Tell us what you think

Just fill in, tear off, and mail—no stamp required.

Thank you for taking the time to answer these questions. Your feedback will help us reach many more women.

My age: ☐ 18-30 ☐ 31-40 ☐ 41-50 ☐ 51-60
☐ 61-70 ☐ 71-80 ☐ 81-100

I am a: ☐ Woman affected by breast cancer
☐ Physician ☐ Nurse
☐ Other health care professional

I would like more of these booklets to give to others:
☐ Yes ☐ No If yes, how many? _____

Mailing address: _____

_____

Questions for women affected by breast cancer:

1. Did this booklet help you to understand your breast cancer pathology report? ☐ A lot ☐ A little ☐ Not at all
2. Did this booklet give you more confidence in talking to your doctor about your breast cancer? ☐ A lot ☐ A little ☐ Not at all
3. Did this booklet help you think of questions to ask your doctor? ☐ A lot ☐ A little ☐ Not at all
4. Did this booklet help you in making decisions about your treatment? ☐ A lot ☐ A little ☐ Not at all
5. Did this booklet help you feel good about the decisions you made about your treatment? ☐ A lot ☐ A little ☐ Not at all
6. Do you use the Internet to find information about your health? ☐ A lot ☐ A little ☐ Not at all

Questions for health care professionals:

1. Do you feel this booklet has helped your patients to understand their pathology report? ☐ A lot ☐ A little ☐ Not at all
2. Has this booklet helped facilitate your discussions with patients about their treatment options? ☐ A lot ☐ A little ☐ Not at all
3. Do you feel this booklet has helped make your patients more comfortable with their treatment decisions? ☐ A lot ☐ A little ☐ Not at all

Key Questions

Here are important questions to be sure you understand, with your doctor's help:

1. Has this breast cancer spread within the breast (invasive or non-invasive)?
2. Are any lymph nodes positive for cancer? If so, how many?
3. What did the hormone receptor test show? Can you take a medicine that lowers or blocks your estrogen?
4. Were the margins negative, close, or positive?
5. Was the HER-2 test normal or abnormal?
6. Is this a slow-growing or a fast-growing breast cancer?
7. What other lab tests were done on the tumor tissue?
8. What did these tests show?
9. Is any further surgery recommended based on these results?
10. What types of treatment are most likely to work for this specific cancer?

breastcancer.org

"To help women make sense of the complex medical and personal information about breast cancer, guiding them and their loved ones to the best decisions for their lives."

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This booklet belongs to:

Your Guide to the Breast Cancer Pathology Report

Developed for you by
breastcancer.org
The world's leading Internet-based nonprofit breast cancer organization

Your Guide to the

Breast Cancer Pathology Report

A report is written **each time that tissue is removed from the body** to check for cancer. It is called a pathology report. Each report has the results of the studies of the tissue that was removed. The information in these reports will help you and your doctor decide about the best treatment for you.

Reading your pathology report can be scary and confusing. The words are like a foreign language. Different labs may use different words to describe the same thing. **On page 18, you'll find an easy-to-understand word list.** We hope we can help you make sense of this information so you can get the best care possible.

This booklet is divided into **three sections,** A) The Breast Tumor, B) The Lymph Nodes, and C) Breast Cancer Tests.

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Wait for the Whole Picture

Waiting is so hard! But just one test can lead to several different reports. Some tests take longer than others. Not all tests are done by the same lab. Most information comes within one to two weeks after surgery, and you will usually have all the results within three weeks. Your doctor can let you know when the results come in. If you don't hear from your doctor, give him or her a call.

Be sure that you **have all the test information you need** before you make a final decision about your treatment. Also, don't focus too much on any one piece of information by itself. Try to look at the whole picture as you think about the future.

The pathology report will help your doctor decide the stage of your breast cancer. It could be Stage 0, I (1), II (2), IIIA (3A), IIIB (3B), or IV (4).

Staging is based on the size of the tumor, whether lymph nodes are involved, and whether the cancer has spread beyond the breast. **Your doctors use all parts of the pathology report as well as the breast cancer stage to shape your treatment plan.**

To learn more about this topic go to **www.pathology.breastcancer.org** and click on: **"Wait for the whole picture"**

How to Start

First, check the top of the report for **your name,** the **date you had your operation,** and **the type of operation** you had.

Make sure they are right for you. Mix-ups can happen.

Sections of Your Report

Specimen: This section describes **where the tissue samples came from.** Tissue samples could be taken from the breast, from the lymph glands under your arm (axilla), or both.

Clinical history: This is a short description of you and **how your breast lump was found.** It also describes the kind of surgery that was done.

Clinical diagnosis: This is the **diagnosis the doctors were expecting before** your breast tissue was tested.

Gross description: This section describes the tissue sample or samples. It talks about **the size, weight, and color of each sample.**

Microscopic description: This section describes **the way the cancer cells look under the microscope.** It also compares the cancer cells to the normal cells next to them.

Special tests or markers: This section reports the results of **tests that look for proteins, genes, and how fast the cells are growing.**

Summary or final diagnosis: This section will tell **exactly what was found in each tissue sample** covered in the report.

A. The Breast Tumor

1. Is the tumor a cancer?

A tumor is a growth (a group of cells). It can be made of normal cells or cancer cells. The pathology report will tell you what kind of cells are in the tumor.

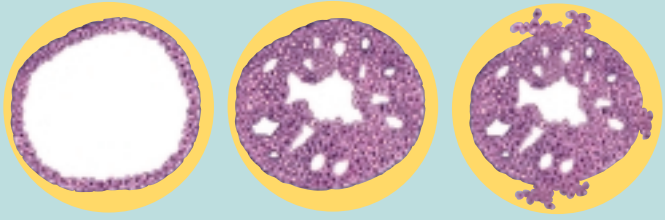
2. Has the breast cancer spread?

The single most important fact about any breast cancer is whether it has **spread outside** the tiny part of the breast where it first started. If it has spread, it is called **invasive.**

Non-invasive (sometimes called *in situ*) cancers **stay inside** the milk ducts or milk lobules in the breast. They do not spread to or invade normal tissues within or beyond the breast.

Most cancers are invasive. These cancers break through the small area where they start and go into normal breast tissue or other areas around the breast. Sometimes, they can also spread to other parts of the body, through the blood or lymph system.

This is what different types of cells look like under the microscope.



Normal Cells | Non-invasive Cells | Invasive Cells

You may see one of these descriptions of cancer in your report:

DCIS (Ductal Carcinoma In Situ) —

This is a **cancer that does not spread.** It **stays inside** the milk ducts. You may also see words describing what it looks like under the microscope. (These words can be found in the word list in the back of this booklet.)

LCIS (Lobular Carcinoma In Situ) —

This cancer is made up of **cells that are not normal but that stay inside the milk-making part of the breast.** LCIS is a pre-cancer, not a true cancer. It is a warning sign for an increased risk of having cancer in the future, in either breast.

IDC (Invasive Ductal Carcinoma) —

This is a cancer that **begins in the milk duct but grows into the surrounding normal tissue inside the breast.** This is the most common kind of breast cancer. There are other, less common types of invasive breast cancer.

ILC (Invasive Lobular Carcinoma) —

This is a cancer that **starts inside the milk-making glands, but grows into the normal surrounding tissue** inside the breast.

My report says:

I have the _____ type of cancer.

A. The Breast Tumor

3. How much do the tumor cells look like cancer?

Experts call this **tumor grade.** They compare cancer cells to normal breast cells. Based on these comparisons, they give a "grade" to the cancer:

Grade 1 *(Low Grade or Well Differentiated):*
Grade 1 cancer cells still look a lot like normal cells. They are usually **slow growing.**

Grade 2 *(Intermediate/Moderate Grade or Moderately Differentiated):*
Grade 2 cancer cells do not look like normal cells. They appear to be **faster growing** and they tend to stick together.

Grade 3 *(High Grade or Poorly Differentiated):*
Grade 3 cancer cells have irregular shapes and stick together. They tend to be **fast growing.**

My report says the cancer is: *(circle one)*

Grade 1 Grade 2 Grade 3

4. How fast are the cancer cells growing?

(Rate of Growth)

There are two tests to see how fast the cancer is growing: S-phase fraction test and Ki-67 test. Both tests measure if the cells are growing at a normal rate or faster than normal.

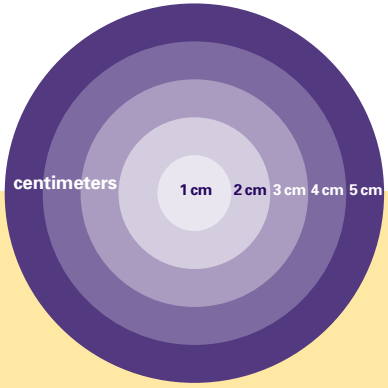
5. How big is the tumor?

Doctors measure tumors in **centimeters (cm).** Tumor size is one thing doctors look at when they try to decide the stage of the cancer. (They also use information about lymph nodes.)

Size is important, but it doesn't tell the whole story. A small tumor can be very fast growing. A larger tumor can be a "gentle giant."

My report says:

The size of the tumor is _____ centimeters.



To learn more about this topic go to **www.pathology.breastcancer.org** and click on:

"How big is the tumor?"

A.

The Breast Tumor

6. Has the whole tumor been removed?

When cancer cells are removed from the breast, the surgeon tries to get clear around the tumor with an extra area or **"margin"** of normal tissue. This is to be sure that all of the cancer is removed.

This tissue around the edge of the tumor is called the margin of resection. It is looked at very carefully to see if it is clear of any cancer cells.

The lab also measures **how close to the outer edge of the tissue sample cancer cells are found.**

Margins around a tumor are described in three ways:

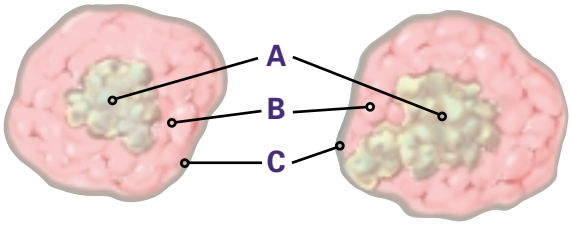
Positive: Cancer cells come right out to the edge of the tissue. More surgery may be needed.

Negative: No cancer cells can be seen at the outer edge. Usually, no more surgery is needed.

Close margins: Between positive and negative. More surgery may be needed.

The Breast Tumor

This is what cancer cells, surrounded by a margin of normal cells, look like.



Negative Margin **Positive Margin**

A–cancer cells B–normal tissue C–the edge

What is called "negative" (or "clean") margins can be different from hospital to hospital. In some places, doctors want at least two millimeters of normal tissue beyond the edge of the tumor. In other places, just one healthy cell is called a negative margin.

My report says the margins are: *(circle one)*

Negative Positive Close

To learn more about this topic go to **www.pathology.breastcancer.org** and click on: **"Margins of resection"**

B. The Lymph Nodes

1. Are there breast cancer cells in your lymph nodes?

Whether or not you have cancer cells in the lymph nodes under your arm is the most **important** piece of information about the risk of the cancer spreading. The higher the number of lymph nodes that have cancer in them, the higher the chance that cancer could come back. The purpose of treatment is to lower this risk.

Lymph nodes are filters along the lymph fluid channels. Lymph fluid leaves the breast and goes back into the bloodstream. **The lymph nodes try to catch and trap cancer cells** before they reach other parts of the body.

When lymph nodes are free or **"clear"** of cancer, the test results are called **"negative."** If lymph nodes have **some cancer cells** in them, they are called **"positive."**

My report says the lymph nodes are:
(circle one) Positive Negative

If positive:
The number of involved nodes is _____.

To learn more about this topic go to **www.pathology.breastcancer.org** and click on:

"Are there breast cancer cells in your lymph nodes?"

2. Are there cancer cells in your lymph or blood vessels?

The breast has a network of blood vessels and lymph channels that connect breast tissue to other parts of the body. These are the "highways" that bring in nourishment and remove waste products. There is an increased risk of cancer coming back when cancer cells are found in the fluid channels of the breast. In these cases, you may receive treatment to your whole body, not just the breast area.

This test result will look like this:

Lymphatic/vascular invasion:

PRESENT *(yes, it has been found) or*
ABSENT *(no, invasion not found).*

My report says lymphatic or vascular invasion is: *(circle one)*
Present Absent

This is a picture of cancer cells that spread through the wall of the milk duct and into the lymph channels.

A normal duct cell
B cancer cells
C wall of milk duct
D lymphatic channel
E blood vessel
F breast tissue

C.

Breast Cancer Tests

1. Do the breast cancer cells have hormone receptors?

Hormone receptors are like ears on breast cells that listen to signals from hormones. These signals "turn on" growth in breast cells that have receptors.

A tumor is called **"ER-positive"** if it has receptors for the hormone **estrogen.** It is called **"PR-positive"** if it has receptors for the hormone **progesterone.** Breast cells that do not have receptors are "negative" for these hormones.

It is good if breast cancer cells have hormone receptors. These cells can be treated with medicine that reduces the estrogen in your body. They can also be treated with medicine that keeps estrogen away from the receptors.

If the cancer has no hormone receptors, there are still very effective treatments available.

Breast Cancer Tests

You will see the results of your hormone receptor test written in one of these two ways:

1) the number of cells that have receptors out of 100 cells tested. You will see a number between 0% (no receptors) and 100% (all have receptors).

2) a number between 0 and 3. You will see the number
   0 (no receptors),
   1+ (a small number),
   2+ (medium number),
   or 3+ (a large number of receptors).

My report says hormone receptors: *(circle two)*

ER-positive ER-negative

PR-positive PR-negative

To learn more about this topic go to **www.pathology.breastcancer.org** and click on:
"Are hormone receptors present?"

C.

Breast Cancer Tests

2. Does the cancer have genes that are not normal?

HER-2 status
(also called HER-2/neu, c-erb-2, or erb-2)

HER-2 is a gene that helps control how cells grow, divide, and repair themselves. About one out of four breast cancers have too many copies of the HER-2 gene. These cancers tend to grow fast. But they also respond very well to anti-HER-2 antibody therapy. There are two tests for HER-2.

IHC test
(IHC stands for ImmunoHistoChemistry)

- The IHC test works best for fresh tissue that has been frozen right after surgery.
- You can get a 0 (negative), 1+ (negative), 2+ (borderline) or 3+ (positive) on the IHC test.

Breast Cancer Tests

FISH test
(FISH stands for Fluorescence In Situ Hybridization)

- The FISH test is good for all kinds of tissue: fresh, frozen, and those kept in wax. It is good for older tissue samples too.
- You can get a "zero" (negative) or "positive" on the FISH test.

Find out which test for HER-2 you had. This is important. Only tumors that test IHC "3+" or FISH "positive" will respond well to antibody therapy. An IHC 2+ test result is called borderline. If you have a 2+ result, you can and should ask to have the tissue tested with the FISH test.

My report says HER-2 status is:
(circle one) Positive Negative

Test used:
(circle one) IHC FISH

To learn more about this topic go to **www.pathology.breastcancer.org** and click on:
"Testing breast tumors for HER-2"

Word List

Abnormal cells: cells that do not look or act like the healthy cells of the body

Aggressive cancer cells: cells that are fast growing and can spread beyond the small area where they started

Anti-HER-2 antibody therapy: a medicine used to treat breast cancer with abnormal HER-2 genes

Aromatase inhibitor: medicine that lowers estrogen in the body (after menopause)

Axillary lymph nodes: lymph nodes under your arms

Biopsy: an operation to take out tissue to check if it is cancer or not

c-erb-2: another name for the HER-2 gene

Clean margins: means that the normal tissue around the tumor is free of cancer cells

Close margins: means that cancer cells come near the outer edge of the tissue around the tumor

Colloid: a type of invasive cancer that grows into the normal tissue around it; it usually grows slowly

Comedo: a type of non-invasive cancer that usually does not spread; it tends to grow fast

Cribiform: a type of non-invasive cancer that does not spread and usually grows slowly

Ductal Carcinoma in situ (DCIS): a non-invasive cancer that stays inside the milk pipes and usually doesn't spread

erb-2: another name for the HER-2 gene

ER-negative: a tumor that does not have estrogen receptors

ER-positive: a tumor that has estrogen receptors

FISH (Fluorescence In Situ Hybridization) test: one type of test for the HER-2 gene

Gene: part of the body's code for making new cells and controlling the growth and repair of the cells

Grade: tells you how much the tumor cells look different from normal cells

HER-2: a gene that helps control the growth and repair of cells

Hormone receptors: tiny areas like ears on cells that listen and respond to signals from hormones

IHC (immunohisto-chemistry) test: one type of test for the HER-2 gene

In situ: a cancer that stays inside the part of the breast where it started; it usually does not spread

Invasive: a cancer that spreads beyond the place where it started

Invasive Ductal Carcinoma (IDC): a cancer that begins in the milk duct but grows into the normal breast tissue around it

Invasive Lobular Carcinoma (ILC): a cancer that starts inside the milk-making gland, but grows into the normal breast tissue around it

Irregular cells: cells that do not look like the healthy cells of the body

Ki-67: a test that shows how fast cancer is growing

Lobular Carcinoma in situ (LCIS): cells that are not normal but that stay inside the milk-making part of the breast

Lymphatic invasion: means that cancer cells are found in the lymph vessels

Lymph nodes: filters along the lymph fluid channels; they try to catch and trap cancer cells before they reach other parts of the body

Margins: the normal tissue around the tumor that was taken out

Medullary: a type of invasive cancer that grows into the normal tissue around it

Milk ducts: tiny tubes in the breast through which milk flows to the nipple

Milk lobules: milk-making glands in the breast

Mucinous: a type of invasive cancer that spreads into the normal tissue around it

Negative margins: means that the tissue around the tumor is free of cancer cells

Non-invasive: a cancer that stays inside the breast part where it started

Papillary: a type of non-invasive cancer that does not spread and tends to grow slowly

Pathologist: a doctor who looks at tissue under a microscope to see if it's normal or affected by disease

Positive margins: means that cancer cells come up to the edge of the normal tissue around the tumor

Pre-cancerous: a tumor that is not considered a cancer; it is a warning sign that you may get cancer in the future

PR-negative: a tumor that does not have progesterone receptors

PR-positive: a tumor that has progesterone receptors

Recurrence: when a cancer comes back again

Solid: a type of cancer that is non-invasive; it does not spread and tends to grow slowly

S-phase fraction test: a test that shows how fast a cancer is growing

Tamoxifen: medicine that stops estrogen from reaching hormone receptors on tumors

Tubular: a type of invasive cancer that grows into the normal tissue around it; it usually grows slowly

Vascular invasion: means that cancer cells are found in the blood vessels