. The disease may affect the jaw, central nervous system, bowel, kidneys, ovaries, or other organs. There are three main types of Burkitt lymphoma (sporadic, endemic, and immunodeficiency related). Sporadic Burkitt lymphoma occurs throughout the world, and endemic Burkitt lymphoma occurs in Africa. Immunodeficiency-related Burkitt lymphoma is most often seen in Aids patients.

Butane: a colourless gas that catches fire easily and is used as fuel. It is found in gasoline, lighter fluid, and some aerosol sprays. Butane is also one of many harmful chemicals found in tobacco smoke.

C

CA 15-3: a protein found on epithelial cells that is part of a larger protein called MUC 1. CA 15-3 may be found in higher than normal amounts in patients with some types of cancer, including breast cancer. Measuring the amount of CA 15-3 in the blood may be useful in checking how well cancer treatment is working or if cancer has come back. CA 15-3 is a type of tumour marker.

CA19-9: a cancer antigen, not sensitive of specific enough to use as a screening test for cancer, and which is not diagnostic of a specific type of cancer. It is mainly used as a tumour marker:

- To help differentiate between cancer of the pancreas and other conditions such as pancreatitis
- To monitor a person's response to pancreatic cancer treatment and/or cancer progression
- To watch for pancreatic cancer recurrence

CA 19-9 assay: a laboratory test that measures the level of CA 19-9 in the blood. CA 19-9 is a substance released into the blood by both cancer cells and normal cells. Higher than normal amounts of CA 19-9 in the blood can be a sign of pancreatic or other types of cancer or other conditions. The amount of CA 19-9 in the blood can be used to help keep track of how well cancer treatments are working or if cancer has come back. CA 19-9 is a type of tumour marker.

CA 27.29: a protein found on epithelial cells, which line the inside and outside surfaces of the body. It is part of a larger protein called MUC 1. CA 27.29 may be found in higher than normal amounts in patients with some types of cancer, including breast cancer. Measuring the amount of CA 27.29 in the blood may help to find out how well cancer treatment is working or if cancer has come back. CA 27.29 is a type of tumour marker.

CA-125: a substance that may be found in high amounts in the blood of patients with certain types of cancer, including ovarian cancer. CA-125 levels may also help monitor how well cancer treatments are working or if cancer has come back. High levels may also occur in women with common gynaecological conditions such as endometriosis or fibroids. Also called cancer antigen 125.

cachexia: loss of body weight and muscle mass, and weakness that may occur in patients with cancer, AIDS, or other chronic diseases.

cadmium: a metallic element that occurs naturally in tiny amounts in air, water, soil, and food. It is a byproduct of zinc refining and is used to make batteries, pigments, plastics, alloys, and electroplate. It is also found in tobacco and tobacco smoke. Exposure to high levels of cadmium may cause certain cancers and other health problems.

CAF: an abbreviation for a chemotherapy combination used alone or together with other therapies to treat breast cancer. It is also being studied in the treatment of other types of cancer. It includes the drugs cyclophosphamide, doxorubicin hydrochloride (Adriamycin), and fluorouracil. Also called CAF regimen.

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caffeine: a substance found in the leaves and beans of the coffee tree, in tea, yerba mate, guarana berries, and in small amounts in cocoa. It can also be made in the laboratory, and is added to some soft drinks, foods, and medicines. Caffeine increases brain activity, alertness, attention, and energy. It may also increase blood pressure, heart rate, breathing rate, and the loss of water from the body in urine.

cam: abbreviation which refers to complementary and alternative medicine.

cancer: a term for diseases in which abnormal cells divide without control and can invade nearby tissues. Cancer cells can also spread to other parts of the body through the blood and lymph systems. There are several main types of cancer. *Carcinoma* is a cancer that begins in the skin or in

tissues that line or cover internal organs. *Sarcoma* is a cancer that begins in bone, cartilage, fat, muscle, blood vessels, or other connective or supportive tissue. *Leukaemia* is a cancer that starts in blood-forming tissue, such as the bone marrow, and causes large numbers of abnormal blood cells to be produced and enter the blood. *Lymphoma* and multiple myeloma are cancers that begin in the cells of the immune system. Central nervous system cancers are cancers that begin in the tissues of the brain and spinal cord. Also called malignancy.

cancer antigen 125: a substance that may be found in high amounts in the blood of patients with certain types of cancer, including ovarian cancer. Cancer antigen 125 levels may also help monitor how well cancer treatments are working or if cancer has come back. Also called CA-125.

cancer cell line: cancer cells that keep dividing and growing over time, under certain conditions in a laboratory. Cancer cell lines are used in research to study the biology of cancer and to test cancer treatments.

cancer cluster: the occurrence of a larger-than-expected number of cases of cancer within a group of people in a geographic area over a period of time.

cancer of the adrenal cortex: a rare cancer that forms in the outer layer of tissue of the adrenal gland (a small organ on top of each kidney that makes steroid hormones, adrenaline, and noradrenaline to control heart rate, blood pressure, and other body functions). Also called adrenocortical cancer and adrenocortical carcinoma.

cancer of unknown primary origin: a case in which cancer cells are found in the body, but the place where the cells first started growing (the origin or primary site) cannot be determined. Also called carcinoma of unknown primary and CUP.

cancer subtype: describes the smaller groups that a type of cancer can be divided into, based on certain characteristics of the cancer cells. These characteristics include how the cancer cells look under a microscope and whether there are certain substances in or on the cells or certain changes to the DNA of the cells. It is important to know the subtype of a cancer in order to plan treatment and determine prognosis.

cancer treatment vaccine: a type of vaccine that is usually made from a patient's own tumour cells or from substances taken from tumour cells. A cancer vaccine may help the immune system kill cancer cells. Also called cancer vaccine.

cancer vaccine: a type of vaccine that is usually made from a patient's own tumour cells or from substances taken from tumour cells. A cancer vaccine may help the immune system kill cancer cells. Also called cancer treatment vaccine.

cancer-related post-traumatic stress: a condition that develops in some people who are diagnosed with cancer. Symptoms of cancer-related post-traumatic stress (PTS) include having frightening thoughts or trouble sleeping, being distracted or overexcited, feeling alone, or losing interest in daily activities. Symptoms may also include feelings of shock, fear, helplessness, or horror. Cancer-related PTS can occur any time after diagnosis, including during or after treatment. Relaxation training, counselling, support groups, and certain medicines may be used to reduce symptoms of PTS.

Cannabinoid: a type of chemical in marijuana that causes drug-like effects all through the body, including the central nervous system and the immune system. The main active cannabinoid in marijuana is delta-9-tetrahydrocannabinol (THC). Cannabinoids are said to help treat the symptoms of cancer or the side effects of cancer treatment.

Cannabis: usually refers to the dried leaves and flowering tops of the *Cannabis sativa* or *Cannabis indica* plant. Cannabis contains active chemicals called cannabinoids that cause drug-like effects all through the body, including the central nervous system and the immune system. Cannabis may help treat the symptoms of cancer or the side effects of cancer treatment, such as nausea and vomiting, pain, and cachexia (loss of body weight and muscle mass). Also called marijuana.

CAP-1: a small piece of the tumour marker called carcinoembryonic antigen (CEA). CEA may be found in the blood of people who have colon cancer, other types of cancer or diseases, or who

smoke tobacco. CAP-1 is used to make a vaccine that may help stimulate the body's immune system to kill cancer cells. Also called carcinoembryonic antigen peptide-1 and CEA peptide-1.

CAR: a special receptor created in the laboratory that is designed to bind to certain proteins on cancer cells. The CAR is then added to immune cells called T cells. This helps the T cells find and kill cancer cells that have the specific protein that the receptor is designed to bind. These changed T cells called CAR T cells are then grown in large numbers in the laboratory and given to cancer patients. CAR T cells are being studied in the treatment of some types of cancer. Also called chimeric antigen receptor.

carcinoembryonic antigen: a substance that may be found in the blood of people who have colon cancer, other types of cancer or diseases, or who smoke tobacco. Carcinoembryonic antigen levels may help keep track of how well cancer treatments are working or if cancer has come back. It is a type of tumour marker. Also called CEA.

carcinoembryonic antigen assay: a laboratory test that measures the level of carcinoembryonic antigen (CEA) in the blood. An increased amount of CEA may be found in the blood of people who have colon cancer or other types of cancer, certain other diseases, or who smoke. The amount of CEA in the blood may also help keep track of how well cancer treatments are working or if cancer has come back. CEA is a type of tumour marker. Also called CEA assay.

carcinoembryonic antigen peptide-1: a small piece of the tumour marker called carcinoembryonic antigen (CEA). CEA may be found in the blood of people who have colon cancer, other types of cancer or diseases, or who smoke tobacco. Carcinoembryonic antigen peptide-1 is used to make a vaccine that may help stimulate the body's immune system to kill cancer cells. Also called CAP-1 and CEA peptide-1.

carcinogen: any substance that causes or can cause cancer.

carcinoid syndrome: a combination of symptoms caused by the release of serotonin and other substances from carcinoid tumours of the gastrointestinal tract. Symptoms may include flushing of the face, flat angiomas (small collections of dilated blood vessels) of the skin, diarrhoea, bronchial spasms, rapid pulse, and sudden drops in blood pressure.

carcinoid tumour: a slow-growing type of tumour usually found in the gastrointestinal system (most often in the small intestine and rectum), and sometimes in the lungs or other sites. Carcinoid tumours may spread to the liver or other sites in the body, and they may secrete substances such as serotonin or prostaglandins, causing carcinoid syndrome.

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 place where they first formed. They have not spread. These abnormal cells may become cancer and spread into nearby normal tissue. Also called stage 0 disease.

carcinoma of unknown primary: a case in which cancer cells are found in the body, but the place where the cells first started growing (the origin or primary site) cannot be determined. Also called cancer of unknown primary origin and CUP.

carcinomatosis: a condition in which cancer is spread widely throughout the body, or, in some cases, to a relatively large region of the body. Also called carcinosis.

carcinomatous lymphangitis: a condition in which cancer cells spread from the original (primary) tumour and invade lymph vessels (thin tubes that carry lymph and white blood cells through the body's lymph system). The invaded lymph vessels then fill up with cancer cells and become blocked. Although carcinomatous lymphangitis can occur anywhere in the body, it commonly happens in the lungs. It can happen in many types of cancer but is most common in breast, lung, colon, stomach, pancreatic, and prostate cancer. Also called lymphangitic carcinomatosis.

carcinomatous meningitis: a serious problem that may occur in cancer in which cancer cells spread from the original (primary) tumour to the meninges (thin layers of tissue that cover and protect the brain and spinal cord). It can happen in many types of cancer, but is the most common in melanoma,

breast, lung, and gastrointestinal cancer. The cancer may cause the meninges to be inflamed. Also called leptomeningeal carcinoma, leptomeningeal carcinomatosis, leptomeningeal metastasis, meningeal carcinomatosis, meningeal metastasis, and neoplastic meningitis.

carcinosarcoma: a malignant tumour that is a mixture of carcinoma (cancer of epithelial tissue, which is skin and tissue that lines or covers the internal organs) and sarcoma (cancer of connective tissue, such as bone, cartilage, and fat).

carcinosis: a condition in which cancer is spread widely throughout the body, or, in some cases, to a relatively large region of the body. Also called carcinomatosis.

carcinostatic: pertaining to slowing or stopping the growth of cancer.

cardiac sarcoma: a rare cancer that develops in tissues of the heart. Also called heart cancer.

caregiver: a person who gives care to people who need help taking care of themselves. Examples include children, the elderly, or patients who have chronic illnesses or are disabled. Caregivers may be health professionals, family members, friends, social workers, or members of the clergy. They may give care at home or in a hospital or other health care setting.

carotenoid: a yellow, red, or orange substance found mostly in plants, including carrots, sweet potatoes, dark green leafy vegetables, and many fruits, grains, and oils. Some carotenoids are changed into vitamin A in the body and some are being studied in the prevention of cancer. A carotenoid is a type of antioxidant and a type of provitamin.

CAR T-cell therapy: a type of treatment in which a patient's T cells (a type of immune system cell) are changed in the laboratory so they will attack cancer cells. T cells are taken from a patient's blood. Then the gene for a special receptor that binds to a certain protein on the patient's cancer cells is added in the laboratory. The special receptor is called a chimeric antigen receptor (CAR). Large numbers of the CAR T cells are grown in the laboratory and given to the patient by infusion. CAR T-cell therapy is being studied in the treatment of some types of cancer. Also called chimeric antigen receptor T-cell therapy.

Castleman disease: a rare disorder in which benign (not cancer) growths form in lymph node tissue. There are two main ways that Castleman disease occurs: localized (unicentric) and multicentric. Unicentric Castleman disease affects only one group of lymph nodes in one part of the body, usually in the chest or abdomen. It may not cause symptoms. Multicentric Castleman disease affects many groups of lymph nodes and lymphoid tissue all through the body. It can weaken the immune system and cause problems such as infection, fever, weight loss, fatigue, night sweats, nerve damage, and anaemia. People with Castleman disease have an increased risk of lymphoma. Also called angiofollicular lymph node hyperplasia and giant lymph node hyperplasia.

castrate-resistant prostate cancer: prostate cancer that keeps growing even when the amount of testosterone in the body is reduced to very low levels. Many early-stage prostate cancers need normal levels of testosterone to grow, but castrate-resistant prostate cancers do not. Also called CRPC.

castration: surgical removal or destruction of the testicles or ovaries using radiation, surgery, or drugs. Medical castration refers to the use of drugs to suppress the function of the ovaries or testicles.

CAT scan: a procedure that uses a computer linked to an x-ray machine to make a series of detailed pictures of areas inside the body. The pictures are taken from different angles and are used to create 3-dimensional (3-D) views of tissues and organs. A dye may be injected into a vein or swallowed to help the tissues and organs show up more clearly. A CAT scan may be used to help diagnose disease, plan treatment, or find out how well treatment is working. Also called computed tomography scan, computerized axial tomography scan, computerized tomography, and CT scan.

catechin: a substance found in tea that helps protect cells from damage caused by free radicals. Free radicals are unstable molecules that are made during normal cell metabolism (chemical changes that take place in a cell). They can build up in cells and cause damage to other molecules. This damage

may increase the risk of cancer and other diseases. Catechins are being studied in the prevention and treatment of cancer. A catechin is a type of antioxidant.

cause-specific survival: the length of time from either the date of diagnosis or the start of treatment for a disease, such as cancer, to the date of death from the disease. Patients who die from causes unrelated to the disease are not counted in this measurement. In a clinical trial, measuring the cause-specific survival is one way to see how well a new treatment works. Also called CSS.

CBC: a measure of the number of red blood cells, white blood cells, and platelets in the blood. The amount of haemoglobin (substance in the blood that carries oxygen) and the haematocrit (the amount of whole blood that is made up of red blood cells) are also measured. A CBC is used to help diagnose and monitor many conditions. Also called blood cell count, complete blood count, and full blood count.

CBC with differential: a measure of the number of red blood cells, white blood cells, and platelets in the blood, including the different types of white blood cells (neutrophils, lymphocytes, monocytes, basophils, and eosinophils). The amount of haemoglobin (substance in the blood that carries oxygen) and the haematocrit (the amount of whole blood that is made up of red blood cells) are also measured. A CBC with differential is used to help diagnose and monitor many different conditions, including anaemia and infection. Also called blood cell count with differential.

CBE: an abbreviation for the physical clinical examination of the breast performed by a health care provider to check for lumps or other changes. Also called clinical breast exam.

CD20: a protein found on B cells (a type of white blood cell). It may be found in higher than normal amounts in patients with certain types of B-cell lymphomas and leukaemias. Measuring the amount of CD20 on blood cells may help to diagnose cancer or plan cancer treatment. CD20 is a type of tumour marker. Also called CD20 antigen.

CDH1 gene: women with an abnormal CDH1 gene have a higher risk of invasive lobular breast cancer.

CTLA-4: a protein found on T cells (a type of immune cell) that helps keep the body's immune responses in check. When CTLA-4 is bound to another protein called B7, it helps keep T cells from killing other cells, including cancer cells. Some anticancer drugs, called immune checkpoint inhibitors, are used to block CTLA-4. When this protein is blocked, the "brakes" on the immune system are released and the ability of T cells to kill cancer cells is increased.

CEA: a substance that may be found in the blood of people who have colon cancer, other types of cancer or diseases, or who smoke tobacco. CEA levels may help keep track of how well cancer treatments are working or if cancer has come back. It is a type of tumour marker. Also called carcinoembryonic antigen.

CEA assay: a laboratory test that measures the level of carcinoembryonic antigen (CEA) in the blood. An increased amount of CEA may be found in the blood of people who have colon cancer or other types of cancer, certain other diseases, or who smoke. The amount of CEA in the blood may also help keep track of how well cancer treatments are working or if cancer has come back. CEA is a type of tumour marker. Also called carcinoembryonic antigen assay.

CEA peptide-1: a small piece of the tumour marker called carcinoembryonic antigen (CEA). CEA may be found in the blood of people who have colon cancer, other types of cancer or diseases, or who smoke tobacco. CEA peptide-1 is used to make a vaccine that may help stimulate the body's immune system to kill cancer cells. Also called CAP-1 and carcinoembryonic antigen peptide-1.

cell proliferation: an increase in the number of cells as a result of cell growth and cell division.

central nervous system metastasis: cancer that has spread from the original (primary) tumour to the central nervous system (CNS). Also called CNS metastasis.

central nervous system primitive neuroectodermal tumour: a type of cancer that arises from a particular type of cell within the brain or spinal cord. Also called CNS PNET.

central nervous system tumour: a tumour of the central nervous system, including brain stem glioma, craniopharyngioma, medulloblastoma, and meningioma. Also called CNS tumour.

c-erbB-2: a protein involved in normal cell growth. It is found on some types of cancer cells, including breast and ovarian. Cancer cells removed from the body may be tested for the presence of c-erbB-2 to help decide the best type of treatment. c-erbB-2 is a type of receptor tyrosine kinase. Also called HER2/neu, human EGF receptor 2, and human epidermal growth factor receptor 2.

c-erbB-2 positive: describes cancer cells that have too much of a protein called HER2 on their surface. In normal cells, HER2 helps to control cell growth. When it is made in larger than normal amounts by cancer cells, the cells may grow more quickly and be more likely to spread to other parts of the body. Checking to see if a cancer is c-erbB-2 positive may help plan treatment, which may include drugs that kill c-erbB-2 positive cancer cells. Cancers that may be c-erbB-2 positive include breast, bladder, pancreatic, ovarian, and stomach cancers. Also called HER2 positive and human epidermal growth factor receptor 2 positive.

cerebellar haemangioblastoma: a benign, slow-growing tumour in the cerebellum (part of the brain at the back of the head), made up of abnormal blood vessel growth. People with von Hippel-Landau disease have an increased risk of developing hemangioblastomas.

Cervarix: a vaccine used to prevent cervical cancer caused by human papillomavirus (HPV) types 16 and 18. Cervarix is approved for use in females aged 9 to 25 years. It is a type of bivalent vaccine (a vaccine that works against two different viruses or other microorganisms). Also called recombinant human papillomavirus bivalent vaccine.

cervical: relating to the neck, or to the neck of any organ or structure. Cervical lymph nodes are located in the neck. Cervical cancer refers to cancer of the uterine cervix, which is the lower, narrow end (the “neck”) of the uterus.

cervical adenocarcinoma: a type of cervical cancer that begins in the glandular cells of the cervix. These cells make mucus and are found in tissue that lines the inner part of the cervix and the uterus. Cervical adenocarcinoma is less common than cervical squamous cell carcinoma.

cervical cancer: cancer that forms in tissues of the cervix (the organ connecting the uterus and vagina). It is usually a slow-growing cancer that may not have symptoms but can be found with regular Pap tests (a procedure in which cells are scraped from the cervix and looked at under a microscope). Cervical cancer is almost always caused by human papillomavirus (HPV) infection.

cervical dysplasia: the abnormal growth of cells on the surface of the cervix. Cervical dysplasia is usually caused by certain types of human papillomavirus (HPV) and is found when a Pap test or cervical biopsy is done. It can be mild, moderate, or severe, depending on how abnormal the cells look under a microscope and how much of the cervical tissue is affected. Cervical dysplasia is not cancer, but may become cancer and spread to nearby normal tissue.

cervical intraepithelial neoplasia: abnormal cells are found on the surface of the cervix. Cervical intraepithelial neoplasia is usually caused by certain types of human papillomavirus (HPV) and is found when a cervical biopsy is done. Cervical intraepithelial neoplasia is not cancer, but may become cancer and spread to nearby normal tissue. It is graded on a scale of 1 to 3, based on how abnormal the cells look under a microscope and how much of the cervical tissue is affected. For example, CIN 1 has slightly abnormal cells and is less likely to become cancer than CIN 2 or CIN 3. Also called CIN.

cervical intraepithelial neoplasia grade 2/3: abnormal cells are found on the surface of the cervix. Cervical intraepithelial neoplasia grade 2/3 is usually caused by certain types of human papillomavirus (HPV) and is found when a cervical biopsy is done. Cervical intraepithelial neoplasia grade 2/3 has features of CIN 2 and CIN 3. It is not cancer, but may become cancer and spread to nearby normal tissue if not treated. Treatment for cervical intraepithelial neoplasia grade 2/3 may include cryotherapy, laser therapy, loop electrosurgical procedure (LEEP), or cone biopsy to remove or destroy the abnormal tissue. Also called CIN 2/3.

cervical squamous cell carcinoma: a type of cervical cancer that begins in squamous cells of the cervix. Cervical squamous cells are found in tissue that lines the outer part of the cervix. They are thin, flat cells that look like fish scales under a microscope. Most cervical cancers are squamous cell carcinomas.

cervical squamous intraepithelial neoplasia 1: slightly abnormal cells are found on the surface of the cervix. Cervical squamous intraepithelial neoplasia 1 is usually caused by certain types of human papillomavirus (HPV) and is found when a cervical biopsy is done. Cervical squamous intraepithelial neoplasia 1 is not cancer and usually goes away on its own without treatment. Sometimes it becomes cancer and spreads to nearby normal tissue. Cervical squamous intraepithelial neoplasia 1 is sometimes called low-grade or mild dysplasia. Also called CIN 1.

cervical squamous intraepithelial neoplasia 2: moderately abnormal cells are found on the surface of the cervix. Cervical squamous intraepithelial neoplasia 2 is usually caused by certain types of human papillomavirus (HPV) and is found when a cervical biopsy is done. Cervical squamous intraepithelial neoplasia 2 is not cancer, but may become cancer and spread to nearby normal tissue if not treated. Treatment for cervical squamous intraepithelial neoplasia 2 may include cryotherapy, laser therapy, loop electrosurgical procedure (LEEP), or cone biopsy to remove or destroy the abnormal tissue. Cervical squamous intraepithelial neoplasia 2 is sometimes called high-grade or moderate dysplasia. Also called CIN 2.

cervical squamous intraepithelial neoplasia 3: severely abnormal cells are found on the surface of the cervix. Cervical squamous intraepithelial neoplasia 3 is usually caused by certain types of human papillomavirus (HPV) and is found when a cervical biopsy is done. If not treated, these abnormal cells may become cancer and spread to nearby normal tissue. Treatment for cervical squamous intraepithelial neoplasia 3 may include cryotherapy, laser therapy, loop electrosurgical procedure (LEEP), or cone biopsy to remove or destroy the abnormal tissue. Cervical squamous intraepithelial neoplasia 3 is sometimes called high-grade or severe dysplasia. Also called CIN 3 and stage 0 cervical carcinoma in situ.

cervicectomy: surgery to remove the cervix (the end of the uterus that forms a canal between the uterus and the vagina). The upper part of the vagina and certain pelvic lymph nodes may also be removed.

cervix: the lower, narrow end of the uterus that forms a canal between the uterus and vagina.

CgA: a protein found inside neuroendocrine cells, which release CgA and certain hormones into the blood. CgA may be found in higher than normal amounts in patients with certain neuroendocrine tumours, small cell lung cancer, prostate cancer, and other conditions. Measuring the amount of CgA in the blood may help to diagnose cancer or other conditions or find out how well treatment is working or if cancer has come back. CgA is a type of tumour marker. Also called chromogranin A.

Chemoembolisation: a procedure in which the blood supply to a tumour is blocked after anticancer drugs are given in blood vessels near the tumour. Sometimes, the anticancer drugs are attached to small beads that are injected into an artery that feeds the tumour. The beads block blood flow to the tumour as they release the drug. This allows a higher amount of drug to reach the tumour for a longer period of time, which may kill more cancer cells. It also causes fewer side effects because very little of the drug reaches other parts of the body. Chemoembolization is used to treat liver cancer. Also called TACE and transarterial chemoembolisation.

CHEK2 gene: Li-Fraumeni syndrome also can be caused by an abnormal CHEK2 gene; even when it does not cause Li-Fraumeni syndrome, an abnormal CHEK2 gene can double breast cancer risk.

chemoimmunotherapy: chemotherapy combined with immunotherapy. Chemotherapy uses different drugs to kill or slow the growth of cancer cells; immunotherapy uses treatments to stimulate or restore the ability of the immune system to fight cancer.

chemoprevention: the use of drugs, vitamins, or other agents to try to reduce the risk of, or delay the development or recurrence of, cancer.

chemoprevention study: in cancer prevention, a clinical trial that studies whether taking certain medicines, vitamins, minerals, or food supplements can prevent cancer. Also called agent study.

chemoprotective agent: a type of drug that helps protect healthy tissue from some of the side effects caused by certain anticancer drugs. For example, in patients receiving certain anticancer drugs, amifostine helps protect the kidneys, mesna helps protect the bladder, and dexrazoxane (Zinecard) helps reduce heart damage.

chemoradiation: treatment that combines chemotherapy with radiation therapy. Also called chemoradiotherapy.

chemoradiotherapy: treatment that combines chemotherapy with radiation therapy. Also called chemoradiation.

chemoreduction: chemotherapy given to shrink a retinoblastoma tumour before treatment with radiation or surgery. It is a type of neoadjuvant therapy.

chemosensitivity: the susceptibility of tumour cells to the cell-killing effects of anticancer drugs.

chemosensitivity assay: a laboratory test that measures the number of tumour cells that are killed by a cancer drug. The test is done after the tumour cells are removed from the body. A chemosensitivity assay may help in choosing the best drug or drugs for the cancer being treated.

chemosensitiser: a drug that makes tumour cells more sensitive to the effects of chemotherapy.

chemotherapeutic agent: a drug used to treat cancer.

chemotherapy: refers to the use of medicines or drugs to treat cancer.

chewing tobacco: a type of smokeless tobacco made from cured tobacco leaves. It may be sweetened and flavoured with liquorice and other substances. It comes in the form of loose tobacco leaves, pellets or “bits” (leaf tobacco rolled into small pellets), plugs (leaf tobacco pressed and held together with some type of sweetener), or twists (leaf tobacco rolled into rope-like strands and twisted). It is placed in the mouth, usually between the cheek and lower lip, and may be chewed. Chewing tobacco contains nicotine and many harmful, cancer-causing chemicals. Using it can lead to nicotine addiction and can cause cancers of the mouth, throat, oesophagus, and pancreas. Chewing tobacco use may also cause gum disease, heart disease, stroke, and other health problems. Also called spit tobacco.

childhood acute lymphoblastic leukaemia risk group system: a way of grouping patients that is used to plan treatment for children with acute lymphoblastic leukaemia. A risk group is based on the patient’s age and white blood cell count at diagnosis. Risk groups are described as either standard (low) risk or high risk. Other factors that affect the risk group include the type of leukaemia cells, whether there are certain chromosome changes, and how quickly the leukaemia responds to treatment.

childhood cancer: a term used to describe cancers that occur between birth and 15 years of age. Childhood cancers are very rare and may differ from adult cancers in the way they grow and spread, how they are treated, and how they respond to treatment. Common types of childhood cancer include leukaemia (begins in blood-forming tissue such as bone marrow), lymphoma (begins in the cells of the immune system), neuroblastoma (begins in certain nerve cells), retinoblastoma (begins in the tissues of the retina), Wilms tumour (a type of kidney cancer), and cancers of the brain, bone, and soft tissue. Also called paediatric cancer.

childhood cancer risk group: a group of children with cancer that has been formed based on certain characteristics of the children and their disease. These may include age at diagnosis, stage of cancer, and cancer biology. Risk groups may also be based on the chance of being cured or the chance that the cancer will come back. Childhood cancer risk groups are used to plan treatment and follow-up care for certain types of cancer, such as neuroblastoma and rhabdomyosarcoma. Risk groups may be described as low risk, intermediate risk, or high risk.

Cholangiocarcinoma: a rare cancer that forms in the bile ducts. A bile duct is a tube that carries bile (fluid made by the liver) between the liver and gallbladder and the small intestine. Intrahepatic

cholangiocarcinoma is found inside the liver. Extrahepatic cholangiocarcinoma is found outside the liver. Also called bile duct cancer.

cholangiosarcoma: a tumour of the connective tissues of the bile ducts.

chondrosarcoma: a type of cancer that forms in bone cartilage. It usually starts in the pelvis (between the hip bones), the shoulder, the ribs, or at the ends of the long bones of the arms and legs. A rare type of chondrosarcoma called extraskeletal chondrosarcoma does not form in bone cartilage. Instead, it forms in the soft tissues of the upper part of the arms and legs. Chondrosarcoma can occur at any age but is more common in people older than 40 years. It is a type of bone cancer.

chordoma: a type of bone cancer that usually starts in the lower spinal column or at the base of the skull.

chorioadenoma destruens: a type of cancer that grows into the muscular wall of the uterus. It is formed after conception (fertilization of an egg by a sperm). It may spread to other parts of the body, such as the vagina, vulva, and lung. Also called invasive hydatidiform mole.

chorioblastoma: a malignant, fast-growing tumour that develops from trophoblastic cells (cells that help an embryo attach to the uterus and help form the placenta). Almost all chorioblastomas form in the uterus after fertilization of an egg by a sperm, but a small number form in a testis or an ovary. Chorioblastomas spread through the blood to other organs, especially the lungs. They are a type of gestational trophoblastic disease. Also called choriocarcinoma, chorioepithelioma, and chorionic carcinoma.

choriocarcinoma: a malignant, fast-growing tumour that develops from trophoblastic cells (cells that help an embryo attach to the uterus and help form the placenta). Almost all choriocarcinomas form in the uterus after fertilisation of an egg by a sperm, but a small number form in a testis or an ovary. Choriocarcinomas spread through the blood to other organs, especially the lungs. They are a type of gestational trophoblastic disease. Also called chorioblastoma, chorioepithelioma, and chorionic carcinoma.

chorioepithelioma: a malignant, fast-growing tumour that develops from trophoblastic cells (cells that help an embryo attach to the uterus and help form the placenta). Almost all chorioepitheliomas form in the uterus after fertilization of an egg by a sperm, but a small number form in a testis or an ovary. Chorioepitheliomas spread through the blood to other organs, especially the lungs. They are a type of gestational trophoblastic disease. Also called chorioblastoma, choriocarcinoma, and chorionic carcinoma.

chorionic carcinoma: a malignant, fast-growing tumour that develops from trophoblastic cells (cells that help an embryo attach to the uterus and help form the placenta). Almost all chorionic carcinomas form in the uterus after fertilization of an egg by a sperm, but a small number form in a testis or an ovary. Chorionic carcinomas spread through the blood to other organs, especially the lungs. They are a type of gestational trophoblastic disease. Also called chorioblastoma, choriocarcinoma, and chorioepithelioma.

choroid plexus tumour: a rare tumour that forms in the choroid plexus (a network of blood vessels and cells in the fluid-filled spaces of the brain). These tumours are most common in children younger than 2 years. Choroid plexus tumours may be benign (not cancer) or malignant (cancer).

chromosome: a thread-like structure of nucleic acids and protein found in the nucleus of most living cells, carrying genetic information in the form of genes.

chromosome 3: one of a pair of chromosomes that is part of the 46 chromosomes found in the nucleus of most human cells. Specific changes in chromosome 3 may be found in patients with certain genetic conditions or some types of cancer, including bladder cancer. Checking for these changes may help diagnose cancer or find out if cancer has come back. Chromosome 3 is a type of tumour marker.

chromosome 7: one of a pair of chromosomes that is part of the 46 chromosomes found in the nucleus of most human cells. Specific changes in chromosome 7 may be found in patients with certain genetic conditions or some types of cancer, including bladder cancer, leukaemia, and lymphoma. Checking for these changes may help diagnose cancer or find out if cancer has come back. Chromosome 7 is a type of tumour marker.

chromosome 17: one of a pair of chromosomes that is part of the 46 chromosomes found in the nucleus of most human cells. Specific changes in chromosome 17 may be found in patients with certain genetic conditions and some types of cancer, including bladder cancer, brain cancer, and leukaemia. Checking for these changes may help diagnose cancer or find out if cancer has come back. Chromosome 17 is a type of tumour marker.

chronic: long lasting; some side effects may be long lasting, e.g. kidney damage.

chronic eosinophilic leukaemia: a disease in which too many eosinophils (a type of white blood cell) are found in the bone marrow, blood, and other tissues. Chronic eosinophilic leukaemia may stay the same for many years, or it may progress quickly to acute leukaemia.

chronic granulocytic leukaemia: an indolent (slow-growing) cancer in which too many myeloblasts are found in the blood and bone marrow. Myeloblasts are a type of immature blood cell that makes white blood cells called myeloid cells. Chronic granulocytic leukaemia may get worse over time as the number of myeloblasts increases in the blood and bone marrow. This may cause fever, fatigue, easy bleeding, anaemia, infection, a swollen spleen, bone pain, or other signs and symptoms. Chronic granulocytic leukaemia is usually marked by a chromosome change called the Philadelphia chromosome, in which a piece of chromosome 9 and a piece of chromosome 22 break off and trade places with each other. It usually occurs in older adults and rarely occurs in children. Also called chronic myelogenous leukaemia, chronic myeloid leukaemia, and CML.

chronic leukaemia: a slowly progressing cancer that starts in blood-forming tissues such as the bone marrow, and causes large numbers of white blood cells to be produced and enter the blood stream.

chronic lung disease: a type of disorder that affects the lungs and other parts of the respiratory system. It usually develops slowly, and may get worse over time. Chronic lung disease may be caused by smoking tobacco or by breathing in secondhand tobacco smoke, chemical fumes, dust, or other forms of air pollution. Types of chronic lung disease include asthma, chronic obstructive pulmonary disease (COPD), pulmonary fibrosis, asbestosis, pneumonitis, and other lung conditions. Also called CLD.

chronic lymphocytic leukaemia: an indolent (slow-growing) cancer in which too many immature lymphocytes (white blood cells) are found mostly in the blood and bone marrow. Sometimes, in later stages of the disease, cancer cells are found in the lymph nodes and the disease is called small lymphocytic lymphoma. Also called CLL.

chronic lymphocytic leukaemia / small lymphocytic lymphoma: an indolent (slow-growing) cancer in which immature lymphocytes (white blood cells) are found in the blood and bone marrow and/or in the lymph nodes. Chronic lymphocytic leukaemia (CLL) and small lymphocytic lymphoma (SLL) are the same disease, but in CLL cancer cells are found mostly in the blood and bone marrow. In SLL cancer cells are found mostly in the lymph nodes. Chronic lymphocytic leukaemia/small lymphocytic lymphoma is a type of non-Hodgkin lymphoma. Also called CLL/SLL.

chronic myelogenous leukaemia: an indolent (slow-growing) cancer in which too many myeloblasts are found in the blood and bone marrow. Myeloblasts are a type of immature blood cell that makes white blood cells called myeloid cells. Chronic myelogenous leukaemia may get worse over time as the number of myeloblasts increases in the blood and bone marrow. This may cause fever, fatigue, easy bleeding, anaemia, infection, a swollen spleen, bone pain, or other signs and symptoms. Chronic myelogenous leukaemia is usually marked by a chromosome change called the Philadelphia chromosome, in which a piece of chromosome 9 and a piece of chromosome 22 break off and trade

places with each other. It usually occurs in older adults and rarely occurs in children. Also called chronic granulocytic leukaemia, chronic myeloid leukaemia, and CML.

chronic myeloid leukaemia: an indolent (slow-growing) cancer in which too many myeloblasts are found in the blood and bone marrow. Myeloblasts are a type of immature blood cell that makes white blood cells called myeloid cells. Chronic myeloid leukaemia may get worse over time as the number of myeloblasts increases in the blood and bone marrow. This may cause fever, fatigue, easy bleeding, anaemia, infection, a swollen spleen, bone pain, or other signs and symptoms. Chronic myeloid leukaemia is usually marked by a chromosome change called the Philadelphia chromosome, in which a piece of chromosome 9 and a piece of chromosome 22 break off and trade places with each other. It usually occurs in older adults and rarely occurs in children. Also called chronic granulocytic leukaemia, chronic myelogenous leukaemia, and CML.

chronic myelomonocytic leukaemia: a slowly progressing type of myelodysplastic/myeloproliferative disease in which too many myelomonocytes (a type of white blood cell) are in the bone marrow, crowding out other normal blood cells, such as other white blood cells, red blood cells, and platelets. Also called CMML.

chronic myeloproliferative neoplasm: a type of disease in which the bone marrow makes too many red blood cells, platelets, or certain white blood cells. Chronic myeloproliferative neoplasms usually get worse over time as the number of extra cells build up in the blood and/or bone marrow. This may cause bleeding problems, anaemia, infection, fatigue, or other signs and symptoms. Certain chronic myeloproliferative neoplasms may become acute myeloid leukaemia (AML). Chronic myeloproliferative neoplasms include chronic myelogenous leukaemia (CML), polycythaemia vera, primary myelofibrosis, essential thrombocythaemia, chronic neutrophilic leukaemia, and chronic eosinophilic leukaemia. Also called myeloproliferative neoplasm.

chronic neutrophilic leukaemia: a disease in which too many neutrophils (a type of white blood cell) are found in the blood. The extra neutrophils may cause the spleen and liver to become enlarged. Chronic neutrophilic leukaemia may stay the same for many years or it may progress quickly to acute leukaemia.

chronic phase chronic myelogenous leukaemia: a phase of chronic myelogenous leukaemia in which fewer than 10% of the cells in the blood and bone marrow are blast cells (immature blood cells). This phase may last from several months to several years, and there may be no symptoms of leukaemia.

Cigar: a tube-shaped tobacco product that is made of tightly rolled, cured tobacco leaves in a tobacco leaf wrapper or a wrapper that contains tobacco. It may also have other ingredients, including substances to add different flavours. A cigar is lit on one end and smoked, but the smoke is usually not inhaled into the lungs. Cigars contain nicotine and many cancer-causing chemicals that are harmful to both smokers and non-smokers. Smoking cigars can lead to nicotine addiction and can cause cancers of the mouth, larynx (voice box), oesophagus, lung, and pancreas. Heavy cigar smoking can also increase the risk of heart disease and lung diseases, such as emphysema and chronic bronchitis.

cigarette: a tube-shaped tobacco product that is made of finely cut, cured tobacco leaves wrapped in thin paper. It may also have other ingredients, including substances to add different flavours. A cigarette is lit on one end and smoked, and the smoke is usually inhaled into the lungs. Cigarettes contain nicotine and many cancer-causing chemicals that are harmful to both smokers and non-smokers. Smoking cigarettes can lead to nicotine addiction and can cause many types of cancer, including cancers of the lung, larynx, mouth, oesophagus, throat, kidney, bladder, pancreas, stomach, and cervix, and acute myeloid leukaemia. Smoking cigarettes also causes other health problems, including heart disease, stroke, and lung diseases, such as emphysema and chronic bronchitis.

CIN: abnormal cells are found on the surface of the cervix. CIN is usually caused by certain types of human papillomavirus (HPV) and is found when a cervical biopsy is done. CIN is not cancer, but may

become cancer and spread to nearby normal tissue. It is graded on a scale of 1 to 3, based on how abnormal the cells look under a microscope and how much of the cervical tissue is affected. For example, CIN 1 has slightly abnormal cells and is less likely to become cancer than CIN 2 or CIN 3. Also called cervical intraepithelial neoplasia.

CIN 1: slightly abnormal cells are found on the surface of the cervix. CIN 1 is usually caused by certain types of human papillomavirus (HPV) and is found when a cervical biopsy is done. CIN 1 is not cancer and usually goes away on its own without treatment. Sometimes it becomes cancer and spreads to nearby normal tissue. CIN 1 is sometimes called low-grade or mild dysplasia. Also called cervical squamous intraepithelial neoplasia 1.

CIN 2: moderately abnormal cells are found on the surface of the cervix. CIN 2 is usually caused by certain types of human papillomavirus (HPV) and is found when a cervical biopsy is done. CIN 2 is not cancer, but may become cancer and spread to nearby normal tissue if not treated. Treatment for CIN 2 may include cryotherapy, laser therapy, loop electrosurgical procedure (LEEP), or cone biopsy to remove or destroy the abnormal tissue. CIN 2 is sometimes called high-grade or moderate dysplasia. Also called cervical squamous intraepithelial neoplasia 2.

CIN 2/3: abnormal cells are found on the surface of the cervix. CIN 2/3 is usually caused by certain types of human papillomavirus (HPV) and is found when a cervical biopsy is done. CIN 2/3 has features of CIN 2 and CIN 3. It is not cancer, but may become cancer and spread to nearby normal tissue if not treated. Treatment for CIN 2/3 may include cryotherapy, laser therapy, loop electrosurgical procedure (LEEP), or cone biopsy to remove or destroy the abnormal tissue. Also called cervical intraepithelial neoplasia grade 2/3.

CIN 3: severely abnormal cells are found on the surface of the cervix. CIN 3 is usually caused by certain types of human papillomavirus (HPV) and is found when a cervical biopsy is done. If not treated, these abnormal cells may become cancer and spread to nearby normal tissue. Treatment for CIN 3 may include cryotherapy, laser therapy, loop electrosurgical procedure (LEEP), or cone biopsy to remove or destroy the abnormal tissue. CIN 3 is sometimes called high-grade or severe dysplasia. Also called cervical squamous intraepithelial neoplasia 3 and stage 0 cervical carcinoma in situ.

Clark's level depth: a measurement of how deep the melanoma lesion extends below the skin surface based on involved skin layer (the larger the level number the deeper into the tissue it extends). Depending upon where the melanoma is located on the body, the millimetres of depth for each Clark level can vary widely, so one person's Clark's III may be 1 mm, while another person's is 2 mm.

- Clark's Level I—lesion involves the dermis
- Clark's Level II—lesion involves the papillary dermis
- Clark's Level III—lesion invades and fills the papillary dermis
- Clark's Level IV—lesion invades reticular dermis
- Clark's Level V—lesion invades sub-cutaneous tissue

classical Hodgkin's Lymphoma: the most common type of Hodgkin's lymphoma, which is a cancer of the immune system. Classical Hodgkin's lymphoma is marked by the presence of a type of cell called the Reed-Sternberg cell.

clear cell: a type of cell that looks clear inside when viewed under a microscope.

clear cell adenocarcinoma: a rare type of tumour, usually of the female genital tract, in which the insides of the cells look clear when viewed under a microscope. Also called clear cell carcinoma and mesonephroma.

clear cell carcinoma: a rare type of tumour, usually of the female genital tract, in which the insides of the cells look clear when viewed under a microscope. Also called clear cell adenocarcinoma and mesonephroma.

clear cell sarcoma of soft tissue: a soft tissue tumour that begins in a tendon (tough, cord-like tissue that connects muscle to bone or to another part of the body). Under the microscope, clear cell sarcoma of soft tissue may look a lot like melanoma (a type of skin cancer). Clear cell sarcoma of soft tissue usually occurs in the leg or arm and it often spreads to nearby lymph nodes. It is most common in young adults.

clear cell sarcoma of the kidney: a rare type of kidney cancer, in which the inside of the cells look clear when viewed under a microscope. Clear cell sarcoma can spread from the kidney to other organs, most commonly the bone, but also including the lungs, brain, and soft tissues of the body.

clinical breast examination: a physical examination of the breast performed by a health care provider to check for lumps or other changes. Also called CBE.

clinical research: research in which people, or data or samples of tissue from people, are studied to understand health and disease. Clinical research helps find new and better ways to detect, diagnose, treat, and prevent disease. Types of clinical research include clinical trials, which test new treatments for a disease, and natural history studies, which collect health information to understand how a disease develops and progresses over time.

clinical stage: the stage of cancer (amount or spread of cancer in the body) that is based on tests that are done before surgery. These include physical exams, imaging tests, laboratory tests (such as blood tests), and biopsies.

clinical staging: a method used to find out the stage of cancer (amount or spread of cancer in the body) using tests that are done before surgery. These include physical exams, imaging tests, laboratory tests (such as blood tests), and biopsies.

clinical study: a type of research study that tests how well new medical approaches work in people. These studies test new methods of screening, prevention, diagnosis, or treatment of a disease. Also called clinical trial.

clinical trial: a type of research study that tests how well new medical approaches work in people; studies test new methods of screening, prevention, diagnosis or treatment of disease.

clinical trial phase: a part of the clinical research process that answers specific questions about whether treatments or other interventions that are being studied work and are safe. Phase I trials test the best way to give a new treatment and the best dose. Phase II trials test whether a new treatment has an effect on the disease. Phase III trials compare the results of people taking a new treatment with the results of people taking the standard treatment. Phase IV trials are done using thousands of people after a treatment has been approved and marketed, to check for side effects that were not seen in the phase III trial.

CLL: an indolent (slow-growing) cancer in which too many immature lymphocytes (white blood cells) are found mostly in the blood and bone marrow. Sometimes, in later stages of the disease, cancer cells are found in the lymph nodes and the disease is called small lymphocytic lymphoma. Also called chronic lymphocytic leukaemia.

CLL/SLL: an indolent (slow-growing) cancer in which immature lymphocytes (white blood cells) are found in the blood and bone marrow and/or in the lymph nodes. CLL (chronic lymphocytic leukaemia) and SLL (small lymphocytic lymphoma) are the same disease, but in CLL cancer cells are found mostly in the blood and bone marrow. In SLL cancer cells are found mostly in the lymph nodes. CLL/SLL is a type of non-Hodgkin lymphoma. Also called chronic lymphocytic leukaemia/small lymphocytic lymphoma.

CML: an indolent (slow-growing) cancer in which too many myeloblasts are found in the blood and bone marrow. Myeloblasts are a type of immature blood cell that makes white blood cells called myeloid cells. CML may get worse over time as the number of myeloblasts increases in the blood and bone marrow. This may cause fever, fatigue, easy bleeding, anaemia, infection, a swollen spleen, bone pain, or other signs and symptoms. CML is usually marked by a chromosome change called the Philadelphia chromosome, in which a piece of chromosome 9 and a piece of chromosome

22 break off and trade places with each other. It usually occurs in older adults and rarely occurs in children. Also called chronic granulocytic leukaemia, chronic myelogenous leukaemia, and chronic myeloid leukaemia.

CMML: a slowly progressing type of myelodysplastic/myeloproliferative disease in which too many myelomonocytes (a type of white blood cell) are in the bone marrow, crowding out other normal blood cells, such as other white blood cells, red blood cells, and platelets. Also called chronic myelomonocytic leukaemia.

CMS: a condition that may occur in patients who have had surgery to remove a tumour in certain parts of the brain, including the cerebellum. CMS usually appears 1 or 2 days after surgery. Symptoms include loss of speech, trouble swallowing and eating, loss of balance, trouble walking, loss of muscle tone, mood swings, and changes in personality. Many of these symptoms go away over time. Also called cerebellar mutism syndrome.

CMV: a virus that may be carried in an inactive state for life by healthy individuals. It is a cause of severe pneumonia in people with a suppressed immune system, such as those undergoing bone marrow transplantation or those with leukaemia or lymphoma. Also called cytomegalovirus.

CNS metastasis: cancer that has spread from the original (primary) tumour to the central nervous system (CNS). Also called central nervous system metastasis.

CNS PNET: a type of cancer that arises from a particular type of cell within the brain or spinal cord. Also called central nervous system primitive neuroectodermal tumour.

CNS prophylaxis: chemotherapy or radiation therapy given to the central nervous system (CNS) as a preventive treatment. It kills cancer cells that may be in the brain and spinal cord, even though no cancer has been detected there. Also called central nervous system prophylaxis, central nervous system sanctuary therapy, and CNS sanctuary therapy.

CNS sanctuary therapy: chemotherapy or radiation therapy given to the central nervous system (CNS) as a preventive treatment. It kills cancer cells that may be in the brain and spinal cord, even though no cancer has been detected there. Also called central nervous system prophylaxis, central nervous system sanctuary therapy, and CNS prophylaxis.

CNS tumour: a tumour of the central nervous system (CNS), including brain stem glioma, craniopharyngioma, medulloblastoma, and meningioma. Also called central nervous system tumour.

coactivated T cell: a T cell that has been coated with monoclonal antibodies to enhance its ability to kill tumour cells.

Cobalt 60: a radioactive form of the metal cobalt, which is used as a source of radiation to treat cancer.

coenzyme Q10: a nutrient that the body needs in small amounts to function and stay healthy. Coenzyme Q10 helps mitochondria (small structures in the cell) make energy. It is an antioxidant that helps prevent cell damage caused by free radicals (highly reactive chemicals). Coenzyme Q10 is fat-soluble (can dissolve in fats and oils) and is found in fatty fish, beef, soybeans, peanuts, and spinach. It is being studied in the prevention and treatment of some types of cancer and heart disease and in the relief of side effects caused by some cancer treatments. Also called CoQ10, Q10, ubiquinone, and vitamin Q10.

coffee enema: the injection of coffee through the anus into the colon (large intestine). Coffee enemas are being tested in the treatment of pancreatic cancer.

cohort study: A study that follows a large group of people (a cohort) over time.

cold knife cone biopsy: a procedure in which a cone-shaped piece of abnormal tissue is removed from the cervix using a scalpel or laser knife. Some of the tissue is then checked under a microscope for signs of disease, such as cervical cancer. Cold knife cone biopsy may also be used to treat certain cervical conditions. Also called cold knife conization.

cold knife conisation: a procedure in which a cone-shaped piece of abnormal tissue is removed from the cervix using a scalpel or laser knife. Some of the tissue is then checked under a microscope for

signs of disease, such as cervical cancer. Cold knife conization may also be used to treat certain cervical conditions. Also called cold knife cone biopsy.

cold nodule: when radioactive material is used to examine the thyroid with a scanner, nodules that collect less radioactive material than the surrounding thyroid tissue are considered "cold." A nodule that is cold does not make thyroid hormone. Cold nodules may be benign (not cancer) or malignant (cancer). Cold nodules are sometimes called hypofunctioning nodules.

colectomy: an operation to remove all or part of the colon. When only part of the colon is removed, it is called a partial colectomy. In an open colectomy, one long incision is made in the wall of the abdomen and doctors can see the colon directly. In a laparoscopic-assisted colectomy, several small incisions are made and a thin, lighted tube attached to a video camera is inserted through one opening to guide the surgery. Surgical instruments are inserted through the other openings to perform the surgery.

colon: the longest part of the large intestine, which is a tube-like organ connected to the small intestine at one end and the anus at the other. The colon removes water and some nutrients and electrolytes from partially digested food. The remaining material, solid waste called stool, moves through the colon to the rectum and leaves the body through the anus.

colon cancer: cancer that forms in the tissues of the colon (the longest part of the large intestine). Most colon cancers are adenocarcinomas (cancers that begin in cells that make and release mucus and other fluids).

colon polyp: an abnormal growth of tissue in the lining of the bowel. Polyps are a risk factor for colon cancer.

colonoscope: a thin, tube-like instrument used to examine the inside of the colon. A colonoscope has a light and a lens for viewing and may have a tool to remove tissue.

colonoscopy: examination of the inside of the colon using a colonoscope, inserted into the rectum. A colonoscope is a thin, tube-like instrument with a light and a lens for viewing. It may also have a tool to remove tissue to be checked under a microscope for signs of disease.

colorectal: having to do with the colon and/or the rectum.

colorectal cancer: cancer that develops in the colon (the longest part of the large intestine) and/or the rectum (the last several inches of the large intestine before the anus).

colostomy: an opening into the colon from the outside of the body. A colostomy provides a new path for waste material to leave the body after part of the colon has been removed.

colostomy irrigation: a procedure in which a patient with a colostomy flushes the colon with water, using a tube that is inserted into the stoma (a surgically created opening in the body that connects an organ or area inside the body with the outside). This causes the colon to empty and pass stool through the stoma into a bag. The procedure should be done at the same time every day. It may allow colostomy patients to have better control over their bodies.

colloid (mucinous) carcinoma of the breast: a rare type of invasive breast cancer that contains small pools of mucous material.

colposcopic biopsy: this is a gynaecologic procedure that typically is used to evaluate a patient who has had an abnormal Pap smear; the colposcope is actually a close-focusing telescope that allows the physician to see in detail abnormal areas on the cervix of the uterus, so that a good representation of the abnormal area can be removed and sent to the pathologist.

combination chemotherapy: treatment using more than one anticancer drug.

combined androgen blockade: treatment used to block androgen (male hormone) activity in the body. This may be done by giving an antiandrogen drug and removing the testicles (orchiectomy) or by giving an antiandrogen drug with a gonadotropin-releasing hormone (GnRH) agonist. Combined androgen blockade may stop the growth of cancer cells that need androgens to grow, and is used in the treatment of prostate cancer. Also called complete androgen blockade and total androgen blockade.

comedo carcinoma: a type of ductal carcinoma in situ (very early-stage breast cancer).

comedo DCIS: a type of non-invasive cancer that tends to grow quickly. Comedo refers to areas of dead cancer cells that build up inside the tumour—a sign that the cancer cells are growing so quickly that some of the cells are not getting enough nourishment.

comedonecrosis: clumps of dead cancer cells, often seen in high-grade DCIS; the cells are so crowded that some of them do not get enough nourishment and die.

comorbidity: the condition of having two or more diseases at the same time.

compassionate use trial: a way to provide an investigational therapy to a patient who is not eligible to receive that therapy in a clinical trial, but who has a serious or life-threatening illness for which other treatments are not available. Compassionate use trials allow patients to receive promising but not yet fully studied or approved cancer therapies when no other treatment option exists. Also called expanded access trial.

complementary and alternative medicine: forms of treatment that are used in addition to (complementary) or instead of (alternative) standard treatments. These practices generally are not considered standard medical approaches. Standard treatments go through a long and careful research process to prove they are safe and effective, but less is known about most types of complementary and alternative medicine. Complementary and alternative medicine may include dietary supplements, megadose vitamins, herbal preparations, special teas, acupuncture, massage therapy, magnet therapy, spiritual healing, and meditation. Also called CAM.

complementary medicine: treatments that are used along with standard treatments, but are not considered standard. Standard treatments are based on the results of scientific research and are currently accepted and widely used. Less research has been done for most types of complementary medicine. Complementary medicine includes acupuncture, dietary supplements, massage therapy, hypnosis, and meditation. For example, acupuncture may be used with certain drugs to help lessen cancer pain or nausea and vomiting.

complete androgen blockade: treatment used to block androgen (male hormone) activity in the body. This may be done by giving an antiandrogen drug and removing the testicles (orchiectomy) or by giving an antiandrogen drug with a gonadotropin-releasing hormone (GnRH) agonist. Complete androgen blockade may stop the growth of cancer cells that need androgens to grow, and is used in the treatment of prostate cancer. Also called combined androgen blockade and total androgen blockade.

complete blood count: a **blood** test used to evaluate your overall health and detect a wide range of disorders, including anaemia, infection and leukaemia; a complete blood count test measures several components and features of blood, including: red blood cells, which carry oxygen.

complete metastasectomy: surgery to remove all metastases (tumours formed from cells that have spread from the primary tumour).

Complete remission: the disappearance of all signs of cancer in response to treatment. This does not always mean the cancer has been cured. Also called complete response.

complete response: the disappearance of all signs of cancer in response to treatment. This does not always mean the cancer has been cured. Also called complete remission.

complimentary cancer therapy: **treatments** that are used along with standard medical treatments but are not considered to be standard treatments; one example is using acupuncture to help lessen some side effects of cancer treatment; alternative medicine is treatments that are used instead of standard medical treatments.

composite haemangioendothelioma: a blood vessel tumour that is made up of different types of cells and has features that are both benign (not cancer) and malignant (cancer). Composite hemangioendotheliomas usually form on or under the skin on the arms or legs. They may also form on the head, neck, or chest. Composite hemangioendotheliomas may spread to nearby lymph nodes, but usually do not spread to other parts of the body. They may come back in the same place after

treatment. They are most common in adults. Composite hemangioendotheliomas are a type of vascular tumour.

composite lymphoma: a rare form of lymphoma (cancer that begins in cells of the immune system) in which different types of lymphoma cells occur at the same time. The different lymphoma cells may form in the same tissue or organ or in many different tissues or organs. The composite lymphoma may contain different types of non-Hodgkin lymphoma cells or both Hodgkin and non-Hodgkin lymphoma cells.

compression: a pressing or squeezing together. In medicine, it can describe a structure, such as a tumour, that presses on another part of the body, such as a nerve. It can also describe the flattening of soft tissue, such as the breast, that occurs during a mammogram (x-ray of the breast).

compression garment: a tight-fitting, elastic garment, such as a sleeve or stocking. Compression garments are used in the treatment of lymphedema (swelling caused by a build-up of lymph fluid in tissue). They are also used to improve blood flow.

compression pump: a machine used to keep blood and lymph flowing by pushing air through bands or sleeves that are placed on the arms or legs.

computed tomography scan: a procedure that uses a computer linked to an x-ray machine to make a series of detailed pictures of areas inside the body. The pictures are taken from different angles and are used to create 3-dimensional (3-D) views of tissues and organs. A dye may be injected into a vein or swallowed to help the tissues and organs show up more clearly. A computed tomography scan may be used to help diagnose disease, plan treatment, or find out how well treatment is working. Also called CAT scan, computerized axial tomography scan, computerized tomography, and CT scan.

computerised axial tomography scan: a procedure that uses a computer linked to an x-ray machine to make a series of detailed pictures of areas inside the body. The pictures are taken from different angles and are used to create 3-dimensional (3-D) views of tissues and organs. A dye may be injected into a vein or swallowed to help the tissues and organs show up more clearly. A computerized axial tomography scan may be used to help diagnose disease, plan treatment, or find out how well treatment is working. Also called CAT scan, computed tomography scan, computerized tomography, and CT scan.

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Concerta: a drug used to treat certain behaviour disorders, such as attention deficit hyperactivity disorder (ADHD). It is also being studied as a way to improve brain function in patients treated with anticancer drugs. Concerta acts on certain parts of the brain. It is a type of central nervous system stimulant. Also called methylphenidate hydrochloride and Ritalin.

cone biopsy: a procedure in which a cone-shaped piece of abnormal tissue is removed from the cervix. A scalpel, a laser knife, or a thin wire loop heated by an electric current may be used to remove the tissue. The tissue is then checked under a microscope for signs of disease. Cone biopsy may be used to check for cervical cancer or to treat certain cervical conditions. Types of cone biopsy are LEEP (loop electrosurgical excision procedure) and cold knife conization (cold knife cone biopsy). Also called conization.

congenital fibrosarcoma: a type of cancer that forms in fibrous (connective) tissue. Congenital fibrosarcoma usually occurs in infants and young children but it may also be found before birth by ultrasound. It can occur anywhere in the body. The tumour is often large and fast-growing, but it rarely spreads to other parts of the body. The cancer cells usually have a certain genetic change

called a translocation (part of one chromosome switches places with part of another chromosome). Congenital fibrosarcoma is a type of soft tissue sarcoma. Also called infantile fibrosarcoma.

congenital hypoplastic anaemia: a very rare disorder in which the bone marrow doesn't make enough red blood cells. It is usually seen in the first year of life. Patients may have deformed thumbs and other physical problems. They also have an increased risk of leukaemia and sarcoma, especially osteosarcoma (bone cancer). Patients with congenital hypoplastic anaemia may have a mutation (change) in one of the genes that make proteins found in the cell's ribosomes. Also called Blackfan–Diamond anaemia, congenital pure red cell aplasia, DBA, Diamond-Blackfan anaemia, erythrocytopenia, and inherited erythroblastopenia.

congenital neutropenia: an inherited disorder in which there is a lower-than-normal number of neutrophils (a type of white blood cell that is important in fighting infections). Infants with the disorder get infections caused by bacteria, and are at an increased risk of acute myelogenous leukaemia (AML) or myelodysplasia (a bone marrow disorder). Also called genetic infantile agranulocytosis, infantile genetic agranulocytosis, Kostmann disease, Kostmann neutropenia, and Kostmann syndrome.

congenital pure red cell aplasia: a very rare disorder in which the bone marrow doesn't make enough red blood cells. It is usually seen in the first year of life. Patients may have deformed thumbs and other physical problems. They also have an increased risk of leukaemia and sarcoma, especially osteosarcoma (bone cancer). Patients with congenital pure red cell aplasia may have a mutation (change) in one of the genes that make proteins found in the cell's ribosomes. Also called Blackfan–Diamond anaemia, congenital hypoplastic anaemia, DBA, Diamond-Blackfan anaemia, erythrocytopenia, and inherited erythroblastopenia.

conisation: a procedure in which a cone-shaped piece of abnormal tissue is removed from the cervix. A scalpel, a laser knife, or a thin wire loop heated by an electric current may be used to remove the tissue. The tissue is then checked under a microscope for signs of disease. Conization may be used to check for cervical cancer or to treat certain cervical conditions. Types of conization are LEEP (loop electrosurgical excision procedure) and cold knife conization (cold knife cone biopsy). Also called cone biopsy.

consolidation therapy: if after having finished main leukaemia or lymphoma treatment and tests do not show any cancer in one's body, the doctor may recommend more treatment to kill any lingering cancer cells. Chemotherapy and radiation therapy are two examples.

contiguous lymphoma: lymphoma in which the lymph nodes containing cancer are next to each other.

continuum of care: in medicine, describes the delivery of health care over a period of time. In patients with a disease, this covers all phases of illness from diagnosis to the end of life.

contralateral: having to do with the opposite side of the body.

contrast oesophagram: a series of X-ray pictures of the oesophagus taken after a patient drinks a liquid containing barium sulphate (a form of the silver-white metallic element barium). The barium sulphate coats and outlines the inner wall of the oesophagus so that it can be seen on the x-ray pictures. Also called oesophagram.

contrast material: a dye or other substance that helps show abnormal areas inside the body. It is given by injection into a vein, by enema, or by mouth. Contrast material may be used with X-rays, CT scans, MRI, or other imaging tests.

controlled clinical trial: a clinical study that includes a comparison (control) group. The comparison group receives a placebo, another treatment, or no treatment at all.

controlled study: an experiment or clinical trial that includes a comparison (control) group.

controlled substance: a drug or other substance that is tightly controlled by the Medicine Control Council (MCC) because it may be abused or cause addiction. The control applies to the way the

substance is made, used, handled, stored, and distributed. Controlled substances include opioids, stimulants, depressants, hallucinogens, and anabolic steroids.

conventional medicine: a system in which medical doctors and other healthcare professionals (such as nurses, pharmacists, and therapists) treat symptoms and diseases using drugs, radiation, or surgery. Also called allopathic medicine, biomedicine, mainstream medicine, orthodox medicine, and Western medicine.

conventional therapy: treatment that is widely accepted and used by most healthcare professionals. It is different from alternative or complementary therapies, which are not as widely used. Examples of conventional therapy for cancer include chemotherapy, radiation therapy, and surgery. Also called conventional treatment.

conventional treatment: treatment that is widely accepted and used by most healthcare professionals. It is different from alternative or complementary therapies, which are not as widely used. Examples of conventional treatment for cancer include chemotherapy, radiation therapy, and surgery. Also called conventional therapy.

copper Cu 64-ATSM: a substance being studied in PET imaging to detect certain types of tumours. Copper Cu 64 is a radioactive substance. It is linked to ATSM, which is taken up by tissues that have low levels of oxygen, such as some tumour tissues. A PET scanner is used to detect which cells in the body have taken up copper Cu 64-ATSM. It is a type of radioimaging agent.

core biopsy: a procedure which uses a needle to remove a small, intact sample of tissue from an identified breast mass in order to examine it and obtain a preliminary diagnosis.

core needle biopsy the removal of a tissue sample with a wide needle for examination under a microscope. Also called core biopsy.

Costello syndrome: a rare, genetic disorder marked by developmental problems, being shorter than normal, mental retardation, heart problems, unusual facial features, and extra folds of skin around the neck, hands, and feet. People with Costello syndrome have an increased risk of certain types of cancer, such as rhabdomyosarcoma (a soft tissue tumour) and neuroblastoma (cancer of immature nerve cells).

Covid-19: an illness caused by a novel coronavirus now called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV), which was first identified amid an outbreak of respiratory illness cases in Wuhan City, Hubei Province, China. Cancer patients, because of their illness and cancer treatment are vulnerable and at greater risk of developing serious complications after contracting COVID-19 disease because of an affected immune system.

cribriform carcinoma of the breast: A less common type of invasive breast cancer that invades the connective tissues of the breast and features holes between the cancer cells (like the holes in Swiss cheese).

cribriform DCIS: A type of non-invasive breast cancer that usually grows slowly. Cribriform DCIS features gaps between cancer cells in the affected ducts (like the pattern of holes in Swiss cheese).

CRPC: prostate cancer that keeps growing even when the amount of testosterone in the body is reduced to very low levels. Many early-stage prostate cancers need normal levels of testosterone to grow, but CRPCs do not. Also called castrate-resistant prostate cancer.

cruciferous vegetable: a member of the family of vegetables that includes broccoli, Brussels sprouts, cabbage, cauliflower, collard greens, kale, and turnips. These vegetables contain substances that may protect against cancer. Also called Brassica vegetable.

cryoablation: a procedure in which an extremely cold liquid or an instrument called a cryoprobe is used to freeze and destroy abnormal tissue. A cryoprobe is cooled with substances such as liquid nitrogen, liquid nitrous oxide, or compressed argon gas. Cryoablation may be used to treat certain types of cancer and some conditions that may become cancer. Also called cryosurgery and cryotherapy.

cryopreservation: the process of cooling and storing cells, tissues, or organs at very low or freezing temperatures to save them for future use. Also called cryobanking.

cryosurgery: a procedure performed with an instrument that freezes and destroys abnormal tissues; used to treat some kinds of cancer as well as precancerous or noncancerous conditions.

cryotherapy: a procedure in which an extremely cold liquid or an instrument called a cryoprobe is used to freeze and destroy abnormal tissue. A cryoprobe is cooled with substances such as liquid nitrogen, liquid nitrous oxide, or compressed argon gas. Cryotherapy may be used to treat certain types of cancer and some conditions that may become cancer. Also called cryoablation and cryosurgery.

cryptorchidism: a condition in which one or both testicles fail to move from the abdomen, where they develop before birth, into the scrotum. Cryptorchidism may increase the risk for development of testicular cancer. Also called undescended testicles.

CSP: a type of tumour found in breast or prostate tissue. It is often large and bulky and grows quickly. It may be benign (not cancer) or malignant (cancer) and may spread to other parts of the body. Also called cystosarcoma phyllodes and phyllodes tumour.

CT scan: also called computed tomography scan or CAT scan. See CAT scan.

CTA: a procedure that uses x-rays to create a series of detailed pictures of the blood vessels and blood flow inside the body. The pictures are taken from different angles and are created by a computer linked to an x-ray machine. A dye is injected into a vein to make the blood vessels and blood flow easier to see on the x-ray. CTA may be used to check for aneurysms (a bulge in the blood vessel wall), blockages in the arteries, blood clots, and other blood vessel problems. Also called computed tomography angiography and CT angiography.

CTC: a method to examine the inside of the colon by taking a series of x-rays. A computer is used to make 2-dimensional (2-D) and 3-D pictures of the colon from these x-rays. The pictures can be saved, changed to give better viewing angles, and reviewed after the procedure, even years later. Also called computed tomographic colonography, computed tomography colonography, CT colonography, and virtual colonoscopy.

CT-guided biopsy: a biopsy procedure that uses a CT scan (a special type of x-ray linked to a computer) to find an abnormal area in the body and help guide the removal of a sample of tissue from that area. A needle is usually used to remove the sample, which is then checked under a microscope for signs of disease. A CT-guided biopsy may be done when the abnormal area is deep inside the body or when the doctor cannot feel a lump or mass.

cumulative dose: the total amount of a drug or radiation given to a patient over time; for example, the total dose of radiation given in a series of radiation treatments.

cumulative exposure: the total amount of a substance or radiation that a person is exposed to over time. Cumulative exposure to a harmful substance or radiation may increase the risk of certain diseases or conditions.

cumulative risk: a measure of the total risk that a certain event will happen during a given period of time. In cancer research, it is the likelihood that a person who is free of a certain type of cancer will develop that cancer by a specific age. For example, a woman with no known risk factors for breast cancer has a cumulative risk of getting breast cancer over a lifetime of 90 years of about 12-13%. This means one out of every eight women will get breast cancer by age 90 years.

CUP: a case in which cancer cells are found in the body, but the place where the cells first started growing (the origin or primary site) cannot be determined. Also called cancer of unknown primary origin and carcinoma of unknown primary.

curative surgery: surgery to remove all malignant (cancerous) tissue, which is meant to cure the disease. This includes removing part or all of the cancerous organ or tissue and a small amount of healthy tissue around it. Nearby lymph nodes may also be removed. Curative surgery works best for

localized cancer. Chemotherapy or radiation therapy may be given before surgery to shrink the tumour or after surgery to kill any cancer cells that remain.

cutaneous: having to do with the skin.

cutaneous breast cancer: cancer that has spread from the breast to the skin.

cutaneous T-cell lymphoma: any of a group of T-cell non-Hodgkin's lymphomas that begins in the skin as an itchy, red rash that can thicken or form a tumour. The most common types are mycosis fungoides and Sézary syndrome.

cycle: the time between the start of one round of treatment, like chemotherapy, and the start of the next round. The break allows the body to rest and recover.

cystosarcoma phyllodes: a type of tumour found in breast or prostate tissue. It is often large and bulky and grows quickly. It may be benign (not cancer) or malignant (cancer) and may spread to other parts of the body. Also called CSP and phyllodes tumour.

cytology: the examination of cells or fluid under a microscope to diagnose disease.

cytostatic agent: a substance that slows or stops the growth of cells, including cancer cells, without killing them. These agents may cause tumours to stop growing and spreading without causing them to shrink in size.

cytotoxic chemotherapy: anticancer drugs that kill cells, especially cancer cells.

cytotoxic T-cell: a type of immune cell that can kill certain cells, including foreign cells, cancer cells, and cells infected with a virus. Cytotoxic T cells can be separated from other blood cells, grown in the laboratory, and then given to a patient to kill cancer cells. A cytotoxic T cell is a type of white blood cell and a type of lymphocyte. Also called cytotoxic T lymphocyte and killer T cell.

cytotoxic T lymphocyte: a type of immune cell that can kill certain cells, including foreign cells, cancer cells, and cells infected with a virus. Cytotoxic T lymphocytes can be separated from other blood cells, grown in the laboratory, and then given to a patient to kill cancer cells. A cytotoxic T lymphocyte is a type of white blood cell and a type of lymphocyte. Also called cytotoxic T cell and killer T cell.

cytotoxin: a substance that can kill cells.

D

Dabska tumour: a rare, slow-growing tumour of blood vessels that forms in or under the skin anywhere on the body. Dabska tumours may appear as firm, raised, purplish bumps, which may be small or large. They usually do not spread to other parts of the body. Dabska tumours can occur in children and adults. They are a type of vascular tumour. Also called papillary intralymphatic angioendothelioma.

DBA: a very rare disorder in which the bone marrow doesn't make enough red blood cells. It is usually seen in the first year of life. Patients may have deformed thumbs and other physical problems. They also have an increased risk of leukaemia and sarcoma, especially osteosarcoma (bone cancer). Patients with DBA may have a mutation (change) in one of the genes that make proteins found in the cell's ribosomes. Also called Blackfan–Diamond anaemia, congenital hypoplastic anaemia, congenital pure red cell aplasia, Diamond-Blackfan anaemia, erythrocytopenia, and inherited erythroblastopenia.

DCIS: a non-invasive 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, DCIS may become invasive cancer and spread to other tissues. At this time, there is no way to know which lesions could become invasive. Also called ductal carcinoma in situ and intraductal carcinoma.

de novo: in cancer, the first occurrence of cancer in the body.

debulk: the surgical removal of as much of a tumour as possible to decrease the number of tumour cells in the body.

dermatofibrosarcoma protuberans: a type of tumour that begins as a hard nodule and grows slowly. These tumours are usually found in the dermis (the inner layer of the two main layers of tissue that make up the skin) of the limbs or trunk of the body. They can grow into surrounding tissue but do not spread to other parts of the body. These tumours are related to giant cell fibroblastomas.

dermatologist: a doctor who has special training to diagnose and treat skin problems.

dermis: the inner layer of the two main layers of the skin. The dermis has connective tissue, blood vessels, oil and sweat glands, nerves, hair follicles, and other structures. It is made up of a thin upper layer called the papillary dermis, and a thick lower layer called the reticular dermis.

desmoplasia: as a cancer cell invades the surrounding tissue, the host body's response attempts to keep the cancer cells in check by forming a connective tissue barrier of new collagen. This host response is termed desmoplasia and is a hallmark of invasion and malignancy.

desmoplastic melanoma: a rare form of malignant melanoma marked by nonpigmented lesions on sun-exposed areas of the body, most commonly on the head and neck.

desmoplastic small round cell tumour: a rare, aggressive cancer that usually affects young males and usually is located in the abdomen.

DFS: in cancer, the length of time after primary treatment for a cancer ends that the patient survives without any signs or symptoms of that cancer. In a clinical trial, measuring the DFS is one way to see how well a new treatment works. Also called disease-free survival, relapse-free survival, and RFS.

DHL: a rare, aggressive (fast-growing) type of B-cell non-Hodgkin lymphoma caused by changes in the DNA that affect a gene called the MYC gene and either the BCL2 gene or the BCL6 gene. DHL may be hard to treat and has a poor prognosis. It is a type of diffuse large B-cell lymphoma. Also called double-hit lymphoma.

DHPLN: a childhood condition in which abnormal tissue grows on the outer part of one or both kidneys. DHPLN usually develops into Wilms tumour (a type of childhood kidney cancer) if not treated. Also called diffuse hyperplastic perilobar nephroblastomatosis.

diagnostic mammogram: X-ray of the breasts used to check for breast cancer after a lump or other sign or symptom of breast cancer has been found.

Diamond-Blackfan anaemia: a very rare disorder in which the bone marrow doesn't make enough red blood cells. It is usually seen in the first year of life. Patients may have deformed thumbs and other physical problems. They also have an increased risk of leukaemia and sarcoma, especially osteosarcoma (bone cancer). Patients with Diamond-Blackfan anaemia may have a mutation (change) in one of the genes that make proteins found in the cell's ribosomes. Also called Blackfan–Diamond anaemia, congenital hypoplastic anaemia, congenital pure red cell aplasia, DBA, erythrogenesis imperfecta, and inherited erythroblastopenia.

DICER1 syndrome: a rare, inherited disorder that is caused by a mutation (change) in a gene called DICER1. Having this mutation increases the risk of certain types of tumours, including tumours of the kidney, thyroid, ovary, cervix, testicle, brain, eye, and lining of the lung. The tumours may be benign (not cancer) or malignant (cancer). A goitre (an enlarged thyroid) and polyps in the colon may also occur. Not all people who have a mutation in the DICER1 gene will develop tumours.

differentiation: is where normal cells go through physical changes in order to form the different specialised tissues of the body. Malignant cells may range from *well-differentiated* (closely resembling the tissue of origin) or *undifferentiated or anaplastic* (bearing little similarity to the tissue of origin). In general it is the undifferentiated or anaplastic histologies which are more aggressive.

diffuse hyperplastic perilobar nephroblastomatosis: a childhood condition in which abnormal tissue grows on the outer part of one or both kidneys. Diffuse hyperplastic perilobar nephroblastomatosis usually develops into Wilms tumour (a type of childhood kidney cancer) if not treated. Also called DHPLN.

diffuse intrinsic pontine glioma: a type of central nervous system tumour that forms from glial (supportive) tissue of the brain and spinal cord. Diffuse intrinsic pontine glioma usually occurs in children. It forms in the brain stem.

diffuse large B-cell lymphoma: a type of B-cell non-Hodgkin lymphoma (cancer of the immune system) that is usually aggressive (fast-growing). It is the most common type of non-Hodgkin lymphoma, and is marked by rapidly growing tumours in the lymph nodes, spleen, liver, bone marrow, or other organs. Other symptoms include fever, night sweats, and weight loss. There are several subtypes of diffuse large B-cell lymphoma.

digital mammography: the use of a computer, rather than x-ray film, to create a picture of the breast.

digital rectal examination: an examination in which a doctor inserts a lubricated, gloved finger into the rectum to feel for abnormalities. Also called DRE.

DIN: a condition in which abnormal cells are found in the lining of a breast duct (milk duct). Having DIN may increase the risk of breast cancer in which these abnormal cells become cancer and spread outside the duct to other tissues in the breast. Types of DIN include atypical ductal hyperplasia and ductal carcinoma in situ (DCIS). Also called ductal intraepithelial neoplasia.

distal urethral cancer: a rare cancer that forms in the part of the urethra that is closest to the outside of the body. The cancer often has not spread deeply into the tissue.

Distant cancer: refers to cancer that has spread from the original (primary) tumour to distant organs or distant lymph nodes. Also known as distant metastasis.

distant metastasis: refers to cancer that has spread from the original (primary) tumour to distant organs or distant lymph nodes. Also known as distant cancer.

distant recurrence: the spread of cancer to parts of the body other than the place where the cancer first occurred. In breast cancer, the cancer can spread to the lungs, liver, brain or bones.

DNA repair genes: DNA repair genes, such as the mismatch repair (MMR) gene family, function normally to correct errors in cellular replication. When mutated these genes are unable to correct

mutations in tumour suppressor genes or proto-oncogenes that may in turn lead to tumour formation. Mutations in the MMR genes (MSH2, MLH1 and MSH6) are known to cause familial (inherited) colorectal, breast and ovarian cancers.

dose-dense chemotherapy: a chemotherapy treatment plan in which drugs are given with less time between treatments than in a standard chemotherapy treatment plan.

double-hit lymphoma: a rare, aggressive (fast-growing) type of B-cell non-Hodgkin lymphoma caused by changes in the DNA that affect a gene called the MYC gene and either the BCL2 gene or the BCL6 gene. Double-hit lymphoma may be hard to treat and has a poor prognosis. It is a type of diffuse large B-cell lymphoma. Also called DHL.

DR4: a protein on the surface of certain cells that binds another protein called TRAIL, which may kill some cancer cells. An increase in the amount or activity of DR4 on cancer cells may kill more cells. Also called death receptor 4, TRAIL receptor 1, TRAIL-R1, and tumour necrosis factor receptor superfamily member 10A.

DR5: a protein on the surface of certain cells that binds another protein called TRAIL, which may kill some cancer cells. An increase in the amount or activity of DR5 on cancer cells may kill more cells. Also called death receptor 5, TRAIL receptor 2, TRAIL-R2, and tumour necrosis factor receptor superfamily member 10B.

DRE: an examination in which a doctor inserts a lubricated, gloved finger into the rectum to feel for abnormalities. Also called digital rectal examination.

ductal carcinoma: the most common type of breast cancer. It begins in the lining of the milk ducts (thin tubes that carry milk from the lobules of the breast to the nipple). Ductal carcinoma may be either ductal carcinoma in situ (DCIS) or invasive ductal carcinoma. DCIS is a non-invasive condition in which abnormal cells are found in the lining of a breast duct and have not spread outside the duct to other tissues in the breast. In some cases, DCIS may become invasive cancer. In invasive ductal carcinoma, cancer has spread outside the breast duct to surrounding normal tissue. It can also spread through the blood and lymph systems to other parts of the body.

ductal carcinoma in situ (DCIS, intraductal carcinoma): a non-invasive breast cancer that begins in the milk ducts of the breast, but has not invaded nearby breast tissue; also called stage 0 or pre-invasive breast carcinoma.

ductal intraepithelial neoplasia: a condition in which abnormal cells are found in the lining of a breast duct (milk duct). Having ductal intraepithelial neoplasia may increase the risk of breast cancer in which these abnormal cells become cancer and spread outside the duct to other tissues in the breast. Types of ductal intraepithelial neoplasia include atypical ductal hyperplasia and ductal carcinoma in situ (DCIS). Also called DIN.

Dukes A colorectal cancer: cancer has spread from the mucosa (innermost layer) of the colon and/or rectal wall to the submucosa (layer of tissue under the mucosa) of the colon and/or rectal wall. Cancer may have spread to the muscle layer of the colon and/or rectal wall. Also called stage I colorectal cancer.

Dukes B colorectal cancer: cancer has spread (1) through the muscle layer of the colon and/or rectal wall to the serosa (outermost layer) of the colon and/or rectal wall; or (2) through the serosa of the colon and/or rectal wall but has not spread to nearby organs; or (3) through the serosa of the colon and/or rectal wall to nearby organs. Also called stage II colorectal cancer.

Dukes C colorectal cancer: cancer (1) has spread through the mucosa (innermost layer) of the colon and/or rectal wall to the submucosa (layer of tissue under the mucosa) and may have spread to the muscle layer of the colon and/or rectal wall. Cancer has spread to at least one but not more than 3 nearby lymph nodes, or cancer cells have formed in tissues near the lymph nodes; or cancer has spread through the mucosa of the colon and/or rectal wall to the submucosa. Cancer has spread to at least 4 but not more than 6 nearby lymph nodes. OR, (2) cancer has spread through the muscle layer of the colon and/or rectal wall to the serosa (outermost layer) of the colon and/or rectal wall

or has spread through the serosa but not to nearby organs. Cancer has spread to at least one but not more than 3 nearby lymph nodes, or cancer cells have formed in tissues near the lymph nodes; or cancer has spread to the muscle layer of the colon and/or rectal wall or to the serosa of the colon and/or rectal wall. Cancer has spread to at least 4 but not more than 6 nearby lymph nodes; or cancer has spread through the mucosa of the colon and/or rectal wall to the submucosa and may have spread to the muscle layer of the colon and/or rectal wall. Cancer has spread to 7 or more nearby lymph nodes. OR, (3) cancer has spread through the serosa of the colon and/or rectal wall but has not spread to nearby organs. Cancer has spread to at least 4 but not more than 6 nearby lymph nodes; or cancer has spread through the muscle layer of the colon and/or rectal wall to the serosa of the colon and/or rectal wall or has spread through the serosa but has not spread to nearby organs. Cancer has spread to 7 or more nearby lymph nodes; or cancer has spread through the serosa of the colon and/or rectal wall and has spread to nearby organs. Cancer has spread to one or more nearby lymph nodes, or cancer cells have formed in tissues near the lymph nodes. Also called stage III colorectal cancer.

Dukes classification: a staging system used to describe the extent of colorectal cancer. Stages range from A (early stage) to D (advanced stage).

dysgerminoma: a type of cancer that begins in germ cells in females. Germ cells are cells that form sperm in males or eggs in females. Dysgerminomas occur most often in the ovaries, but they may also occur in other areas of the body, including the central nervous system. Some dysgerminomas make a hormone called beta-human chorionic gonadotropin (beta-HCG) that may cause signs and symptoms of disease. Dysgerminomas tend to grow and spread slowly. They are the most common type of ovarian germ cell tumour. They usually occur in teenage girls or young women.

dysplasia: the enlargement of an organ or tissue by the proliferation of cells of an abnormal type, as a developmental disorder or an early stage in the development of cancer.

dysplastic nevi: atypical moles; moles whose appearance is different from that of common moles. Dysplastic nevi are generally larger than ordinary moles (over 5 mm in diameter) and have irregular and indistinct borders. Their colour frequently is not uniform and ranges from pink to dark brown; they are flat or have a flat part.

E

"-ectomy": a word that ends with "-ectomy" refers to surgery that takes out some or all of a body part. For example, in a mastectomy, the surgeon removes breast tissue. An oophorectomy takes out an ovary. A nephrectomy removes a kidney. As a cancer treatment, the surgeon will remove cancer cells along with the body part.

EGFR gene: a gene that controls how quickly cells divide. Also called HER1.

EGFR-negative: a breast cancer with a normal number of the EGFR gene.

EGFR-positive: a breast cancer with too many copies of the EGFR gene.

endometrial cancer: cancer of the endometrium (the lining of the uterus).

endoscopic biopsy: probably the most commonly performed type of biopsy. It is done through a fiberoptic endoscope the doctor inserts into the gastrointestinal tract (alimentary tract endoscopy), urinary bladder (cystoscopy), abdominal cavity (laparoscopy), joint cavity (arthroscopy), mid-portion of the chest (mediastinoscopy), or trachea and bronchial system (laryngoscopy and bronchoscopy), either through a natural body orifice or a small surgical incision; the endoscopist can directly visualise an abnormal area on the lining of the organ in question and pinch off tiny bits of tissue with forceps attached to a long cable that runs inside the endoscope.

eosinophil: a white blood cell containing granules that are readily stained by eosin.

ependymoma: a tumour that arises from the ependymoma, a tissue of the central nervous system; usually, in paediatric cases the location is intracranial, while in adults it is spinal; the common location of intracranial ependymoma is the fourth ventricle; rarely, ependymoma can occur in the pelvic cavity.

ER-negative: a cancer that does not have oestrogen receptors.

ER-positive: a cancer that has oestrogen receptors.

erythrocyte: blood cells that deliver oxygen from the lungs to all parts of the body and carbon dioxide from the tissues back to the lungs. Also referred to as red blood cells.

excisional biopsy: a more involved procedure where the entire abnormality or area of interest is removed. To further clarify this, there are four options for obtaining a tissue sample.

external radiation: uses a machine that directs high-energy rays from outside the body into a tumour.

extracapsular extension: when cancer has spread outside the wall of a lymph node.

F

false negative: a test result that incorrectly reports a person is disease-free when she/he actually has the disease.

false positive: a test result that incorrectly reports a person has a disease when she/he does not have the disease.

fibroadenoma: a benign (not cancer) fibrous tumour that may occur at any age, but is more common in young adulthood.

fine needle aspiration: a biopsy procedure that uses a thin, hollow needle to remove a sample of cells from the abnormal area of the breast.

first line treatment: initial treatment of choice used to treat a patient's cancer.

fluorescence in situ hybridization (FISH): a laboratory test done on breast tumour tissue to find out the number of copies of the HER2/neu gene contained in the cancer cells.

free T4: The FT4 measures the concentration of free thyroxine, the only biologically active fraction, in the serum. The free thyroxine is not affected by changes in concentrations of binding proteins such as TBG and thyroid binding prealbumin. Thus such conditions as pregnancy, or estrogen and androgen therapy do not affect the FT4.

frozen section: a thin slice of tissue that is cut from a frozen specimen and is often used for rapid microscopic diagnosis.

G

gene: a distinct sequence of nucleotides forming part of a chromosome, the order of which determines the order of monomers in a polypeptide or nucleic acid molecule which a cell (or virus) may synthesize.

gene therapy: the introduction of normal genes into cells in place of missing or defective ones in order to correct genetic disorders.

genetic counselling: the process by which the patients or relatives at risk of an inherited disorder are advised of the consequences and nature of the disorder, the probability of developing or transmitting it, and the options open to them in management and family planning.

genetic engineering: the deliberate modification of the characteristics of an organism by manipulating its genetic material.

genetic testing: the process of testing for the presence of particular genetic mutations; this form of testing is available to individuals at increased risk for inherited (familial) cancers, based on a strong family history of those cancers; the breast (and ovarian) cancer genes *BRCA1* and *BRCA2* are examples of genes with well-characterised mutations that can be 'screened' for in high-risk individuals; the presence of those mutated genes indicates an increased risk of developing breast or ovarian cancers; similar to other screening tests, individuals receiving a positive test result may be referred for further investigation, or choose to undergo regular tests for pre-cancerous cells.

genome: the total genetic information of an organism.

genomics: the study of genes and their functions.

germ cell tumour: a neoplasm derived from germ cells. Germ cell tumours can be cancerous or non-cancerous tumours. Germ cells normally occur inside the gonads (ovary and testis); germ cell tumours that originate outside the gonads may be birth defects resulting from errors during development of the embryo.

germ cell: a cell containing half the number of chromosomes of a somatic cell and able to unite with one from the opposite sex to form a new individual; a gamete.

glioblastoma: a general term for malignant form of astrocytoma. It is the most common type of primary brain tumour and is also found throughout the central nervous system.

grade: how abnormal the cancer cells look under a microscope and how quickly the tumour is likely to grow and spread; high grade tumours tend to be more aggressive than low grade tumours.

granuloma: a special type of inflammation characterised by accumulations of macrophages, some of which coalesce into "giant cells"; granulomatous inflammation is especially characteristic of tuberculosis, some deep fungal infections (like histoplasmosis and coccidioidomycosis), sarcoidosis (a disease of unknown cause), and reaction to foreign bodies.

H

haematologist: a specialist physician who specialised in the study of the blood and blood-forming tissues.

haematology: the study of the blood and blood-forming tissues; people who work in this area of healthcare science, play a major role in the diagnosis and monitoring of patients with disorders of the blood and bone marrow.

haematopoietic cell: Hematopoietic stem cells(HSCs) or hemocytoblasts are the stem cells that give rise to all the other blood cells through the process of haematopoiesis; they are derived from mesoderm and located in the red bone marrow, which is contained in the core of most bones.

haemoglobin: abbreviated Hb or Hgb, is the iron-containing oxygen-transport metalloprotein in the red blood cells of all vertebrates (with the exception of the fish family Channichthyidae) as well as the tissues of some invertebrates.

HER2 (Human Epidermal growth factor Receptor 2): a gene that helps control the growth and repair of cells.

HER2-enriched: HER2-enriched is one of the four main molecular subtypes of breast cancer; HER2-enriched breast cancer is hormone-receptor-negative and HER2-positive.

HER2 gene amplification: A situation that arises when a HER2 gene does not work correctly and makes too many copies of itself.

HER2-negative: a breast cancer with a normal number of HER2 genes and protein receptors.

HER2-positive: a breast cancer with HER2 gene amplification or HER2 protein overexpression; HER2-positive breast cancers tend to grow faster and are more likely to spread and come back compared to HER2-negative breast cancers.

HER2 protein overexpression: when the HER2 gene makes too many copies of itself, and those extra HER2 genes tell breast cells to make too many HER2 receptors.

HER2 receptors: proteins made by the HER2 gene that receive signals that stimulate cells to grow and multiply.

HER2 Test: there are 4 tests.

1. IHC test (ImmunoHistoChemistry): • The IHC test shows whether there is too much HER2-receptor protein in the cancer cells. • The results of the IHC test can be 0 (negative), 1+ (also negative), 2+ (borderline), or 3+ (positive; the HER2 protein is overexpressed).

2. FISH test (Fluorescence In Situ Hybridization): • The FISH test shows whether there are too many copies of the HER2 gene in the cancer cells. • The results of the FISH test can be positive (extra HER2 gene copies— amplified) or negative (normal number of HER2 gene copies—not amplified).

3. SPoT-Light HER2 CISH test (Subtraction Probe Technology Chromogenic In Situ Hybridization): • The SPoT-Light test shows whether there are too many copies of the HER2 gene in the cancer cells. • The results of the SPoT-Light test can be positive (extra copies— amplified) or negative (normal number of copies—not amplified). MY REPORT SAYS: HER2 status is: (check one) j Positive j Negative j Borderline 22 READING YOUR PATHOLOGY REPORT (continued) Test used: (check one) j IHC j FISH j SPoT-Light HER2 CISH j Inform HER2 Dual ISH 23.

4. Inform HER2 Dual ISH test (In Situ Hybridization): • The Inform HER2 Dual ISH test shows whether there are too many copies of the HER2 gene in the cancer cells. • The results of the Inform HER2 Dual ISH test can be positive (extra copies—amplified) or negative (normal number of copies—not amplified).

hereditary nonpolyposis colon cancer (HNPCC): an inherited cancer syndrome. Individuals with HNPCC have an increased risk of developing colon and rectal cancer, as well as other types of cancer.

hormone receptors: proteins on and in cells that respond to signals from hormones.

hormone therapy: treatment that blocks, removes or adds hormones to slow or stop the growth of certain cancers (such as prostate and breast cancer); Tamoxifen and Lupron are examples of hormonal therapies.

hyperplasia: a benign (not cancer) condition where cells are growing rapidly (proliferating); although hyperplasia is not cancer, it increases the risk of cancer; in usual hyperplasia, the proliferating cells look normal under a microscope; in atypical hyperplasia, the proliferating cells look abnormal.

hyperthermia treatment: treatment in which body tissue is exposed to high temperatures to damage and kill cancer cells or to make cancer cells more sensitive to radiation and certain anticancer drugs.

I

IARC: International Agency for Research on Cancer

IARC Classification of Carcinogens:

Agents classified by IARC in terms of carcinogenesis:

Group 1 Carcinogenic to humans: *sufficient* evidence of carcinogenicity OR evidence of carcinogenicity in humans is less than *sufficient* but there is *sufficient* evidence of carcinogenicity in experimental animals and *strong* evidence in exposed humans that the agent acts through a relevant mechanism of carcinogenicity.

Group 2A Probably carcinogenic to human: *limited* evidence of carcinogenicity in humans and *sufficient* evidence of carcinogenicity in experimental animals OR *inadequate* evidence of carcinogenicity in humans and *sufficient* evidence of carcinogenicity in experimental animals and *strong* evidence that the carcinogenesis is mediated by a mechanism that also operates in humans OR *limited* evidence of carcinogenicity in humans, but belongs, based on mechanistic considerations, to a class of agents for which one or more members have been classified in Group 1 or Group 2A.

Group 2B Possibly carcinogenic to human: *limited* evidence of carcinogenicity in humans and less than *sufficient* evidence of carcinogenicity in experimental animals OR *inadequate* evidence of carcinogenicity in humans but *sufficient* evidence of carcinogenicity in experimental animals OR *inadequate* evidence of carcinogenicity in humans and less than *sufficient* evidence of carcinogenicity in experimental animals, but with supporting evidence from mechanistic and other relevant data.

Group 3 Not classifiable as to its carcinogenicity to humans: evidence of carcinogenicity is *inadequate* in humans and *inadequate* or *limited* in experimental animals OR evidence of carcinogenicity is *inadequate* in humans but *sufficient* in experimental animals, but *strong* evidence that the mechanism of carcinogenicity in experimental animals does not operate in humans OR agents that do not fall into any other group. Agents in Group 3 are not determined to be non-carcinogenic or safe overall, but often means that further research is needed.

Group 4 Probably not carcinogenic to humans: evidence suggesting *lack* of carcinogenicity in humans and in experimental animals OR *inadequate* evidence of carcinogenicity in humans but evidence suggesting *lack* of carcinogenicity in experimental animals, consistently and strongly supported by a broad range of mechanistic and other relevant data.

The terms *probably carcinogenic* and *possibly carcinogenic* have no quantitative significance and are used simply as descriptors of different levels of evidence of human carcinogenicity, with *probably carcinogenic* signifying a higher level of evidence than *possibly carcinogenic*.

IHC (ImmunoHistoChemistry) test: a test used to measure proteins, including the HER2 protein.

imaging: this generic term refers to several tests that take pictures of one's body's organs and structures. One example is a mammogram, which uses X-rays to look for breast cancer. Other technologies use a magnetic field or radio waves. Tests include CT, MRI, PET scan, and ultrasound.

immunohistochemistry (IHC): a laboratory test done on tumour tissue to detect the amount of HER2/neu protein on the surface of the cancer cells.

immunosuppression: dampening the immune system making the patient prone to infections.

immunotherapy: therapies that use the immune system to fight cancer; these therapies target something specific to the biology of the cancer cell, as opposed to chemotherapy, which attacks all rapidly dividing cells.

in situ: a tumour that has not invaded surrounding tissue but in some people or conditions could undergo further change and become invasive; some individuals refer to this as non-invasive cancer while others say that it is not cancer.

incisional biopsy: a procedure in which a small area of tissue is taken to identify the composition (or make-up) of a lesion or abnormality; an excisional biopsy is a more involved procedure where the entire abnormality or area of interest is removed.

infiltrating: a cancer that has spread beyond the place where it started; also called “invasive”.

inflammatory breast cancer (IBC): a rare and aggressive form of invasive breast cancer. Its main symptoms are swelling (inflammation) and redness of the breast. The skin on the breast may look dimpled, like the skin of an orange, and may be warm to the touch.

inform HER2 Dual ISH test: A test used to figure out whether breast cancer cells are HER2-positive.

Infusion: the process of giving a dose of chemotherapy, which can last hours. The drugs usually go directly into a vein. So one does not have to get stuck with needles over and over, patients will probably get a flexible tube called a catheter put through the skin, or a small disc called a port put under the skin. These hook up to an IV tube. They are usually not taken out until the treatment is done.

internal radiation: see brachytherapy.

invasive: a cancer that has spread beyond the place where it started; also called “infiltrating”.

invasive breast cancer: cancer that has spread from the original location (milk ducts or lobules) into the surrounding breast tissue and possibly into the lymph nodes and other parts of the body; *invasive ductal cancer* begins in the milk ducts; *invasive lobular cancer* begins in the lobules of the breast.

invasive Ductal Carcinoma (IDC): a cancer that started in the milk duct but has grown into the normal breast tissue around it.

invasive Lobular Carcinoma (ILC): a cancer that started in the milk lobules and has grown into the normal breast tissue around it.

J

jejunostomy tube (J-tube): a soft rubber feeding tube surgically placed directly into the small intestine, maintained to allow food to bypass the mouth, oesophagus, and stomach.

joule: The **joule** (/dʒu:l/); symbol: J), is a derived unit of energy in the International System of Units. It is equal to the energy transferred to (or work done on) an object when a force of one newton acts on that object in the direction of its motion through a distance of one metre (1 newton metre or N·m).

K

Ki-67 rate: a common way to measure proliferation rate; the more cells the Ki-67 antibody attaches to on a tissue sample, the more likely the tumour cells are to grow and divide rapidly.

Ki-67 test: a test that shows how fast cancer is growing.

kilojoule: (kJ) is the Australian measure of how much energy people get from consuming a food or drink. Energy in food and drinks is measured by the number of kJ (kilojoules) it provides. kJ are similar to Calories: 1 kJ = 0.2 Calories (Cals) 1 Calorie = 4.2 kJs.

L

lentigo melanoma: a melanoma that has evolved from a lentigo malignant. They are usually found on chronically sun damaged skin such as the face and the forearms of the elderly. The nomenclature is very confusing to both patients and physicians alike.

lesion: a term used by doctors to describe virtually any physical abnormality; it may refer to a tumour, a tumour-like condition, or a finding which is not yet diagnosed.

leukaemia: a cancer that affects the blood and bone marrow where blood cells are made. There are four main types of leukaemia: Acute lymphoblastic leukaemia (ALL); acute myeloid leukaemia (AML); chronic myeloid leukaemia (CML); chronic lymphocytic leukaemia (CLL).

leukocyte: see white blood cells.

Li-Fraumeni Syndrome: a rare inherited disorder characterized by a high risk of sarcomas of bone and soft tissue, breast cancer, and other tumours.

linear accelerator: the device used during radiation therapy to direct X-rays into the body.

lobular Carcinoma In Situ (LCIS): cells that are not normal but stay inside the milk-making parts of the breast (lobules). LCIS isn't a true cancer, but a warning sign of an increased risk for developing an invasive cancer in the future in either breast.

local recurrence: a breast cancer that comes back in the breast area where it was originally diagnosed.

locally invasive: the tumour can invade the tissues surrounding it by sending out "fingers" of cancerous cells into the normal tissue; metastatic; the tumour can send cells into other tissues in the body.

locoregional recurrence: a breast cancer that comes back in the lymph nodes in the armpit or collarbone area near where the cancer was originally diagnosed; sometimes referred to as "regional" recurrence.

luminal A breast cancer: luminal A breast cancer is one of the four main molecular subtypes of breast cancer; luminal A breast cancer is hormonereceptor-positive (either oestrogen- and/ or progesterone-positive) and HER2- negative.

luminal B breast cancer: luminal B breast cancer is one of the four main molecular subtypes of breast cancer; luminal B breast cancer is hormonereceptor-positive (either oestrogen- and/ or progesterone-receptor-positive) and HER2-positive.

lumpectomy: a surgical procedure that removes a localized mass of tissue, including the breast cancer tumour and a small amount of normal, non-cancerous tissue surrounding the tumour.

lymphadenectomy: removal of the lymph glands from a part of the body.

lymphatic system: tissues, fluid and organs, including the spleen, lymph nodes and bone marrow, that produce, store and carry white blood cells that fight disease.

lymphocyte: a form of small leucocyte (white blood cell) with a single round nucleus, occurring especially in the lymphatic system.

lymphoedema: a condition in which extra lymph fluid builds up in tissues and causes swelling; often caused by damage to lymph vessels during surgery.

lymphoma: cancer that involves lymphatic system cells (lymph nodes, spleen).

Lynch syndrome: an alternative term for hereditary non-polyposis colorectal cancer (HNPCC).

M

magnetic resonance imaging: also referred to as MRI. A safe and painless test that uses a magnetic field and radio waves to produce detailed pictures of the organs and structures of the body.

malignant: cancerous. Malignant tumours can invade and destroy surrounding tissues and spread (metastasize) to other parts of the body.

mammaPrint: a test that analyses 70 genes from an early-stage breast cancer tissue sample to find out whether breast cancer has a low or high risk of coming back within 10 years after diagnosis.

mammary duct ectasia: a benign (not cancer) breast condition resulting from inflammation (swelling) and enlargement of the ducts behind the nipple; often there are no symptoms, but calcifications seen on a mammogram may point to its presence; no treatment is needed if the woman is not having symptoms (burning, pain or itching in the nipple area).

mammogram: X-ray imaging of the breast.

mammostrat: a test that measures the levels of five genes in early-stage, hormone-receptor-positive breast cancer cells; a risk index score is then calculated; the higher the score, the more likely the cancer is to come back (recur).

manoma or melanosarcomael: a benign or malignant growth of the pigmented cells of the skin and mouth, common in the dog but rare in the cat; the malignant version of this tumour, called a melanoma or malignant melanoma, can spread rapidly both into lymph channels and through the bloodstream.

margins: the edge of a tumour. Margins are often biopsied and studied under a microscope to determine if the tumour has been overcome by treatment and/or surgery. This word applies to malignant as well as benign tumours.

mass: 1. a growth or tumour; a mass can be benign or malignant. 2. in physics, the property of matter that measures its resistance to acceleration. Roughly, the mass of an object is a measure of the number of atoms in it. The basic unit of measurement for mass is the kilogram. 3. anything that has weight and shape has mass. In fact, mass is the quality that gives things weight anywhere there is gravity.

mastectomy: surgical removal of the breast.

medullary carcinoma of the breast: a rare type of invasive cancer that usually presents with a soft, fleshy tumour that resembles a part of the brain called the medulla; medullary carcinoma of the breast is usually hormone-receptornegative and HER2-negative.

melanocyte: melanin-producing neural-crest derived cell located in the bottom layer (the stratum basale) of the skin's epidermis, the middle layer of the eye (the uvea), the inner ear, meninges, bones, and heart.

melanoma: also known as malignant melanoma, is a type of cancer that develops from the pigment-containing cells known as melanocytes.

melanosarcomael or manoma: a benign or malignant growth of the pigmented cells of the skin and mouth, common in the dog but rare in the cat; the malignant version of this tumour, called a melanoma or malignant melanoma, can spread rapidly both into lymph channels and through the bloodstream.

meta-analysis: a method for taking the results reported in a group of studies and averaging them to come up with a single, summary result.

metaplasia: the phenomenon by which one type of tissue is replaced by another type; this often results from chronic irritation of an epithelial lining; a good example is the cervix, in which chronic irritation and inflammation causes the relatively delicate normal columnar epithelium to be replaced by tougher squamous epithelium (similar to that which normally lines the vagina, which is naturally "built tougher" for obvious reasons). This phenomenon is called "squamous metaplasia"; in its pure state, metaplasia is not harmful, but some metaplasias are markers for increased risk of more

serious diseases, for instance, a type of intestinal metaplasia of the stomach (in which columnar epithelium of the intestinal type replaces that of the gastric type) is considered a risk factor for the subsequent development of cancer of the stomach.

metastasis: a metastasis occurs when a portion of a tumour which has left the original, or primary, tumour and travelled to another portion of the body; sarcomas generally metastasise to the lungs, however, they may also travel to other locations.

microscopic invasion: a situation in which cancer cells have just started to invade the tissue outside the lining of a duct or lobule.

microscopic lymph node involvement: when only a small number of cancer cells are found in a lymph node.

moderately differentiated: cancer cells that do not look like normal cells; they grow a little faster than normal; also called “grade 2”.

Monoclonal antibody: a type of protein made in the laboratory that can bind to substances in the body, including cancer cells. There are many kinds of monoclonal antibodies. A monoclonal antibody is made so that it binds to only one substance. Monoclonal antibodies are being used to treat some types of cancer. They can be used alone or to carry drugs, toxins, or radioactive substances directly to cancer cells.

Mole: a benign growth on the skin (usually tan, brown, or flesh-coloured) that contains a cluster of melanocytes and surrounding supportive tissue.

monoclonal antibody: a substance that can locate and bind to cancer cells wherever they are in the body; may be used for cancer detection or treatment.

mTOR (mammalian target of rapamycin) inhibitors: a class of targeted therapy drugs that may increase the benefit of hormone therapy; Everolimus (Afinitor) is an example of an mTOR inhibitor.

mucinous (colloid) carcinoma of the breast: a rare type of invasive cancer that contains small pools of mucous material.

multimodality therapy: use of two or more treatment methods (such as surgery, radiation therapy, chemotherapy, hormone therapy and targeted therapy) in combination or one after the other to get the best results.

mutation: a harmful change in ‘normal’ DNA (the molecular building blocks of all cells); some mutations are inherited and can be passed from parent to child; others are acquired during a lifetime, the result of other factors such as age, tobacco use, infection with viruses, or exposure to ultraviolet radiation (sunlight); mutations in genes that regulate cell division may lead to cancer; there are four main gene types that increase the risk of cancer when mutated: tumour suppressor genes, proto-oncogenes, DNA repair genes and programmed death genes.

myelogram: a diagnostic imaging procedure done by a radiologist; it uses a contrast dye and X-rays or computed tomography (CT) to look for problems in the spinal canal, including the spinal cord, nerve roots, and other tissues; it is also known as myelography.

myeloma: cancer that involves the plasma cells (found in bone marrow).

N

necrosis: death of tissue; necrosis may be seen in inflammatory conditions, as well as in neoplasms.

neoadjuvant therapy: treatment, such as chemotherapy or radiation, given to shrink a tumour before the main treatment, usually surgery.

neoplasia: abnormal and uncontrolled cell growth.

neoplasm: a tumour; a cancerous or non-cancerous mass of tissue that results when cells divide more than they should or do not die when they should.

neuroblastoma: a type of cancer that forms in certain types of nerve tissue; it most frequently starts from one of the adrenal glands, but can also develop in the neck, chest, abdomen, or spine.

neuropathy: this is a nerve problem that causes tingling, numbness, weakness, or swelling. It usually starts in one's arms and legs. Cancer treatment or the cancer itself can bring it on. (So can diabetes and other diseases, infections, and injuries.)

neutropenia: reduced levels of white cells in the blood; febrile neutropenia -with fever.

neutrophil: found in the blood, it is a type of immune cell that is one of the first cell types to travel to the site of an infection. Neutrophils help fight infection by ingesting microorganisms and releasing enzymes that kill the microorganisms. A neutrophil is a type of white blood cell.

nevus: a benign growth on the skin, such as a mole.

node-negative breast cancer: breast cancer that has not spread to the lymph nodes.

node-positive breast cancer: breast cancer that has spread to the lymph nodes (most commonly the axillary lymph nodes under the arms).

nodule: a small lump or growth made up of cells or tissues. Nodules can be non-cancerous (benign) or cancerous (malignant).

non-invasive: A cancer that stays inside the part of the body where it started.

nucleus: 1. the central and most important part of an object, movement, or group. 2. (in physics) the positively charged central core of an atom, consisting of protons and neutrons and containing nearly all its mass. 3. (in biology) a dense organelle present in most eukaryotic cells, typically a single rounded structure bounded by a double membrane, containing the genetic material.

O

occult: (1) Hidden; concealed; not manifest. (2) Denoting a concealed haemorrhage, the blood being so changed as not to be readily recognized. See occult blood. (3) In oncology, a clinically unidentified primary tumour with recognized metastases.

"-oma": the ending "-oma" means tumour or swelling, and the first part of the word tells one what kind of cell it is in. For example, carcinoma is a cancer that starts in the skin or the lining of the organs. Sarcomas begin in connective tissue like bone, fat, and blood vessels. Lymphoma and myeloma are cancer in the immune system. Glioblastoma is a tumour in the central nervous system.

oncogene: a mutated version of the proto-oncogene, a gene that directs cell growth; causes cells to grow and divide too rapidly.

oncologist: a specialist physician in charge of planning and overseeing cancer treatment.

oncology: the branch of medicine that focuses on the diagnosis and treatment of cancer. Cancer doctors are called oncologists. They may specialise in different ways to treat cancer.

oncotype DX: a test that provides information on how likely the breast cancer is to return and whether you are likely to benefit from chemotherapy; oncotype DX can also determine whether someone with DCIS can benefit from radiation therapy.

osteosarcoma: also called osteogenic sarcoma is a type of cancer that starts in the bones.

P

p53 gene: inheriting an abnormal p53 gene (also called the TP53 gene) causes Li-Fraumeni syndrome, a disorder that causes people to develop soft tissue cancers at a young age.

paediatric oncologist: a specialist physician in charge of planning and overseeing cancer treatment in children.

Palliative Therapy: A system of support and comfort to improve your quality of life. It brings together experts in different fields to help you with pain and symptom management, and the mental, emotional, and spiritual effects of cancer. It can begin as soon as you're diagnosed and continue throughout your treatment, as well as afterward and if the cancer comes back. It also includes end-of-life care.

palliative treatment: treatment which relieves the symptoms and pain.

papillary carcinoma of the breast: a rare type of invasive breast cancer that is made up of small, finger-like projections.

papillary DCIS: a type of non-invasive breast cancer that does not spread and tends to grow slowly; papillary DCIS features cancer cells arranged in a finger-like pattern within the ducts.

paracentesis: the drainage of excess fluid from the abdomen.

pathologist: a specialist physician who uses a microscope to tissue removed during biopsy or surgery and determines whether or not the cells contain cancer.

PET (Positron Emission Tomography) scan: unlike CT and MRI which look at structures (i.e., the architecture of the body), PET looks for cancerous activity; cancer cells often "light up" on a PET scan because they metabolise glucose differently than do normal cells; PET scans are often used to see if cancer has spread to other parts of the body.

phase I clinical trials: tests new types of treatment and aim to define a safe dose that will be used for further studies. This is usually the first testing of a treatment on humans after extensive laboratory work. Recruitment for Phase I trials are usually from patients for whom no other effective therapy is known.

phase II clinical trials: test the anti-cancer effects of the new treatment, and include very detailed toxicity investigations. If there is effective anti-tumour activity, it may be incorporated in a future phase III study.

phase III clinical trials: compare one or more treatments of proven efficacy. Often patients will be randomised between an established 'standard' treatment and a new 'experimental' treatment - it is not known which is the better treatment.

photodynamic therapy: treatment with drugs that become active and kill cancer cells when exposed to light.

poorly differentiated: cancer cells that look very different from normal cells; they are fast-growing; also called "grade 3".

port: a small medical appliance that is installed beneath the skin; a catheter connects the port to a vein.

PR-negative: a cancer that does not have progesterone receptors.

PR-positive: a cancer that has progesterone receptors.

pre-cancerous: An overgrowth of abnormal cells that shows no signs of invasion; pre-cancerous cells are a warning sign of possibly developing cancer in the future.

primary tumour: a primary tumour is located at the site where it first formed and contains cells of that same organ or tissue.

prognosis: is the expected outcome of a disease and its treatment, this may be influenced by a variety of factors such as stage, age, site etc. depending on the particular type of cancer. For example, in general a patient with localised disease may have a more favourable prognosis compared to a patient with widespread disease which may be less favourable.

programmed death genes: programmed death genes, such as the B-cell lymphoma 2(BCL2) gene, function normally to regulate cell death and maintain tissue integrity; when mutated these genes either prevent or are unable to induce cell death, leading to the replication of faulty cells and tumour formation; mutations in the BCL2 genes are found in non-Hodgkin's Lymphomas and chronic lymphocytic leukaemias.

protocol: an action plan for a clinical trial; the plan states, step by step, what the study will do, how and why.

proto-oncogene: proto-oncogenes, such as the viral oncogene BRAF, have varying functions to stimulate cell growth and when mutated become cancer-inducing oncogenes that promote ongoing uncontrolled cellular replication and tumour formation; mutations in the BRAF gene are found in approximately 50% of malignant melanomas.

PTEN gene: an abnormal PTEN gene causes Cowden syndrome, a rare disorder that causes a higher risk of both benign and cancerous breast tumours, as well as growths in the digestive tract, thyroid, uterus, and ovaries.

punch biopsy: this technique is typically used by dermatologists to sample skin rashes and small masses; after a local anaesthetic is injected, a biopsy punch, which is basically a small (3 or 4 mm in diameter) version of a cookie cutter, is used to cut out a cylindrical piece of skin; the hole is typically closed with a suture and heals with minimal scarring.

Q

quadrantectomy: surgery where one quadrant or 25% of the breast is removed.

quality of life: a measure of a person's well-being and his/her overall enjoyment of life.

quantiles: categories of an exposure (like body weight or exercise) based on equal parts of the total number of people in the study. When the total number of people is divided into thirds, the categories are called tertiles. When the total number of people is divided into quarters, the categories are called quartiles.

quartiles: categories of an exposure (like body weight or exercise) based on four equal parts of the total number of people in the study.

R

radial growth phase (RGP): the melanoma lesion is described as either having RGP present or absent. If present, RGP indicates that the melanoma is growing horizontally or radially, within a single plane of skin layer

radiation oncologist: a specialist physician specialising in the treatment of cancer using targeted, high energy X-rays.

radiation therapy: the use of radiation from X-rays and other sources of radiation to kill cancer cells and shrink tumours.

radioactive iodine: usually administered in the form of a capsule or in water (it is odourless and tasteless), the Radioactive iodine is quickly take up by the overactive thyroid cells. The results is that the thyroid shrinks in size, the thyroid hormone production falls, and blood levels return to normal with restoration of good health. Occasionally a second treatment is given to further control the thyroid hormone output. After administration your Nuclear Medicine technician will usually monitor the amount of intake by the thyroid (scanning), and looking for hot spots or glows.

recurrence: cancer that has returned (recurred) after a period of remission; the cancer may recur at the primary site, or elsewhere in the body, as a secondary tumour.

red blood cell: See erythrocyte.

Reed-Sternberg cells: large, unusual cells that are a sign of Hodgkin's disease. These cells are detected under a microscope after a biopsy.

refractory: where the cancer is resistant to treatment, patient may never go into remission, possibly with stable or progressive disease.

regional recurrence: a breast cancer that comes back in the lymph nodes in the armpit or collarbone area near where the cancer was originally diagnosed; sometimes referred to as "locoregional" recurrence.

regimen: a prescribed course of medical treatment, diet, or exercise for the promotion or restoration of health.

relapse: when the disease reoccurs after a period in remission.

remission: is where the symptoms of cancer are no longer present. There is no longer any evidence of the disease using the available investigations.

resin T3 uptake: The resin T3 uptake is used to assess the binding capacity of the serum for thyroid hormone. This is used to help determine if the Total T4 is reflecting the free T4, or if abnormalities in binding capacity are responsible for changes in T4 values.

restaging: where the patient is staged again after a period of treatment to assess the response to therapy.

RET proto-oncogene: blood test to determine if the Medullary Thyroid Cancer is sporadic or familial (hereditary).

risk factor: any factor -from a lifestyle choice (such as diet) to genetics to an environmental exposure (such as radiation) -that increases or decreases a person's risk of developing a certain disease.

S

sarcoma: a sarcoma is a malignant tumour which arises from one or more connective tissues. These tissues include the bones, muscles, nerves, tendons, ligaments and adipose tissue (fat); sarcomas are named by the tissue from which they arose, therefore sarcomas from the bone are generally osteosarcomas.

sclerosing adenosis: a benign breast condition in which enlarged lobules form breast lumps.

second line treatment: a treatment that is started when the first-line treatment stops being effective.

second primary tumour: a second cancer that develops in a different location from the first; this is different from a local recurrence, which is the return of the first cancer.

secondary tumour: a cancer that has spread from the place in which it started to other parts of the body; made up of the same type of cells as those in the original, or primary, tumour.

sentinel node biopsy: a surgical procedure used to determine if cancer has spread beyond a primary tumour into your lymphatic system; *sentinel node biopsy* is used most commonly in evaluating breast cancer and melanoma; the *sentinel nodes* are the first few lymph nodes into which a tumour drains.

shave biopsy: a technique in which a portion of a lesion is cut off the surface of the skin using a scalpel in most cases. This is often performed by a dermatologist in the office.

solid DCIS: a type of non-invasive breast cancer; it tends to grow slowly; solid DCIS cancer cells completely fill the affected breast ducts.

S-phase fraction test: a test that shows how fast a cancer is growing.

spinal tap: see lumbar puncture.

SPoT-Light HER2 CISH test: a test used to count the number of copies of the HER2 gene.

stage: the extent of a cancer in the body; it is based on the size of the tumour and whether it has spread; It is based on things like:

- The cancer's location and size
- The type of cell affected
- The grade, or how abnormal it looks
- Whether it has spread to lymph nodes or other organs

Different cancers have different staging systems.

surgical oncologist: a physician specialising in the treatment of cancer using surgical procedures.

synchronous cancer: multiple primary cancers occurring simultaneously.

systemic therapy: treatment that travels via the bloodstream and affects all cells throughout the body; chemotherapy is a form of systemic therapy.

S-phase fraction: the S-phase fraction number tells one what percentage of cells in the tissue sample are in the process of copying their genetic information (DNA). This S-phase, short for "synthesis phase", happens just before a cell divides into two new cells. In breast cancer, a result of less than 6% is considered low, 6-10% is intermediate/borderline, and more than 10% is considered high

T

TAILORx: although the Oncotype DX test has already been approved for use, research involving the test is ongoing. The Oncotype DX test plays a key role in a current clinical trial, the **Trial Assigning Individualized Options for Treatment (Rx)**, known as TAILORx. Participants will be divided into different treatment groups depending on their Recurrence Score® results. Patients with Recurrence Score results of less than 11, who are at low risk for recurrence and for whom chemotherapy is expected to provide little benefit, will receive hormone therapy alone. Patients with Recurrence Score results greater than 25, who are at higher risk for recurrence and for whom chemotherapy is expected to provide substantial benefit, will receive hormonal therapy and chemotherapy. Patients with Recurrence Score results between 11 and 25, whose risk for recurrence is moderate and for whom the benefit of chemotherapy is unclear, will be randomized to treatment with hormonal therapy plus chemotherapy versus hormonal therapy alone. The primary objective of the trial is to determine whether hormonal therapy alone offers no less benefit than chemotherapy plus hormonal therapy in women whose Recurrence Score results range from 11 to 25.

targeted therapy: newer drugs that specifically target cancer cells while doing minimal damage to normal cells; Herceptin is an example of a targeted therapy.

thermography: an imaging technique that uses infrared light to measure temperature differences on the surface of the breast. The Cancer Association of South Africa (CANSA) does not view thermography as a valuable breast cancer screening method.

TNM: Tumour Node Metastasis - a staging system used by clinicians to describe how advanced a particular cancer is - which then informs the type of treatment provided.

total T3: the total T3 measures the concentration of triiodothyronine in the serum. The T3 is increased in almost all cases of hyperthyroidism and usually goes up before the T4 does. Thus the T3 is a more sensitive indicator of hyperthyroidism than the Total T4. In hypothyroidism the T3 is often normal even when the T4 is low. The T3 is decreased during acute illness and starvation, and is affected by several medications including Inderal, steroids and amiodarone. This test measures both bound and free hormone. Only the free hormone is biologically active, but is only 0.5% of the total. Anything which affects thyroid binding globulin (TBG), or albumin will affect the total Triiodothyronine but not the free.

total T4: the T4 test measures the concentration of Thyroxine in the serum. This includes both bound and free hormone. Only the free hormone, about 0.05% of the total, is biologically active. Anything which affects levels of thyroid binding globulin (TBG), albumin, or thyroid binding prealbumin will affect the total thyroxine but not the free hormone. Oestrogens and acute liver disease will increase thyroid binding, while androgens, steroids, chronic liver disease and severe illness can decrease it.

translocation: 1. transfer of part of a chromosome to a different position especially on a nonhomologous chromosome; especially the exchange of parts between nonhomologous chromosomes. 2. a chromosome or part of a chromosome that has undergone translocation.

triple negative breast cancer: a breast cancer that is oestrogen receptor-negative, progesterone receptor-negative and HER2/neu-negative. These factors limit treatment choices; most triple negative tumours are basal-like tumours; these breast cancers tend to be aggressive and are more common in African American women.

tubular carcinoma of the breast: a rare type of invasive breast cancer that is made up of tube-shaped cells and tends to grow slowly.

tumour: an abnormal mass of tissue; tumours may be benign (not cancer), or malignant (cancer).

tumour-infiltrating lymphocytes (TILs): TILs describes the patient's immune response to the melanoma. When the pathologist examines the melanoma under the microscope he/she looks for the number of lymphocytes, or white blood cells, within the lesion. This is usually described as brisk,

non-brisk, or absent, although occasionally it can be described as mild or moderate. The presence of these cells may be a sign of an immune response.

tumour markers: substance in the body that may indicate the presence of cancer. Markers may be secreted by the tumour itself or produced by the body in response to the cancer; tumour markers may aid diagnosis or give an indicator of how treatment is progressing; these markers are usually specific to certain types of cancer, for example neuron-specific enolase (NSE) is associated with a number of types of cancers, in particular neuroblastoma; also alphetoprotein (AFP) levels are often abnormally high in patients with Germ cell tumours.

tumour profiling (Gene Expression Profiling): tests that give information about thousands of genes in cancer cells; specific genes (or combinations of genes) may give information useful in prognosis and in making treatment decisions.

tumour suppressive gene: a type of gene that helps control cell growth; tumour suppressor genes, such as the tumour protein p53 (TP53) gene, function normally to regulate cell replication and when mutated are unable to prevent uncontrolled replication and tumour formation; mutations in the TP53 gene are found in more than 50% of tumours.

U

ultrasound: also called sonography; a way in which doctors can take a look inside one's body instead of using X-rays, sound waves are bounced off body organs which then become visible on a screen.

unilateral: found only in one half of the body.

urologist: a medical doctor who specialises in disorders, diseases, and conditions of the urinary tract.

V

vascular invasion: when cancer cells are found in the blood vessels.

vertical growth phase (VGP): a melanoma is described as either having VGP present or absent. If present it is an indication that the melanoma is growing vertically or deeper into the tissues.

W

well differentiated: cancer cells that look a little bit different from normal cells; they are usually slow-growing; also called “grade 1”.

white blood cells: also called leukocytes. They form part of the germ-fighting immune system and attack invaders such as viruses and bacteria. Different types of white blood cells (neutrophils, eosinophils, basophils, monocytes, lymphocytes) each have their own role in fighting different kinds of germs.

Wilms tumour: a cancerous tumour that originates in the kidneys.

window period: In medicine, the window period for a test designed to detect a specific disease (particularly infectious disease) is the time between first infection and when the test can reliably detect that infection. In antibody-based testing, the window period is dependent on the time taken for seroconversion. The window period is important to epidemiology and safe sex strategies, and in blood and organ donation, because during this time, an infected person or animal cannot be detected as infected but may still be able to infect others. For this reason, the most effective disease-prevention strategies combine testing with a waiting period longer than the test's window period.

wire localisation biopsy: a type of biopsy performed when an abnormality can be seen on a mammogram but cannot be felt. A wire localisation biopsy utilises a mammogram to locate and identify the breast abnormality, after which a biopsy is performed.

X

X-ray: a safe procedure that uses radiation to take pictures of internal parts of the body.

Y

Yoga: a whole body philosophy that involves:

- working with breathing (pranayama)
- stretching exercises
- postures (asanas)
- meditation

As with many types of complementary therapy one of the main reasons that people with cancer use yoga is because it makes them feel good.

Yolk sac tumour: a rare, malignant tumour of cells that line the yolk sac of the embryo. These cells normally become ovaries or testes; however, the tumour can also occur in areas such as the brain or chest. The cause of a yolk sac tumour is unknown. It is most often found in children before the ages of 1 to 2.

Z

Zollinger-Ellison Syndrome: a disorder in which tumours of the pancreatic islet cells produce large amounts of gastrin (a hormone), leading to excess acid in the stomach and, possibly, a peptic ulcer (ulcer of the stomach or the upper part of the small intestine).

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January 2021

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