

A photograph of a smiling woman wearing a pink top and a light pink headscarf, standing on a balcony with a cityscape in the background. The image is partially obscured by a dark purple and blue graphic overlay at the bottom.

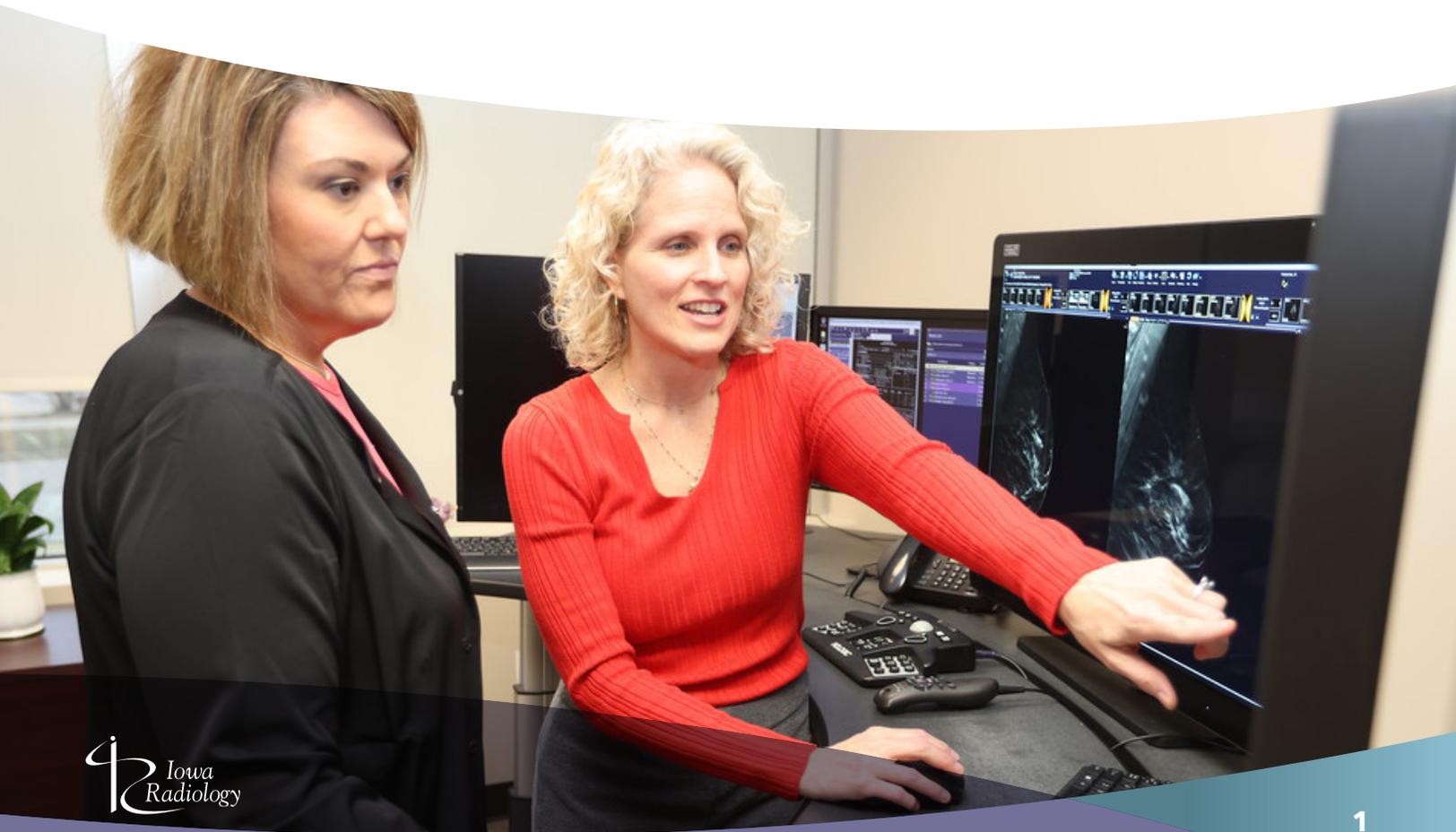
Types of Breast Cancer Guide

Table of Contents

- 1 Introduction
- 2 Ductal Carcinoma
- 4 Paget's Disease of the Nipple
- 5 Lobular Carcinoma
- 7 Inflammatory Breast Cancer
- 8 Contact Us

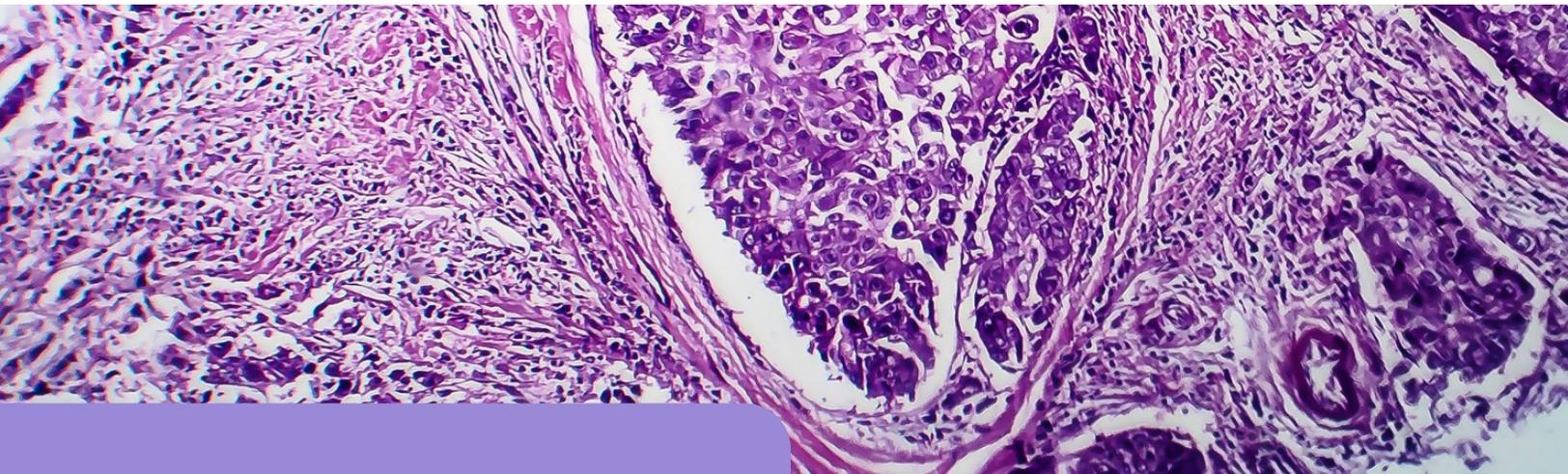
Introduction

Many women know that approximately 1 in 8 of us will be diagnosed with breast cancer. Less widely understood, however, is the wide variation in types and characteristics of breast cancers. In this ebook, we will look at some of the main types of breast cancer and discuss their appearance, how they're often detected, common treatments, and typical prognoses. It's important to keep in mind, however, that every case of breast cancer is different, and your best source of information about your specific case is your own medical team.



Ductal Carcinoma

Ductal carcinoma is a type of cancer that begins in the milk ducts. It is classified as either in situ, which means that it has not spread beyond this location, or invasive (or infiltrating), meaning that it has spread beyond the milk ducts into the surrounding breast tissue.



Ductal Carcinoma in Situ (DCIS) What is DCIS?

DCIS describes abnormal cells within the milk ducts. Also known as stage 0 breast cancer, DCIS is the most common form of non-invasive breast cancer and accounts for 20–25% of new breast cancer cases.¹ Recent years have seen debate over how to classify this condition.² While DCIS may never progress outside the milk ducts, research indicates that it significantly increases a patient's risk of developing fatal breast cancer.

HOW IS DCIS DETECTED AND TREATED?

DCIS typically presents no symptoms, but some patients may notice a small lump or nipple discharge that prompts them to see a doctor. For this reason, annual mammography is an important tool for detecting this condition.

Treatment for DCIS includes surgery to remove the abnormal cells. Depending on the doctor's assessment, they may recommend either breast-conserving surgery (lumpectomy) or mastectomy. In some cases, radiation and/or the drug

tamoxifen are also used to prevent recurrence.³ Researchers are working to identify ways to predict which cases of DCIS are more likely to precede invasive breast cancer to avoid both undertreatment and overtreatment of this condition.⁴

WHAT IS THE PROGNOSIS FOR PATIENTS WITH DCIS?

DCIS is non-invasive and does not directly cause death. However, ongoing monitoring is important. A long-term study of more than 144,000 DCIS patients, published in *JAMA Oncology* in 2020, found that 3.36% of this cohort died of cancer. While this number is low, it represents more than three times the cancer death rate in the general population. This elevated risk of death persisted for more than fifteen years after the DCIS diagnosis. Within the cohort, death rates were significantly higher among Black patients and those diagnosed before age 40.⁵

Invasive Ductal Carcinoma (IDC)

What is IDC?

Invasive ductal carcinoma is the most common form of breast cancer, accounting for approximately 80% of all breast cancers.⁶ Like DCIS, IDC begins in the milk ducts; unlike the in-situ form of ductal breast cancer, however, IDC describes cancer that has spread beyond the milk ducts into the surrounding tissue. As with many types of cancer, the risk of developing IDC increases with age, and most cases are diagnosed in patients aged 55 and older.⁷

WHAT ARE THE SYMPTOMS OF IDC?

While you or your doctor may feel a lump that alerts you to IDC, mammography is important because it sometimes detects IDC that hasn't produced any symptoms. Other possible signs of infiltrating ductal carcinoma include

- Swelling and/or pain in the breast
- Irritation, redness, dimpling, or thickening of breast skin
- Nipple pain or inversion
- Unusual discharge from the nipple
- Lump in the underarm

WHAT IS THE PROGNOSIS FOR IDC PATIENTS?

Whenever you look at information about cancer survival rates, it's important to keep in mind that it takes time to collect and analyze data before statistics are released, and survival rates tend to increase over time as detection and treatment methods progress.

An individual patient's prognosis will be largely influenced by the stage of the cancer at the time of detection. (Stage refers to how far the cancer has spread from its place of origin—in the case of IDC, the milk duct.) Stage I is the earliest stage of invasive cancer, and stage IV describes cancer that has metastasized to other organs or distant parts of the body. To determine stage, the doctor looks at the tumor size and identifies any other locations to which it has spread. The earlier cancer is detected, the better the prognosis. Treatments are more likely to be successful, and less invasive treatments are more likely to be effective against earlier stage cancers.

The American Cancer Society reports that 99% of patients with localized breast cancers survive at least five years after diagnosis. Of those whose cancer has spread to nearby tissues, 86% survive at least five years. The more distant the spread of cancer, the more difficult it is to treat and the lower the survival rate. Overall, however, the five-year survival rate for all breast cancer stages combined is 91%.⁸

How is IDC treated?

Recommended treatments vary depending on the patient's age and overall health as well as the tumor's stage, grade, type, growth rate, and hormone receptor status. Recommendations can range from lumpectomy and radiation to minimize the odds of recurrence to mastectomy and drugs such as chemotherapy, hormone therapy, immunotherapy, and targeted therapy medications.⁹

Paget's Disease of the Nipple



What is Paget's disease?

Paget's disease of the nipple is a rare condition in which cancer cells develop around the nipple. It's estimated that Paget's disease is involved in 1-4% of breast cancer cases. Researchers are uncertain how this condition arises: one theory is that cancer cells produced inside the breast travel through the milk ducts and appear on the nipple; another is that these cells become cancerous on their own. Most patients with the disease have additional underlying breast cancer.¹⁰

WHAT ARE THE SYMPTOMS OF PAGET'S DISEASE?

Initially, symptoms can come and go, but they tend to worsen over time. Symptoms of Paget's disease can sometimes be confused with skin conditions like eczema. Paget's disease can cause changes in the nipple and surrounding area such as

- Red, flaky, or thickened skin
- Pain, itching, burning, tingling, or increased sensitivity
- Flattening or inversion of the nipple
- Bloody or yellowish discharge

HOW IS PAGET'S DISEASE TREATED?

The treatment for Paget's disease will depend heavily on whether underlying breast cancer is detected and, if so, its characteristics. Mastectomy is the standard treatment for Paget's disease, but some patients can successfully be treated with breast-conserving surgery, which typically involves removing the nipple and areola as well as any cancer existing within the breast.¹¹ Even if no underlying cancer is detected, a sentinel node biopsy may be recommended because cancer may still appear in the lymph nodes of Paget's disease patients in such cases. Patients with invasive underlying cancers or other complicating factors, however, may be advised to undergo mastectomy. Individual recommendations will depend on the characteristics of the underlying cancer detected and may also include radiation, chemotherapy, and/or hormone therapy.¹²

What is the prognosis for patients with Paget's disease of the nipple?

Because of the disease's frequent association with other breast cancers, the prognosis for patients can vary widely. Paget's disease patients without palpable breast tumors have the most favorable prognoses, with average five-year survival rates of 92-94% and 10-year survival rates of 82-91%. Among patients with underlying breast tumors, recently reported survival rates are 38-40% and 22-33%, respectively.¹³

Lobular Carcinoma



Lobular Carcinoma in Situ (LCIS) What is LCIS?

Not considered true breast cancer, LCIS is sometimes referred to as lobular neoplasia, indicating abnormal cells located in the milk glands.

HOW IS LCIS DETECTED AND TREATED?

Lobular carcinoma in situ typically produces no symptoms, and it often does not show up on a mammogram.¹⁴ As a result, it's often detected when a breast biopsy is taken to investigate another issue in the breast, such as a lump or irregular mammogram finding.

Surgery is not typically recommended for LCIS, although breast-conserving surgery is often advised if a biopsy shows pleomorphic or florid LCIS, which indicates a higher risk of invasive cell growth. Additionally, prophylactic mastectomy may be recommended for individuals in particularly high-risk groups such as those with BRCA gene mutations. In some cases, preventive medications are prescribed. Often, however, careful observation is the advised course.¹⁵

WHAT IS THE PROGNOSIS FOR PATIENTS WITH LCIS?

While on its own, LCIS is not life threatening, LCIS is associated with a seven- to twelvefold increase in a patient's risk of developing invasive breast cancer.¹⁶ For this reason, annual mammography is particularly important for these individuals.

Invasive Lobular Carcinoma (ILC)

What is invasive lobular carcinoma?

ILC is breast cancer originating in the milk-producing glands that has spread to surrounding tissues. ILC is the second most common form of breast cancer (next to IDC), accounting for approximately 10% of all breast cancers.¹⁷

HOW IS ILC DETECTED?

In the earliest stages, ILC may not produce symptoms. It can be difficult to see on a mammogram because the cancer tends to stream through the breast tissue rather than forming a lump. Typically, a problematic area or suspicious mammogram finding is assessed with biopsy to identify ILC, and patients diagnosed with ILC may also undergo MRI and/or ultrasound to further assess the cancer. Patients may notice a hardening or thickening of the breast, unusual fullness or swelling, breast or nipple pain, nipple inversion, or skin irritation or dimpling.

WHAT IS THE PROGNOSIS FOR ILC PATIENTS?

As with other infiltrating cancers, an individual patient's prognosis depends heavily on the characteristics of the cancer found, such as its stage and size.

What treatments are available for ILC?

Treatments for invasive lobular cancer can vary. Smaller, more localized cancers may be successfully treatable with breast-conserving surgery and radiation. If the tumor is large or has spread to other parts of the body, then hormonal treatments and/or chemotherapy may be prescribed in order to shrink the tumor before surgery (either lumpectomy or mastectomy). Often, one or more lymph nodes are removed during surgery for evaluation to help determine whether and to what extent the cancer has spread to other parts of the body. Chemotherapy, hormonal therapy, and/or other medications may be recommended to attack cancer cells that have spread and to prevent the cancer from returning.¹⁸

Inflammatory Breast Cancer (IBC)



What is inflammatory breast cancer?

Inflammatory breast cancer is a rare and aggressive variety of cancer that occurs when cancer cells block the lymph vessels in the breast, causing the breast to become red, swollen, and tender.

WHAT ARE THE SYMPTOMS OF IBC?

IBC is often confused with breast infection, which commonly afflicts breastfeeding mothers. However, it's important to have symptoms checked by a doctor right away because IBC can advance very rapidly. Symptoms may include

- Rapid changes in the appearance of one breast
- Heaviness, aching, or pain
- Unusual warmth in the breast
- Redness or a bruised appearance
- Dimpling or ridges that create an orange-peel appearance to the skin
- Flattening or inversion of the nipple
- Lump under the arm or near the collarbone

HOW IS IBC TREATED?

Typically, inflammatory breast cancer treatment begins with chemotherapy and depending on the tumor's characteristics, may include additional medications to shrink the cancer prior to surgery. If the tumor does not shrink in response to these therapies, then radiation may also be used prior to surgery for this purpose.

Because inflammatory breast cancer spreads rapidly and affects much of the breast, mastectomy is typically performed. Surgery is followed up with radiation therapy and, possibly, additional chemo and/or other medications to fight any remaining cancer.¹⁹

What is the prognosis for patients with IBC?

Because inflammatory breast cancer is extremely aggressive, approximately one third of women already have metastases when diagnosed, meaning that the cancer has already spread through the body. Metastatic breast cancer is not considered curable, but it is treatable. The American Cancer Society Reports that among women diagnosed with inflammatory breast cancer between 2012 and 2018, 39% survived at least five years after their diagnosis (including 19% of those with metastatic cancer).²⁰



In Partnership With



Our focus is your good health!

Iowa Radiology is certified by the National Accreditation Program for Breast Centers and designated by American College of Radiology as a Breast Imaging Center of Excellence. That means we meet high standards of training, education, outreach, service, and safety in the delivery of breast imaging services. We proudly provide state-of-the-art 3-D mammography as well as abbreviated breast MRI for superior cancer detection.

Contact Iowa Radiology Today!

Sources

¹ Tomlinson-Hansen S, Khan M, Cassaro S. Breast Ductal Carcinoma in Situ. National Library of Medicine. Updated February 27, 2023. Accessed January 25, 2024. <https://www.ncbi.nlm.nih.gov/books/NBK567766/>.

² Jones C. Ductal Carcinoma In Situ: The Weight of the Word "Cancer." American Association for Cancer Research. Published October 12, 2022. Accessed January 25, 2024. <https://www.aacr.org/blog/2022/10/12/ductal-carcinoma-in-situ-the-weight-of-the-word-cancer/>

³ National Cancer Institute. Breast Cancer Treatment (PDQ®)-Patient Version. Cancer.gov. Updated December 6, 2023. Accessed January 15, 2024.

⁴ Susan G. Komen. Emerging Areas in the Treatment of DCIS. Updated January 3, 2024. Accessed January 25, 2024. <https://www.komen.org/breast-cancer/treatment/emerging-areas/dcis/>.

⁵ Giannakeas V, Sopik V, Narod SA. Association of a Diagnosis of Ductal Carcinoma In Situ With Death From Breast Cancer. JAMA Netw Open. 2020;3(9):e2017124. <https://dx.doi.org/10.1001/jamanetworkopen.2020.17124>

⁶ American Cancer Society. Invasive Breast Cancer (IDC/ILC). Cancer.org. Revised November 19, 2021. Accessed January 25, 2024. <https://www.cancer.org/cancer/types/breast-cancer/about/types-of-breast-cancer/invasive-breast-cancer.html>.

⁷ Wright P. Invasive Ductal Carcinoma (IDC). HopkinsMedicine.org. Published January 27, 2022. Accessed January 25, 2024. <https://www.hopkinsmedicine.org/health/conditions-and-diseases/breast-cancer/invasive-ductal-carcinoma-idc>.

⁸ Survival Rates for Breast Cancer. Cancer.org. <https://www.cancer.org/cancer/types/breast-cancer/understanding-a-breast-cancer-diagnosis/breast-cancer-survival-rates.html>. Revised January 17, 2024. Accessed January 25, 2024.

⁹ Fletcher J. What to know about invasive ductal carcinoma, MedicalNewsToday.com. Published September 8, 2023. Accessed January 25, 2024. <https://www.medicalnewstoday.com/articles/invasive-ductal-carcinoma-treatments>

¹⁰ DePolo J. Paget Disease of the Breast. BreastCancer.org. Updated February 2, 2023. Accessed January 25, 2024. <https://www.breastcancer.org/types/paget-disease>

¹¹ Schwartz RA. Mammary Paget Disease. Medscape. Updated April 20, 2023. Accessed January 25, 2024. <https://emedicine.medscape.com/article/1101235-overview#a6?form=fpf-a6>.

¹² Paget's Disease of the Breast. MayoClinic.org. <https://www.mayoclinic.org/diseases-conditions/pagets-disease-of-the-breast/diagnosis-treatment/drc-20351084>. Published May 20, 2021. Accessed January 25, 2024.

¹³ Schwartz RA. Mammary Paget Disease. Medscape. Updated April 20, 2023. Accessed January 25, 2024. <https://emedicine.medscape.com/article/1101235-overview-a6>.

¹⁴ Lobular Carcinoma in Situ (LCIS). MayoClinic.org. <https://www.mayoclinic.org/diseases-conditions/lobular-carcinoma-in-situ/symptoms-causes/syc-20374529>. Published November 19, 2020. Accessed August 31, 2021.

¹⁵ Lobular Carcinoma in Situ (LCIS). Cancer.org. <https://www.cancer.org/cancer/breast-cancer/non-cancerous-breast-conditions/lobular-carcinoma-in-situ.html>. Revised January 25, 2022. Accessed January 25, 2024.

¹⁶ Susan G. Komen. Lobular Carcinoma in Situ (LCIS). Published January 25, 2022. Accessed January 25, 2024. <https://www.cancer.org/cancer/types/breast-cancer/non-cancerous-breast-conditions/lobular-carcinoma-in-situ.html>.

¹⁷ DePolo P. Invasive Lobular Carcinoma (ILC). Breastcancer.org. Updated January 5, 2024. Accessed January 25, 2024. <https://www.breastcancer.org/types/invasive-lobular-carcinoma>.

¹⁸ Ibid.

¹⁹ American Cancer Society. Inflammatory Breast Cancer. Cancer.org. Revised March 1, 2023. Accessed January 25, 2024. <https://www.cancer.org/cancer/breast-cancer/treatment/treatment-of-inflammatory-breast-cancer.html>.

²⁰ American Cancer Society. Inflammatory Breast Cancer. Revised March 1, 2023. Accessed January 25, 2024. <https://www.cancer.org/cancer/types/breast-cancer/about/types-of-breast-cancer/inflammatory-breast-cancer.html>.