# Frequently used Cancer Terms: Definitions

**Adjuvant Therapy**
Adjuvant therapy refers to cancer treatment given after the main recommended treatment. Its purpose is to increase the success of overall treatment and to reduce the risk that the cancer will come back. Adjuvant therapy may include chemotherapy, radiation therapy, hormone therapy, targeted therapy, or biological therapy.

**Advanced Care Planning**
Advance care planning (ACP) involves exploring and documenting your preferences regarding future medical care. The document, which has your written instructions about your preferences for future care, is called an Advance Directive. Making decisions about your future care involves exploring your values and goals and identifying a trusted person to make medical decisions on your behalf in the event that you are not able to do so. Having an Advance Directive helps ensure that your future care is consistent with your stated preferences.

**Anti-Angiogenesis Therapy**
In order to grow, tumors can release chemicals that cause new blood vessels to form (angiogenesis). These blood vessels then feed the tumor and support its growth. Treatments that block the growth of new blood vessels are called anti-angiogenesis therapies.

**Benign**
A benign growth or tumor is one that is not cancerous. It does not invade and destroy nearby tissue.

**Biopsy**
A biopsy is a procedure that involves removing a small amount of tissue, which is then examined to look for abnormalities.

**Blood Cells**
Stem cells, are found in the bone marrow, the spongy center of your bones. They give rise to your blood cells: white blood cells, red blood cells, and platelets.

White blood cells, or leukocytes, are part of your immune system and play an important role in fighting infection. When your white count is low, you are at a greater risk for infection. Neutrophils are a common type of white cell that play a role in fighting infection. During cancer treatment, your medical team may monitor your neutrophil count, which is often referred to as your ANC (Absolute Neutrophil Count).

Red blood cells, or erythrocytes, carry oxygen from the lungs to the rest of the body. Red blood cells transport oxygen on a molecule called hemoglobin. During cancer treatment, your doctor may monitor your hemoglobin to determine your red blood cell level. If it is low, you are considered to be anemic, and may have to delay treatment until your red blood cell count goes up.

Platelets are essential in the process of blood clotting, thus preventing excess bleeding and bruising. During cancer treatment, your platelet level may be monitored to make sure that you are not at a higher risk for bleeding.

**Cancer**

Cancer is caused by an overgrowth of abnormal cells. These cells divide and multiply in an uncontrolled fashion and can spread to other parts of the body. When damaged cells travel to another part of the body and invade healthy tissue, it is called a metastasis.

The type of cancer you have is based on where the abnormal cells originate in the body. If the cancer cells start growing in the breast, it is called breast cancer, even if those cells spread to other parts of the body, such as the bones or liver.

Cells can become cancerous for many different reasons, including genetic inheritance (where the trait is passed on from one generation to the next), exposure to cancer-causing chemicals, as well as other factors, which are still being studied.

**Cancer Stage**

The term “stage” refers to the extent of your cancer – how large the tumor is and if it has spread. Most cancers are grouped into four stages: stage I (one) to stage IV (four). Some cancers also have a stage 0 (zero). Some cancers, such as blood cancers and brain tumors, have a different staging system.

- Stage 0 means that some abnormal cancer cells are present, but that they have not spread. This can also be referred to as carcinoma in situ.
- Stage I describes a cancer that is small, has not grown into nearby tissues, and has not spread to the lymph nodes or other parts of the body.
- Stage II and stage III describe tumors that are larger, have grown more deeply into the surrounding tissues, and may have spread to the lymph nodes - but not to other organs in the body.
- Stage IV refers to cancer that has spread to other organs in the body. This is also called metastatic cancer.

**Chemotherapy**

Chemotherapy treatment is the use of drugs to stop the growth of cancer cells, either by destroying the cancer cells or by stopping them from multiplying. Chemotherapy affects all the cells that are dividing in the body, but will have the greatest effect on cells that are dividing at a faster rate. Since cancer cells tend to divide at a faster rate than normal healthy cells, they are also destroyed at a higher rate. Other cells in the body that divide rapidly include cells in the hair, mucus lining of the mouth and stomach, and certain blood cells. This is why certain types of chemotherapy drugs make some people lose their hair, feel nauseous, have mouth sores, or have low blood counts.

**Clinical Trials**

A clinical trial is a research study that is used to test new medical approaches to detecting, preventing, diagnosing, and treating diseases. It is through clinical trials that researchers determine whether new treatments are safe and work better than current treatments. Treatments studied in clinical trials might be new drugs or new combinations of drugs, new surgical procedures or devices, or new ways to use existing treatments.

Clinical trials progress in a series of steps, called phases. During phase I (one), researchers test a new drug or treatment in a small group of people for the first time to evaluate its safety, determine a safe dosage range, and identify side effects. In phase II (two), researchers test whether the treatment shows some benefit, such as slowing tumor growth, and additional information is obtained about dosages and side effects. In phase III (three), trials are expanded to include more people, and the new treatment is compared to standard treatment. Phase IV (four) clinical trials are done after the new treatment has been FDA approved to get more information on side effects and to find out more about the optimal use of the new therapy.

Each study has its own rules about who can participate. Some clinical trials, for example, may require individuals to be under a certain age or to have a certain type of cancer. Each clinical trial is reviewed by an independent committee to make sure the study is ethical and protects patient rights.

The possible benefits of joining a clinical trial include:

- The treatment being studied might be more effective than standard treatment.
- You will be followed closely by the research team.
- The trial may help scientists learn more about your type of cancer and develop other effective treatments in the future.

The possible risks of joining a clinical trial include:

- The new treatment may not be as effective as the standard treatment.
- You may be required to make extra trips to the doctor's office and do more tests. • The new treatment may have side effects that the researchers did not anticipate.

If you do not qualify for a clinical trial, you may be able to access the treatment through a program called expanded access, also known as compassionate use. Compassionate use allows drug companies to make treatments that are still being investigated and have not been FDA approved available to individuals with serious illness who may benefit from the drug, but who do not qualify for the clinical trial.

**Complementary and Alternative Medicine (CAM) – Integrative Medicine**

Complementary and alternative medicine generally refers to treatments that are outside of the traditional model of medicine that is practiced in the hospital setting. Integrative medicine combines the standard medical approach with healing traditions from different countries and cultures, such as acupuncture and Integrative Chinese Medicine, Ayurvedic medicine, meditation, movement-based therapies (yoga), and Mindfulness-based Stress Reduction (MBSR). You can access these services at UCSF through the Osher Center for Integrative Medicine.

**CT or CAT Scan**

A computerized tomography scan uses a series of X-rays taken from different angles to create detailed three-dimensional images of areas in the body. A CT scan can be used to visualize an abnormality, make a treatment plan, or find out how treatment is working. Sometimes a dye, called contrast, is injected into a vein or swallowed to help certain areas

show up more clearly. A CT scan can be combined with a PET scan. Together the PET-CT scan can provide detailed visual information about the body that can be used for diagnostic and treatment purposes.

**Hormone Therapy**

Hormones are the body's chemical messengers. They can stimulate the growth of certain cancers. Hormone therapies work by limiting the amount of a specific hormone that cancer cells can feed on. This is done by blocking the production of hormones in the body or by blocking hormone receptors on the cancer cells so that the cancer cells can no longer feed on the hormone.

**Immunotherapy**
Immunotherapy uses the body's own immune system to detect and destroy cancer cells. Some types of immunotherapy rely on cancer vaccines to improve the ability of the immune system to fight the cancer. Other treatments target the cancer cells, suppressing their ability to "hide" from the immune system. Some types of immunotherapy are also called biologic therapy or biotherapy.

**Malignant**
A malignant tumor is one that is cancerous. This means that it has the ability to invade and destroy nearby tissue and may spread to other parts of the body.

**Margin**
During cancer surgery, some of the tissue surrounding the tumor that looks healthy is also often removed. This tissue around the tumor is called a margin. The margin will be examined by a pathologist to determine if its outer edges are clear of cancer cells. A clean or negative margin implies that no cancer cells are found at the outer edge of the tissue. If cancer cells are found at the edge of the tissue, the margin is described as "positive". If the margin is described as "narrow", it suggests that the area of healthy tissue around the tumor is small. A wide margin implies that there is a thicker band of healthy normal tissue around the tumor that was removed.

**Metastatic Cancer**
Cancer can spread from one part of the body to another. The process by which cancer cells spread is called metastasis. When cancer spreads to distant parts of the body, it is called metastatic cancer.

**MRI**
Magnetic resonance imaging (MRI) is a type of scan that uses radio waves and a powerful magnet to create detailed pictures of organs and tissues inside the body. MRI pictures can show the difference between normal tissue and diseased tissue. MRIs can be particularly useful for imaging the brain, spine, soft tissue of joints, and the inside of bones. Sometimes a dye, called contrast, is injected into a vein to help certain areas show up more clearly.

**Neoadjuvant Therapy**
Neoadjuvant therapy refers to treatment given before the recommended main therapy. Its goal is to reduce the size or extent of the cancer, making the main treatment more likely to be successful.

**Palliative Care Definition**
Palliative care is medical treatment aimed at improving quality of life and improving symptoms such as nausea, fatigue, anxiety, and pain. It can be provided at any point in the treatment of disease to help reduce physical, emotional, and spiritual distress.
Pathologist
A pathologist is a doctor who identifies diseases and conditions by studying cells and tissues. The findings are then reported to your medical team and summarized in a pathology report.

**PET Scan**
Cancer cells, which tend to divide at a faster rate than non-cancer cells, also tend to consume more sugar than normal cells. A Positron Emission Tomography (PET) scan produces an image that shows where cells are consuming sugar. The areas in your body with highest sugar consumption will show up as bright spots. A PET scan involves injecting a radioactive sugary substance into the vein and then using a scanner to make detailed computerized pictures of areas inside the body to detect where sugar is used at a faster rate. A PET-CT scan combines a CT scan, which involves X-ray images, with a PET scan to give more detailed visual information.

**Radiation Therapy**
Radiation therapy uses high-energy particles, generally referred to as radiation, to destroy or shrink cancer cells. The radiation may come from an external source that aims radiation beams at the cancer or the radiation may come from radioactive implants that are placed inside the body near the cancer cells. Internal radiation is also referred to as brachytherapy. Systemic radiation therapy uses a radioactive substance that travels in the blood to tissues throughout the body.

**Surgery for Cancer**
Surgery is a procedure to remove or repair a part of the body. Surgery can be used to determine the type of cancer, where it is located in the body, and whether or not it has spread. Depending on the type of cancer, how much it has spread, and its location in the body, some or all of the cancer can be removed through surgery.

**Targeted Therapy**
Targeted cancer therapies involve new treatments that target specific characteristics of cancer cells to block their growth and spread. Because targeted cancer treatments tend to affect specific characteristics of the cancer cell, targeted treatments may have different or, in many cases, fewer side effects than treatments which affect both normal and cancer cells.

**Traditional Chinese Medicine (TCM) and Acupuncture**
Traditional Chinese Medicine can mitigate the side effects of conventional cancer treatments and guide you through some of the physical and emotional changes you might experience. TCM cancer treatments may include acupuncture, traditional Chinese herbs and supplements, and lifestyle changes to enhance the quality of your life.

**Tumor**
A tumor is a mass formed when normal cells begin to grow rapidly, A tumor can be benign (not cancerous) or malignant (cancerous).

**Tumor Grade**
Tumor grade is a number that doctors assign to certain types of cancer as an indication of how quickly the tumor is likely to grow and spread. Tumor grade is determined by looking at tumor cells under a microscope and comparing them to normal cells. Tumor cells that most closely resemble normal cells are called “well-differentiated” and tend to grow more slowly. Tumor cells that look abnormal tend to grow more quickly and are referred to as “undifferentiated” or “poorly differentiated”.

**Tumor Marker**
A substance in the blood or urine that may indicate the presence of cancer or other condition. Tumor Markers can help in diagnosis, treatment planning, and monitoring of cancer. Common examples include CA125 (ovarian cancer), CEA (colon cancer), and PSA (prostate cancer).

**Ultrasound**
An ultrasound is a non-invasive type of imaging that uses sound waves that are bounced off the internal tissues and organs in the body to create an image called an ultrasound or a sonogram. You may also hear this referred to as ultrasonography.