Breast Cancer: Grades and Stages

Once your healthcare provider knows you have breast cancer, the next step is to find out more about your cancer cells. This includes the stage of the cancer, the exact type you have, and other factors. This information is found by doing tests on the cancer cells that were taken out of your body in a procedure called a biopsy.

A lot is known about the biology of breast cancer, like gene changes and other details that make breast cancer cells different from normal cells. In the past, breast cancer was staged based mostly on tumor size and spread (the TNM system). Today, prognostic stage groups are used. These also look at breast cancer cell biomarkers. In fact, these may be even more important than tumor size when deciding things like the best drugs or chemo to use, the value of local (tumor-focused) treatments like radiation, and looking at each woman's likely outcome (prognosis).

This detailed information allows healthcare providers to use more personalized or focused treatment that's designed for each woman based on the changes in her cancer cells. But it also makes breast cancer staging very complex.

Here, you'll find more information on the many different factors that are used to find each woman's breast cancer **prognostic stage group**. Knowing these details can help you better understand your diagnosis. It can also help you make the treatment decisions that are best for you.

Stages

Stage describes the size of the tumor and how far the cancer has spread in your body. Imaging scans and tests are used to find out the size of the cancer and where it is. These can also show if the cancer has grown into nearby tissues, and if it has spread to other parts of your body.

The most commonly used system to stage breast cancer is the TNM system from the American Joint Committee on Cancer. Here's what the letters stand for in the TNM system:

- **T** tells how big the main **tumor** is and where it is.
- **N** tells if the lymph **nodes** near the original tumor have cancer in them. Lymph nodes are part of the immune system. They help the body fight infections.
- **M** tells if the cancer has spread (**metastasized**) to distant organs in the body, like the liver, lungs, bones, or brain.

Numbers or letters after T, N, and M provide more details about each of these factors. There are also two other values that can be assigned:

- **X** means there's not enough information to assess the extent of the main tumor (TX), or if the lymph nodes have cancer cells in them (NX), or if the cancer has spread to other part of the body (MX).
- **0** means no sign of cancer, such as no sign of spread to the lymph nodes (N0) or other parts of the body (M0).

TNM staging helps determine the type of surgery, if surgery to remove lymph nodes is needed, and if more treatment is needed after surgery.

Grades

The grade refers to how the cancer cells look when compared to normal breast cells. The grade of your cancer helps predict how fast the cancer may grow and spread.

A scale of 1 to 3 is used to grade breast cancer. The lower the number, the more the cancer cells look like normal cells. This means the cancer is less likely to spread and may be easier to treat. Grade 3 cancer cells look very different from normal cells. This grade of cancer is more likely to grow quickly and spread.

Grade is written as G1, G2, and G3. Sometimes GX is used if the grade isn't known.

HER2 status

HER2 stands for human epidermal growth factor receptor 2. Breast cancer cells that have a lot of this protein are called HER2-positive (HER2+). They tend to grow faster and are more likely to spread to other parts of the body than HER2-negative breast cancers.

There are medicines that target and block HER2 to slow or stop cancer cell growth. If a woman's breast cancer is HER2+, she should be treated with one of these medicines.

Hormone receptor status

Some breast cancer cells have hormone receptors. When the female hormones **estrogen** (ER) or **progesterone** (PR) attach to these receptors, they help the cancer cells grow faster.

Tests can be done to see if a woman's cancer cells have high amounts of hormone receptors. The results show that the cancer cells are ER-positive or negative (ER+ or ER-) and PR-positive or negative (PR+ or PR-).

This information is used to predict the cancer cell response to medicines that target these hormone receptors. Medicines that block them can slow or stop the growth of the cancer cells. These medicines don't work on breast cancer cells that are ER-negative and PR-negative.

Prognostic stage groups

All of the above information is put together into what's called the **prognostic stage group**. These groupings give an overall description of your cancer.

A prognostic stage group can have a value of 0 to 4, and they're written as Roman numerals 0, I, II, III, and IV. The higher the number, the bigger the cancer is or the more it has spread beyond the breast, or both. Letters are used after the Roman numeral to give more details.

All the details used in prognostic stage grouping help healthcare providers choose the best treatments for each woman and, as a result, get better treatment outcomes. These details also keep women from getting treatments that aren't needed or won't work.

Other important factors

Ki-67

Ki-67 is widely used as a marker of cancer cell proliferation. This is how fast the cancer cells are dividing. High Ki-67 levels mean that the cancer cells are dividing fast.

Cancer cell gene tests

Tests that look at patterns of many different gene changes at one time are becoming another important part of managing some breast cancers. But they're not useful for women with HER2+ or triple negative breast cancers.

These tests are often called genomic assays or genomic tests. They look for changes in certain genes in breast cancer cells. The results can be used to help predict likely outcomes after treatment and the need for more treatment after surgery.

The main thing the tests used today show is a woman's risk of cancer coming back after treatment. For instance, the test may give a **recurrence score** . This is a measure of the woman's risk of the cancer coming back in the next 10 years. Other tests may give a **risk assessment** of how likely it is that the cancer will come back in another part of her body.

Talking with your healthcare provider

Breast cancer staging is very complex. Remember, the key information that's needed includes:

- The TNM values
- Grade
- HER2 status
- Hormone-receptor status

Once your cancer is staged, your healthcare provider will talk with you about what the stage means for your treatment. Be sure to ask your healthcare provider to explain the stage of your cancer to you in a way you can understand. Make sure to ask any questions and talk about your concerns so you can make the best decisions about your cancer care.