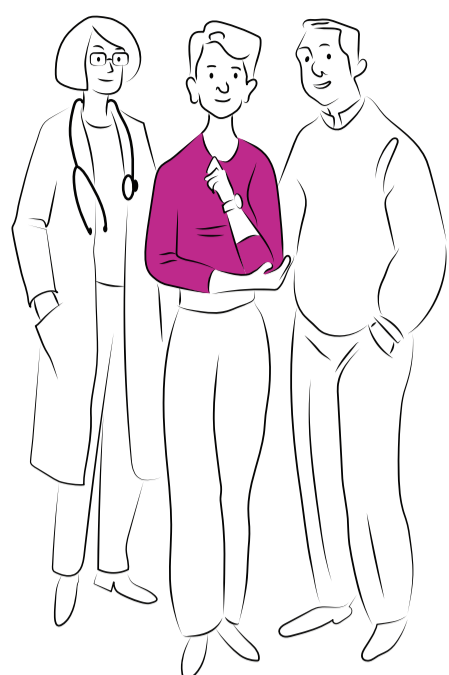


# Understanding cancer terms: Using immunotherapy to treat cancer earlier



Getting diagnosed with cancer can be shocking for a person and their loved ones. It may be hard to process information. Not only is the news life-changing, but also trying to understand unfamiliar and complicated medical terms for the first time can be hard.

Below are some words and phrases that may come up in conversations with doctors and care teams. These include information on immunotherapy, a type of treatment being used and researched for treating people with cancer. Some immunotherapies can be used either before or after cancer has spread, depending upon the type of cancer.

Talk to your doctor about treatment options that may be right for you.

## Cancer diagnosis, stages, and surgery

Because of an increase in awareness about cancer and the importance of routine screenings, some cancers are caught early. These **earlier stages** are before cancer becomes **advanced** and spreads to other parts of the body.

For solid tumors (cancers that are formed as an abnormal clump of cells), the **standard of care** (commonly accepted) treatment for these earlier-stage cancers is **resection** (surgery to remove the tumor).

In some cases, a doctor may recommend medicines be given either before or after surgery, or both. This is to either help shrink a tumor before removing it, or to help prevent it from recurring (coming back) or progressing (getting worse).

## Key terms



**Stage:** Used to describe the size of the cancer and how far it has spread.<sup>1</sup>



**Standard of care:** A term used to describe treatments that are most commonly accepted for use by healthcare professionals.<sup>5</sup>



**Biomarker:** A gene, protein, or other substance present in a tumor. Testing for biomarkers may help healthcare professionals make decisions around treatment.<sup>2</sup>



**Resection:** Surgery to remove tissue (for example, a tumor) or part or all of an organ.<sup>6</sup>



**Early-stage cancer:** Cancer that is early in its growth and may not have spread to other parts of the body.<sup>3</sup>



**Resectable:** Able to be removed by surgery.<sup>7</sup>



**Recurrent cancer:** Cancer that has come back.<sup>8</sup>



**Metastatic (also called "advanced"):** Cancer that has spread from where it started to other parts of the body.<sup>4</sup>



**Progression:** The course of cancer as it becomes worse or spreads in the body.<sup>9</sup>

## The immune system and its role in cancer

While some people may know that the **immune system** is designed to help fight germs and infections, many may not realize that it also helps fight cancer.

Sometimes cancer cells outsmart the immune system and the cancer may continue to grow. Finding ways to stop this and help the body fight cancer is an important area of cancer treatment and research.

Many people may be familiar with **chemotherapy**, which is a **systemic therapy** used to help kill cancer cells. **Immunotherapies** are different. They are a type of medicine that helps the body's immune system find and attack cancer cells.<sup>13</sup> An "immune checkpoint inhibitor" is one type of immunotherapy.<sup>14</sup>

Immunotherapy has been researched for decades. These medicines were first approved for certain types of cancer once they had spread (metastatic/metastatized). Recently, use of immunotherapies has moved into earlier stages of cancer. The goal of giving these medicines earlier is to help prevent cancer from coming back or getting worse.

Immunotherapy can cause side effects. Some of these side effects can happen because the treatment may cause inflammation in the body beyond the area of the tumor. Some side effects can become serious or life-threatening. Everyone's immunotherapy experience will be unique. It's important to keep your cancer team up-to-date on how you feel.



### Immune system:

A network of cells, tissues and organs that helps the body fight infections and other diseases, including cancer.<sup>10</sup>



### Immune response:

The way the body defends itself against substances it sees as harmful.<sup>11</sup>

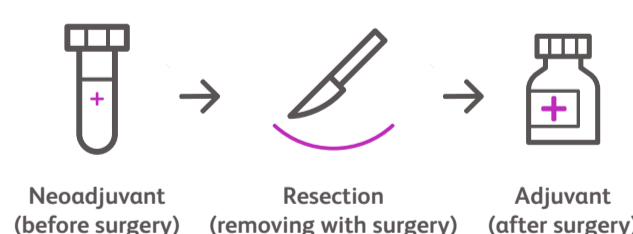


### Systemic therapy:

A type of cancer treatment that targets the whole body.<sup>12</sup>

## Immunotherapy research in earlier stages

For patients whose tumors are unable to be removed by surgery, researchers are exploring the use of immunotherapy either before surgery (**neoadjuvant**), after surgery (**adjuvant**), or both before and after surgery (**peri-operative**).



Treatments given in addition to surgery - whether before, after or both - may help shrink a tumor before it's removed and/or may help lower the chance of the cancer coming back.

There are some people, however, that are not candidates for surgery. They may need to use a different treatment for their cancer, such as targeted medicines or chemotherapy. For these people, immunotherapy is being studied as a **consolidation therapy**. It is given after initial treatment to help kill remaining cancer cells.

Cancer researchers are making progress every day and exciting areas like immunotherapy are being explored as options for people with cancer before it spreads.



### Neoadjuvant therapy:

Treatment given to shrink a tumor before surgery.<sup>15</sup>



### Peri-operative therapy:

Treatment given both before and after surgery.<sup>17</sup>



### Adjuvant therapy:

Treatment given after surgery to lower the risk that the cancer will come back.<sup>16</sup>



### Consolidation therapy:

Treatment given after initial therapy to kill any remaining cancer cells.<sup>18</sup>

Treatment options will vary for every cancer type and patient. Surgery and/or immunotherapy may not be right for everyone. Many treatments also have side effects, though they will vary by treatment and by patient. Talk to your healthcare professional about what may be appropriate treatment options for you and what you may expect during treatment.

---

## References

1. American Cancer Society. "Cancer Staging."  
<https://www.cancer.org/treatment/understanding-your-diagnosis/staging.html>.
2. National Cancer Institute. "NCI Dictionary of Cancer Terms."  
<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/biomarker>.
3. National Cancer Institute. "NCI Dictionaries: Dictionary of Cancer Terms."  
<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/early-stage-cancer>.
4. American Cancer Society. "Understanding Advanced and Metastatic Cancer."  
<https://www.cancer.org/treatment/understanding-your-diagnosis/advanced-cancer/what-is.html>.
5. National Cancer Institute. "NCI Dictionaries: Dictionary of Cancer Terms."  
<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/standard-of-care>.
6. National Cancer Institute. "NCI Dictionary of Cancer Terms."  
<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/resection>.
7. National Cancer Institute. "NCI Dictionary of Cancer Terms."  
<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/resectable>.
8. National Cancer Institute. "NCI Dictionary of Cancer Terms."  
<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/recurrence>.
9. National Cancer Institute. "NCI Dictionary of Cancer Terms."  
<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/progression>.
10. National Cancer Institute. "NCI Dictionary of Cancer Terms."  
<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/immune-system>.
11. National Cancer Institute. "NCI Dictionary of Cancer Terms."  
<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/immune-response>.
12. National Cancer Institute. "NCI Dictionary of Cancer Terms."  
<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/systemic-therapy>.
13. National Cancer Institute. "NCI Dictionary of Cancer Terms."  
<https://www.cancer.gov/about-cancer/treatment/types/immunotherapy>.
14. American Cancer Society. "Immune Checkpoint Inhibitors and Their Side Effects."  
<https://www.cancer.org/treatment/treatments-and-side-effects/treatment-types/immunotherapy/immune-checkpoint-inhibitors.html>.
15. National Cancer Institute. "NCI Dictionary of Cancer Terms."  
<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/neoadjuvant-therapy>.
16. National Cancer Institute. "NCI Dictionary of Cancer Terms."  
<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/adjuvant-therapy>.
17. National Cancer Institute. "NCI Dictionary of Cancer Terms."  
<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/perioperative>.
18. National Cancer Institute. "NCI Dictionary of Cancer Terms."  
<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/consolidation-therapy>.