



---

## **Education**

### **Staging of Cancer**

#### **What is cancer staging?**

Staging describes the extent or severity of a cancer at the time of diagnosis. Knowing the stage of the disease helps your health care provider plan your treatment and can give an idea of your chances of cure. The way cancer is staged has changed over time and it keeps changing as scientists learn more about it.

Staging is based on knowledge of the way cancer develops and spreads. Cancer cells divide and grow without control to form a mass of tissue, called a growth or tumor. As the tumor grows, it can spread to nearby organs and tissues. Cancer cells can break away from the tumor and get into the bloodstream or lymph system. The cancer can then spread site to other parts of the body and form new tumors. The spread of cancer is called metastasis.

#### **How is cancer classified or staged?**

Here are some examples of how cancer may be classified:

1. Names related to where the cancer started in the body
  - o Cancers of body surfaces, cavities, and glands are called carcinomas.
  - o Cancers of supportive or connective tissue, such as muscle or bone, are known as sarcomas.
  - o Cancers of lymphatic tissue, bone marrow, and blood cells are called leukemias, lymphomas, and myelomas.
  - o Cancers of brain tissues are called gliomas.
2. Grade is based on how the cancer cells look compared with normal cells in the same part of the body, but it is not a part of staging. The grade of a tumor depends on how abnormal the cancer cells look under a microscope and how quickly the tumor is likely to grow and spread. Grading systems are different for each type of cancer.
3. The stage may be based on the size of the primary tumor and spread of the cancer.
  - o Stage 0: Early cancer (in situ) is present only in the layer of cells in which it began.
  - o Stages I, II, and III: These higher numbers mean the primary tumor is bigger, the cancer has spread to nearby lymph nodes, and/or it has spread to organs next to the primary tumor.
  - o Stage IV: The cancer has spread (metastasized) to another part of the body.
4. Another staging system is called TNM, which stands for tumor, nodes, and metastases.
  - o "T" is defined as the size of the tumor. The size is measured in centimeters rather than inches. A T1 tumor may be up to 2 to 3 centimeters, depending on the type of tumor. A T2 tumor may be 2 to 5 centimeters. T3 would be greater than 5 centimeters, while the largest, T4, would be spreading to nearby structures of the body.
  - o "N" is defined as the number of adjacent lymph nodes containing cancer. Depending on the type of cancer, it is classified as N1, N2, or N3
  - o "M" is used to indicate if there are distant metastases. If there are no distant metastases, a cancer is staged as M0. If there are metastases, the cancer is M1.
  - o An additional letter, "R," may be used. If a cancer has not been totally removed so that some of it is still in the body, it is classified as "R," for "residual." R1 means only a small amount remains while R2 means the surgeon can see the tumor remains.

