



Understanding Your Pathology Report

Because every person's breast cancer is unique, it's important to understand the underlying biology of your tumor to personalize your treatment plan. Your physicians will perform several tests on your tumor tissue to provide specific information about your individual cancer.

Your pathology report is one of the resources containing information about your tumor. This report will help guide your healthcare team in planning the appropriate treatment for you. Ask your doctor if there are additional tests you should consider to ensure you have the most complete picture of your unique cancer.

Information in Your Pathology Report

HER2 Status

HER2 is a specific gene that can play a role in the development of breast cancer. Breast cancers with HER2 gene amplification or HER2 protein overexpression are called HER2-positive in the pathology report.

Hormone Receptor Status

This tells you whether or not the breast cancer cells have receptors for the hormones estrogen and/or progesterone.

Invasive vs. Non-invasive

If breast cancer is found, it's important to know whether the cancer is non-invasive (confined within the milk ducts or lobules in the breast) or invasive (spread outside the milk ducts or lobules of the breast).

Lymph Node Status

This tells you whether or not the breast cancer cells have receptors for the hormones estrogen and/or progesterone.

Lymphovascular Invasion

This indicates if cancer cells are found in the fluid channels of the breast.

Information in Your Pathology Report

Margins

This describes the area at the edge of the tumor examined by the pathologist. Positive margins mean that cancer cells are found at the edge of the material removed; negative/not involved/clear margins mean that no cancer cells are found at the outer edge; close margins are neither positive nor negative.

Stage

Staging is the assessment of how far the cancer has progressed. In most cases, the lower the stage, the better the prognosis (Stage 0 to Stage IV).

Tumor Grade

The tumor grade is how different the cancer cells are from normal cells.

Tumor Size

The size of the cancer tumor is one of the factors that determines the stage of the breast cancer.

Pathologic Staging and TNM Status

Breast cancer staging ranges from Stage 0 (pre-invasive) to Stage IV (cancer has spread to distant organs). Breast cancer is staged by considering three pieces of information. A number is added to each letter to indicate the size and/or extent of the tumor and the degree of cancer spread.¹

Tumor (T)

Provides information about aspects of the original (primary) tumor – ex: size, how deeply it has grown, and whether it has spread into nearby tissues.

- TX: Tumor cannot be measured.
- T0: No evidence of a primary tumor (it cannot be found).
- Tis: Cancer cells are only growing in the most superficial layer of tissue, without growing into deeper tissues. This may also be called in situ cancer or pre-cancer.
- T1, T2, T3, T4: Describes the tumor size and/or amount of spread into nearby structures; the higher the T number, the larger the tumor and/or the more it has grown into nearby tissues.

Lymph Nodes (N)

Describes whether the cancer has spread into nearby lymph nodes and, if so, how many lymph nodes are affected.

- NX: Nearby lymph nodes cannot be evaluated.
- N0: Nearby lymph nodes do not contain cancer.
- N1, N2, N3, etc: Describes the number of nearby lymph nodes affected by cancer; the higher the N number, the greater the spread to nearby lymph nodes.

Metastasis (M)

Tells whether the cancer has spread (metastasized) to distant parts of the body, such as the lungs or bones.

- MX: Distant metastasis cannot be evaluated.
- M0: No distant cancer spread was found.
- M1: Cancer has spread to distant organs or tissues (distant metastases were found).

TNM Staging^{2,3}

The stage of a cancer is determined by combining the T, N, and M classifications. Talk with your doctor about your pathology report and what it means about your cancer stage.

Stage	TNM Status	Description
Stage 0	Tis N0 M0	Also known as DCIS (ductal carcinoma in situ), the most common type of non-invasive breast cancer. Cancer cells are contained in the milk ducts and have not spread to the surrounding breast tissue or distant sites.
Stage 1A	T1 N0 M0	Invasive breast cancer (cells breaking through to or invading normal surrounding breast tissue) in which: <ul style="list-style-type: none"> • the tumor measures up to 2 cm. • the cancer has not spread outside the breast; no lymph nodes are involved. • the cancer has not spread to distant sites.
Stage 1B	T0 N1mi M0	Invasive breast cancer in which: <ul style="list-style-type: none"> • there is no tumor in the breast. • a small groups of cancer cells are found in 1-3 axillary lymph nodes (lymph nodes under the arm); cells are larger than 0.2 mm but not larger than 2 mm. • the cancer has not spread to distant sites.
	T1 N1mi M0	<ul style="list-style-type: none"> • there is a tumor in the breast that is ≤ 2 cm. • a small groups of cancer cells are found in 1-3 axillary lymph nodes; cells are larger than 0.2 mm but not larger than 2 mm. • the cancer has not spread to distant sites.

Stage 2A	T0 N1 M0	Invasive breast cancer in which: <ul style="list-style-type: none"> • there is no tumor in the breast. • the cancer is found in 1-3 axillary lymph nodes or in the lymph nodes near the breast bone (found during sentinel node biopsy). • the cancer has not spread to distant sites.
	T1 N1 M0	<ul style="list-style-type: none"> • there is a tumor in the breast ≤ 2 cm. • the cancer is found in 1-3 axillary lymph nodes or in the lymph nodes near the breast bone. • the cancer has not spread to distant sites.
	T2 N0 M0	<ul style="list-style-type: none"> • there is a tumor in the breast within 2-5 cm. • the cancer has not spread outside the breast; no lymph nodes are involved. • the cancer has not spread to distant sites.
Stage 2B	T2 N1 M0	Invasive breast cancer in which: <ul style="list-style-type: none"> • there is a tumor in the breast within 2-5 cm. • the cancer is found in 1-3 axillary lymph nodes or in the lymph nodes near the breast bone. • the cancer has not spread to distant sites.
	T3 N0 M0	<ul style="list-style-type: none"> • there is a tumor in the breast > 5 cm. • the cancer has not spread outside the breast; no lymph nodes are involved. • the cancer has not spread to distant sites.
Stage 3A	T0 to T2 N2 M0	Invasive breast cancer in which: <ul style="list-style-type: none"> • there may be no tumor in the breast or, if there is a tumor, it may be ≤ 5 cm. • cancer is found in 4-9 axillary lymph nodes or in the lymph nodes near the breastbone. • the cancer has not spread to distant sites.
	T3 N1 or N2 M0	<ul style="list-style-type: none"> • there is a tumor in the breast > 5cm. • the cancer may be found in 1-9 axillary lymph nodes or in the lymph nodes near the breast bone. • the cancer has not spread to distant sites.

Stage 3B	T4 N0 to N2 M0	<p>Invasive breast cancer in which:</p> <ul style="list-style-type: none"> • the tumor may be any size and has grown into the chest wall and/or skin of the breast and caused swelling or an ulcer. • the cancer may be found in up to 9 axillary lymph nodes (or not spread at all) or in the lymph nodes near the breast bone. • the cancer has not spread to distant sites. <p>*Inflammatory breast cancer is considered at least Stage 3B.</p>
Stage 3C	Any T N3 M0	<p>Invasive breast cancer in which:</p> <ul style="list-style-type: none"> • there may be no sign of cancer in the breast or, if there is a tumor, it may be any size and may have spread to the chest wall and/or the skin of the breast. • the cancer has spread to >10 axillary nodes, to lymph nodes under or above the clavicle (collar bone), or in lymph nodes near the breast bone. • the cancer has not spread to distant sites.
Stage 4	Any T Any N M1	<p>Also known as advanced or metastatic. The cancer tumor may be of any size and has spread beyond the breast and nearby lymph nodes to other organs of the body, including the lungs, distant lymph nodes, skin, bones, liver, or brain.</p>

Each patient is different, and every breast cancer is unique. Talk to your healthcare team and learn about your options to decide the treatment plan best for you.

To get a personalized treatment guide, go to:

MyBreastCancerCoach.org >>

1. Cancer Staging Cancer Staging (<http://www.cancer.org/treatment/understandingyourdiagnosis/staging>)
 2. Stages of Breast Cancer (<http://www.breastcancer.org/symptoms/diagnosis/staging>)
 3. What is the TNM system (<http://www.cancer.gov/about-cancer/diagnosis-staging/staging/staging-fact-sheet#q3>)