**Testing**

**Biopsy**
The removal of a tissue sample from a patient to look at the presence, cause or extent of a disease.²

**Companion Diagnostic**
A test or measurement for a biomarker to help doctors predict whether a patient is likely to benefit from a particular type of medicine.³

**Histology**
The study of tissues and cells under a microscope.⁵

**Molecular Testing** *(Biomarker Testing, Tumor Marker Testing, Molecular Profiling or Mutation Profiling)*
A process that allows doctors to look inside tumor cells for gene mutations or changes that may have caused them to be cancerous. This type of test helps a doctor develop a treatment plan for a patient.⁹

**Diagnosis**

**Biomarker (Molecular Marker)**
A biological molecule found in blood, other body fluids or tissues, which is a sign of a normal or abnormal process, or of a condition or disease. A biomarker may be used to see how well the body responds to a treatment for a disease or condition.¹

**Genetic Mutations**
Genetic mutations are changes in a gene’s DNA that cause genes to function abnormally.⁴

**Progression**
When the cancer grows larger or spreads to other parts of the body.⁴

**Receptor**
A receptor is a protein inside or on the surface of a cell that binds to a specific substance that appears on the outside the cell.⁶

**Tumor Markers**
Substances, sometimes made by cancer cells, normally present in small amounts in the blood or other tissues. When the amount rises above normal, cancer might be present in the body.⁴
Types of Cancer

**Local Cancer**
An invasive, malignant cancer confined entirely to the organ where the cancer began.\(^6\)

**Regional Cancer**
Cancer that has grown beyond the original (primary) tumor to nearby lymph nodes or organs and tissues.\(^7\)

**Metastatic Cancer (Stage IV Cancer)**
The spread of cancer from the primary site to other places in the body.\(^8\)

Treatment

**Biomarker-Driven Therapy (Targeted Therapy)**
A type of treatment that is designed to block the action of cancer-causing genes or proteins.\(^10\)

**Chemotherapy**
A cancer treatment that works by stopping or slowing the growth of dividing cancer cells.\(^11\)

**Complete Response**
When signs of cancer cannot be detected by your doctor, based on your symptoms, physical exam, as well as radiology and lab tests. This does not always mean the cancer has been cured.\(^4\)

**First-Line Treatment (Initial Treatment)**
The first treatment that a doctor prescribes to a patient for a disease.\(^12\)

**Immunotherapy (I/O, Immuno-Oncology, Biologic Therapy or Biotherapy)**
A treatment that uses a patient’s own immune system to help fight cancer. Some immunotherapy treatments boost the body’s immune system, while others help train the immune system to attack cancer cells specifically.\(^13\)

**Monoclonal Antibodies (mAbs)**
Laboratory-developed proteins that can bind to substances in the body and are used to help treat cancer, or carry drugs, toxins or radioactive substances directly to cancer cells. There are many different types of mAbs, and each is made to bind to only one substance or antigen.\(^14\)

**Oncolytic Virus**
A virus that is bioengineered to selectively infect and kill cancer cells, leaving healthy cells intact. The virus can enter normal cells and cancer cells alike, but normal cells have mechanisms to kill the virus, while cancer cells do not. As the virus replicates, it causes cancer cells to burst and die. The dying cells release new viruses, called GM-CSF and tumor-specific antigens to stimulate an immune response.\(^15\) Oncolytic viruses may help make it easier to kill tumor cells with radiation or chemotherapy.\(^16\)
Treatment (Cont’d)

**2 out of 2**

**Second-Line Treatment**
Treatment that is usually started after the first treatment or set of treatments doesn’t work, has stopped working or has caused side effects that cannot be tolerated.¹⁸

**Systemic Therapy**
Treatment that treats the cancer but also affects the whole body (your whole system).⁴

**Tyrosine-Kinase Inhibitor (TKI) Therapies**
A type of medication that prevents cells from growing and dividing by blocking and stopping cancer-specific molecules and certain cell processes.¹⁹

**Vaccine-Based Immunotherapy Regimens (VBIRs)**
Cancer vaccines activate cell-killing T-cells and direct them to recognize and act against specific types of cancer. To accomplish this, vaccines introduce one or more cancer-specific antigens into the body, where they induce an immune response that results in T-cell activation or antibody production.²⁰

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**References:**