

# Detailed Breast Cancer Overview

## 1. What is Breast Cancer?

Breast cancer is a disease where malignant (cancer) cells form in the tissues of the breast. It occurs mostly in women but can also affect men.

## 2. Types of Breast Cancer

- Non-invasive (In Situ):
  - Ductal carcinoma in situ (DCIS): confined to milk ducts
  - Lobular carcinoma in situ (LCIS): starts in milk-producing lobules
- Invasive:
  - Invasive ductal carcinoma (IDC): most common type
  - Invasive lobular carcinoma (ILC): begins in lobules and spreads
  - Inflammatory breast cancer
  - Triple-negative breast cancer
  - HER2-positive breast cancer
  - Male breast cancer

## 3. Risk Factors

Non-modifiable:

- Age (risk increases after 50)
- Gender (female)
- Family history (e.g., BRCA1/BRCA2 mutations)
- Personal history of cancer
- Early menstruation or late menopause
- Dense breast tissue
- Previous radiation therapy to chest

Modifiable:

- Obesity
- Alcohol consumption

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- Smoking
- Hormone replacement therapy (HRT)
- Lack of physical activity
- Not having children or having children after age 30
- Not breastfeeding

### **4. Symptoms**

- Lump in the breast or underarm
- Change in breast shape or size
- Nipple discharge (especially bloody)
- Skin changes (dimpling, redness, or peeling)
- Pain in breast or nipple
- Inverted nipple

### **5. Screening & Diagnosis**

Screening Tests:

- Mammogram (gold standard)
- Clinical breast exam
- Breast self-exam
- Breast MRI (for high-risk individuals)
- Ultrasound

Diagnostic Tests:

- Biopsy (needle or surgical)
- Hormone receptor test (ER/PR)
- HER2 testing
- Genetic testing (BRCA1/BRCA2)

### **6. Stages of Breast Cancer (0-IV)**

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- Stage 0: DCIS (non-invasive)
- Stage I-II: Localized
- Stage III: Locally advanced
- Stage IV: Metastatic (spread to other organs)

## 7. Treatment Options

Local Treatment:

- Surgery: Lumpectomy, mastectomy, lymph node dissection
- Radiation therapy

Systemic Treatment:

- Chemotherapy
- Hormonal therapy (for ER/PR-positive)
- Targeted therapy (HER2-targeted: trastuzumab)
- Immunotherapy (for some triple-negative cancers)

## 8. Post-Treatment Follow-up

- Regular physical exams
- Annual mammograms
- Managing treatment side effects
- Monitoring for recurrence
- Lifestyle adjustments

## 9. Complications

- Lymphedema
- Early menopause
- Osteoporosis
- Cardiac toxicity (from some chemo drugs)
- Recurrence or metastasis

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- Psychological impact: anxiety, depression

## 10. Prevention & Risk Reduction

- Maintain healthy weight
- Limit alcohol
- Regular exercise
- Breastfeeding (if possible)
- Genetic counseling for high-risk individuals
- Prophylactic mastectomy (for BRCA-positive)
- Medications like tamoxifen for high risk

## 11. Special Considerations

- Breast cancer in men
- Pregnancy-associated breast cancer
- Young women with breast cancer
- Metastatic breast cancer as a chronic illness
- Breast cancer survivorship care

## 12. Family History and Genetics

- BRCA1/BRCA2 mutations
- Family history in first-degree relatives
- Other related cancers in the family: ovarian, prostate, pancreatic

## 13. Breast Cancer & Fertility

- Fertility preservation before treatment
- Risk of infertility due to chemotherapy
- Pregnancy after breast cancer

## 14. Support Systems

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- Support groups
- Psycho-oncology services
- Nutritional counseling
- Palliative care and hospice (for advanced stages)

### **15. Breast Cancer in India**

- Rising incidence in urban areas
- Low screening awareness
- Cultural taboos affecting early detection
- Government schemes like NPCDCS, Ayushman Bharat