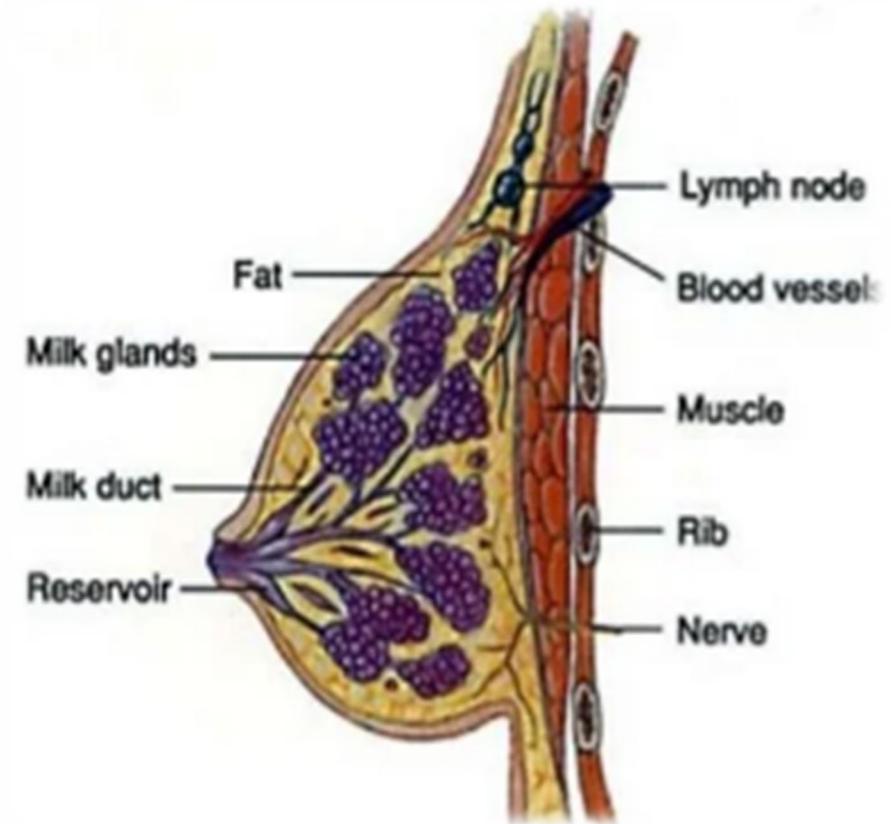


# Breast Surgeries & Procedures

Daniel A. Howard, MD  
Mercy Health  
Lourdes Hospital

# Breast Anatomy

- Ligaments attach the breasts to the chest wall on either side of the breastbone
- The breasts have no muscle tissue
- Circle of 15-20 lobes located in each breast
  - Each lobe is made-up of many lobules
- At the end of the lobules are tiny bulb like glands, or sacs
  - These sacs produce milk in response to hormonal signals
- The lobes, lobules, and glands are connected to ducts
  - These ducts deliver milk to openings in the nipples
- A layer of fat surrounds the glands and ducts and extends throughout the breast
  - This fat is what gives the breasts their shape and size
- The areola is the darker-pigmented area around the nipple



# Diagnostic Procedures

## Physical Exam

- Breast Exam

## Imaging

- Mammogram
- Ultrasound
- CT
- MRI

## Tumor Markers

- ER
- PR
- HER2

## Pathology

- Incisional Biopsy
- Lumpectomy

# Breast Surgeries

# Options in the Surgical Treatment of Breast Cancer

## Breast Conserving Surgery

- Partial Mastectomy
  - Lumpectomy
  - Segmentectomy
  - Quadrantectomy
  - Wide Local Excision
  - Tylectomy

## Mastectomy

- Total Simple Mastectomy
- Radical Mastectomy
- Extended Radical Mastectomy
- Super Radical Mastectomy
- Mastectomy with contralateral Prophylactic Mastectomy

# Techniques

- Oncoplastic – combines plastic surgery techniques w/ the cancer surgery to give a better cosmetic outcome
- Mammoplasty - a group of surgical procedures, the goal of which is to reshape, resize, or otherwise modify the appearance of the breast
  - Augmentation
  - Reduction
  - Reconstruction
- Mastopexy – breast lift (removal of excess skin)
  - Wise pattern – anchor-shaped incision that goes around the chest and below the breast
  - LeJour – incision goes around the areola and down
  - Donut (peri—areolar) – incision goes around the areola only

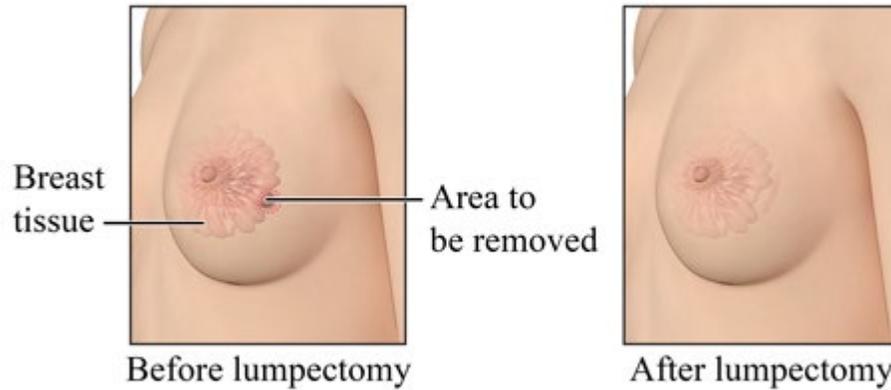
# Deciding Factors for Surgical Procedures

- Tumor size
- Behavior (invasive vs insitu)
- Tumor location
- Number of tumors
- Family history
- Lymph nodes
- Hormone receptors (HER2, ER, PR)
- Grade

# Partial Mastectomy

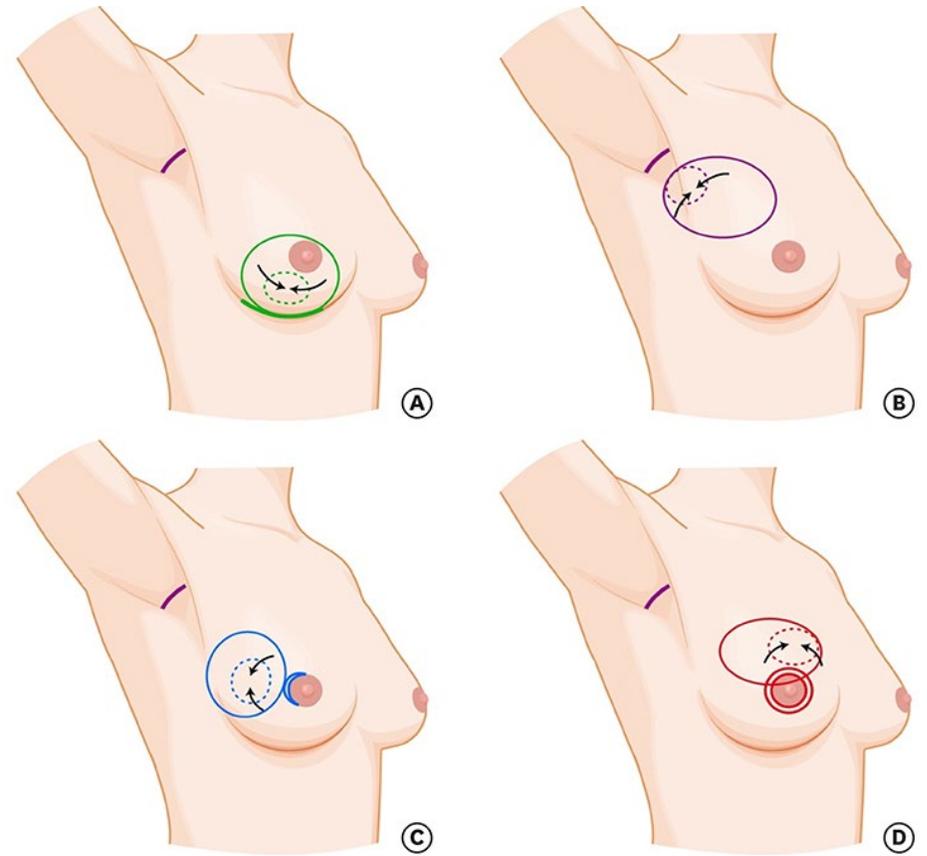
## Partial Mastectomy - Lumpectomy

- Who is a candidate?
- Why is this performed?
- What is the benefit?
- How is it performed?
  - What is removed?
  - Lymph node procedure?
- Reconstruction Surgery?



# Aesthetic Scar-less Procedures

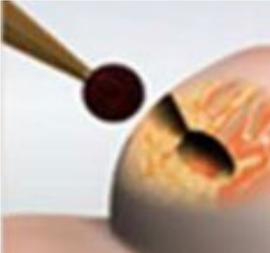
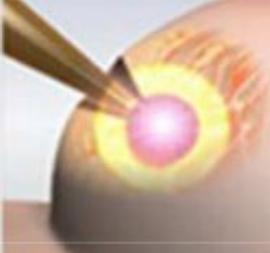
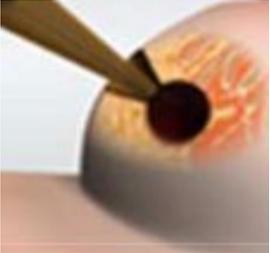
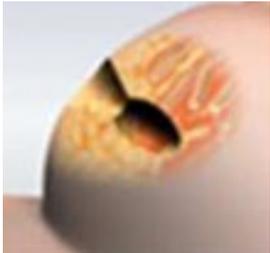
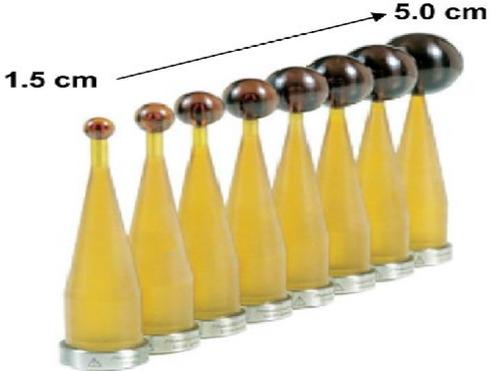
- Inframammary fold (A)
- Axillary area (B)
- Periareolar line (C, D)
- What is the benefit?



# Intra-Operative Radiation Electronic Brachytherapy

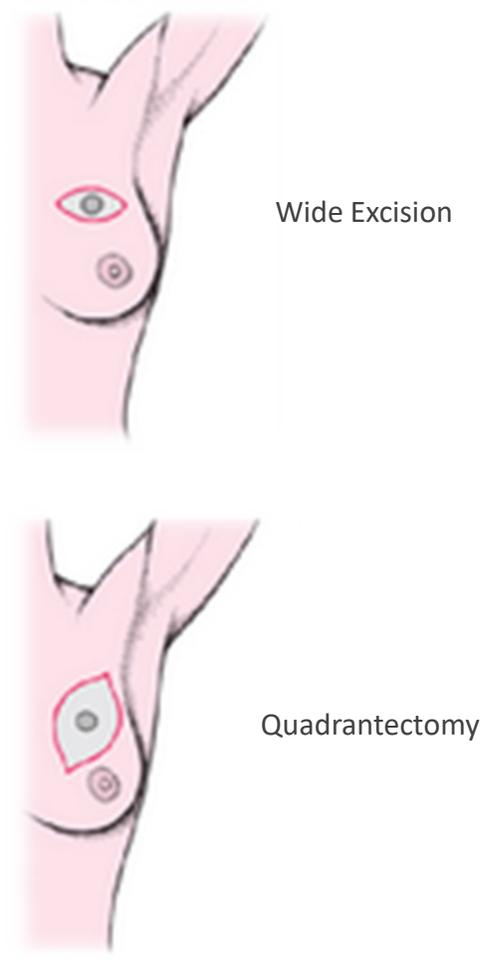
## Delivers low-energy photon therapy

- Who is a candidate?
- Why is this performed?
- What is the benefit?



# Segmental Mastectomy

- Wedge resection
  - Quadrantectomy
  - Tylectomy
- 
- Who is a candidate?
  - Why is this performed?
  - What is the benefit?
  - How is it performed?
    - What is removed?
    - Lymph node procedure?
  - Reconstruction Surgery?



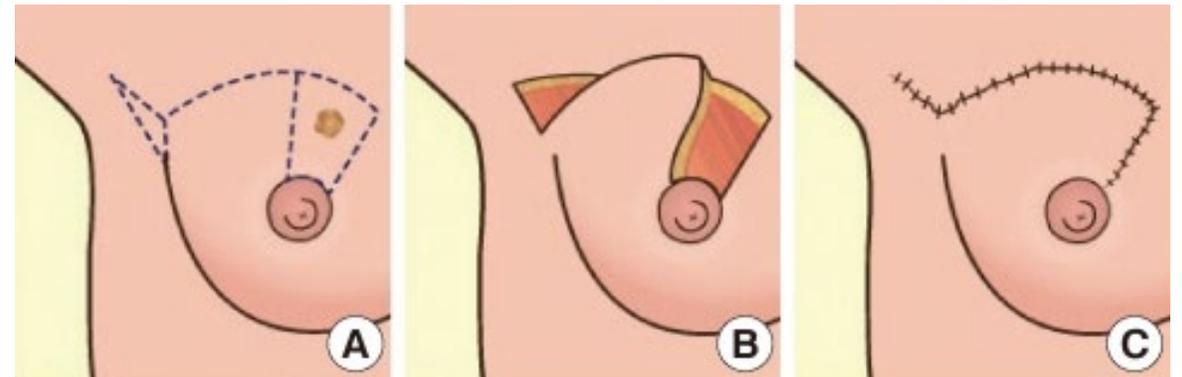
# Glandular Flap

Why is this performed?

What is the benefit?

How is it performed?

Reconstruction Surgery?



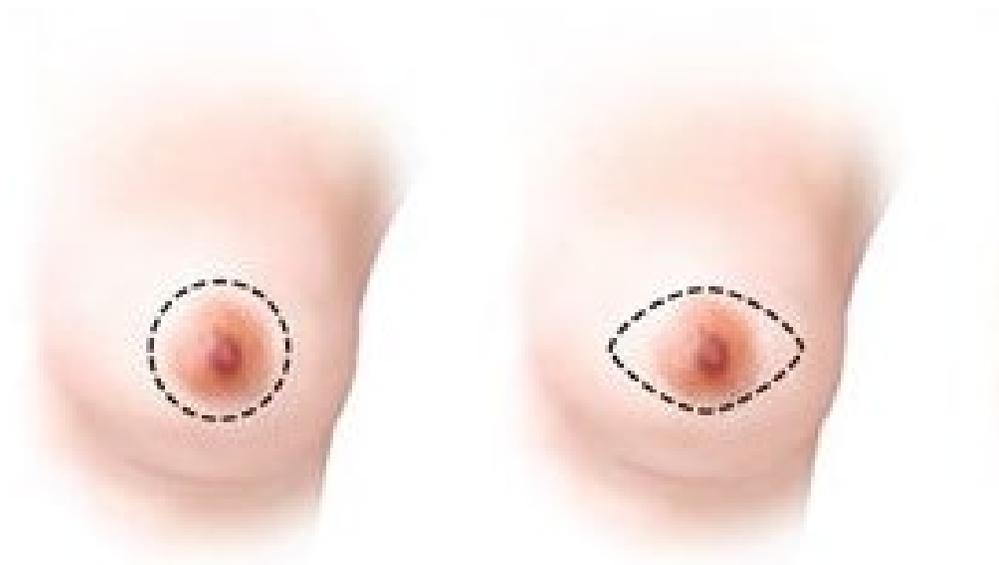
# **Subcutaneous Mastectomy**

# Subcutaneous Mastectomy

- Who is a candidate?
- Why is this performed?
- What is the benefit?
- How is it performed?
  - What is removed?
  - Lymph nodes procedure?
    - Sentinel procedure
    - Axillary dissection
- Reconstruction Surgery?

# Skin Sparing

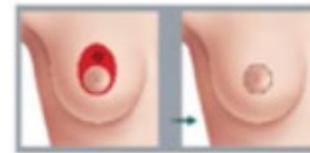
- Skin/tissue remains
  - Breast/mammary tissue removed
  - Areola and nipple removed
- Who is a candidate?
- Why is this performed?
- What is the benefit?
- How is it performed?
  - What is removed?
- Reconstruction Surgery?



# Nipple Sparing

## Volume Displacement Techniques

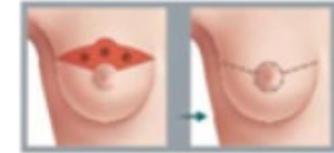
- Skin/tissue remains
  - Breast/mammary tissue removed
  - Areola and nipple remains
- Who is a candidate?
- Why is this performed?
- What is the benefit?
- How is it performed?
  - What is removed?
- Reconstruction Surgery?



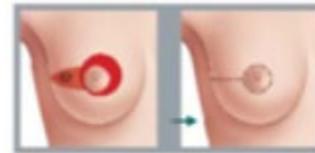
Periareolar



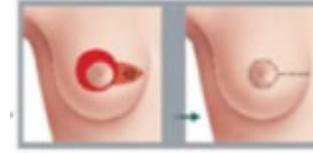
Inferior Pedicle



Omega



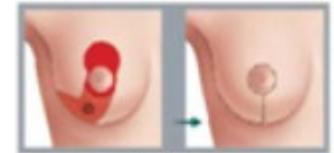
Lateral



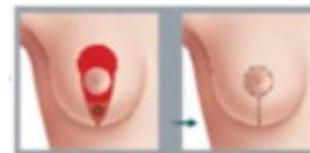
Medial



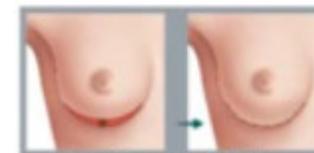
J-plasty



L-plasty



Vertical



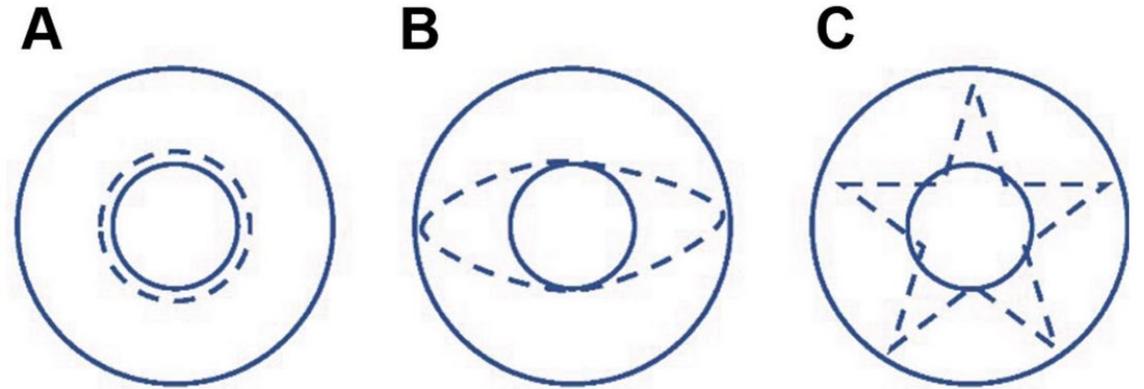
Inferior Mammary Fold



Inverted T

# Areola Sparing

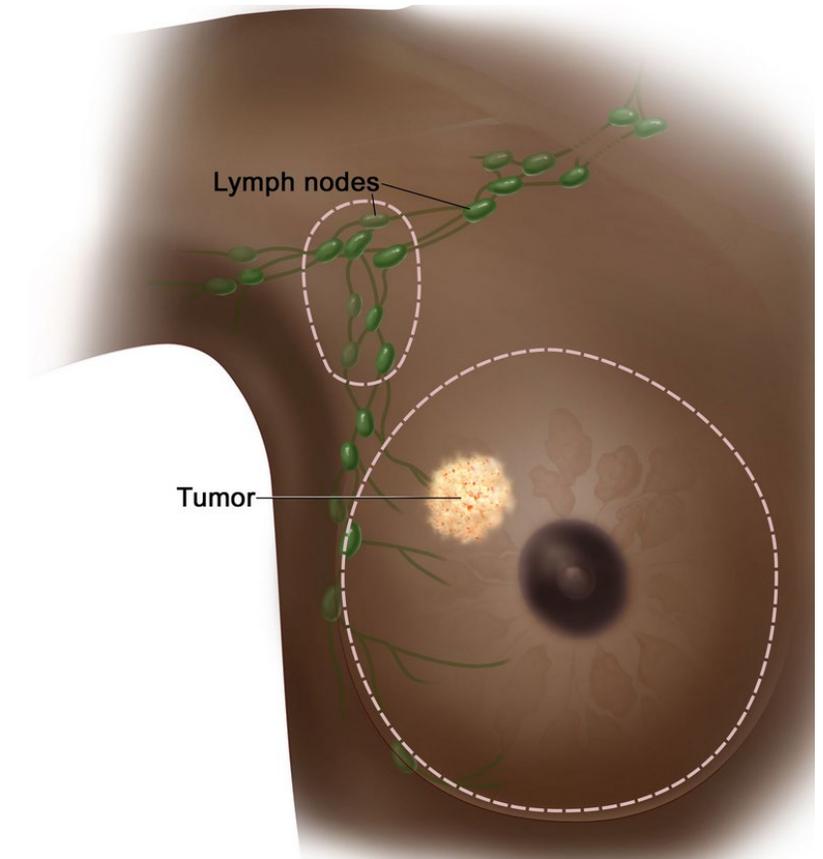
- Skin/tissue remains
  - Areola remains
  - Breast/mammary tissue removed
  - Nipple removed
- Who is a candidate?
- Why is this performed?
- What is the benefit?
- How is it performed?
  - What is removed?
- Reconstruction Surgery?



# Mastectomy

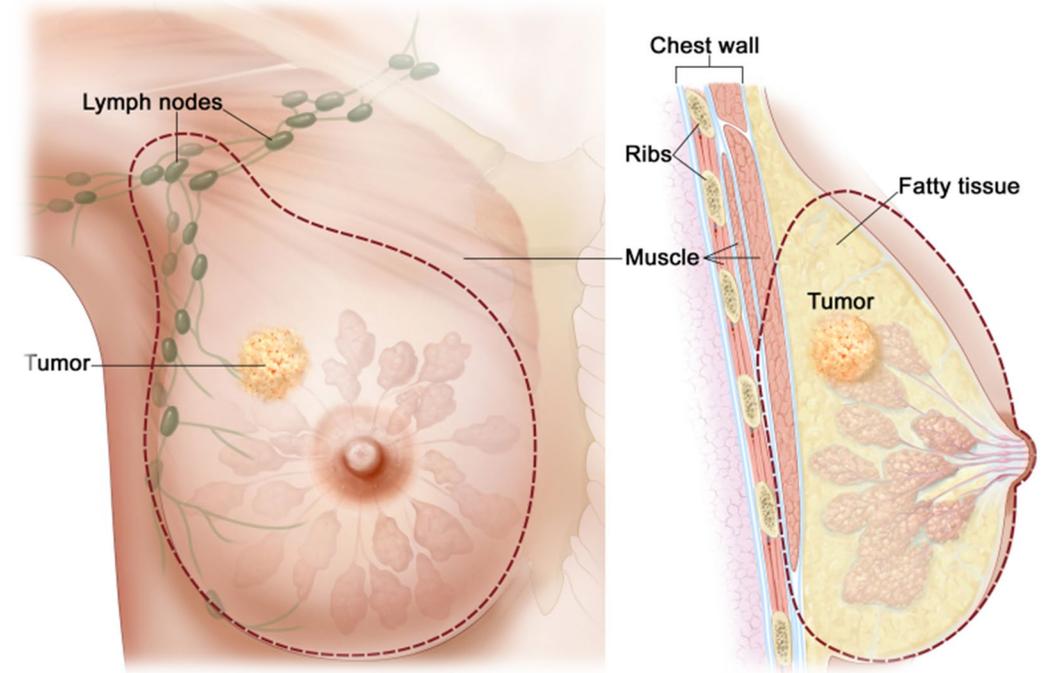
# Total Simple Mastectomy

- Who is a candidate?
- Why is this performed?
- What is the benefit?
- How is it performed?
  - What is removed?
  - Lymph node procedure?
    - Sentinel procedure
    - Axillary dissection
- Reconstruction Surgery?



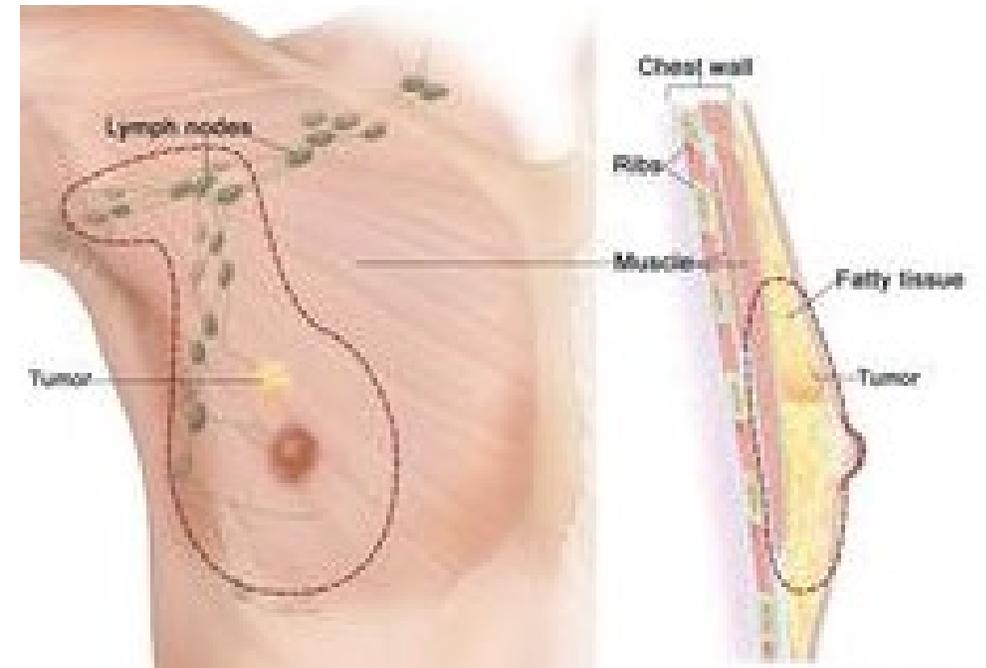
# Modified Radical Mastectomy

- Who is a candidate?
- Why is this performed?
- What is the benefit?
- How is it performed?
  - What is removed?
  - Lymph node procedure?
    - Sentinel procedure
    - Axillary dissection
- Reconstruction Surgery?



# Radical Mastectomy

- Who is a candidate?
- Why is this performed?
- What is the benefit?
- How is it performed?
  - What is removed?
  - Lymph node procedure?
    - Sentinel procedure
    - Axillary dissection
- Reconstruction Surgery?



# Extended Radical Mastectomy vs Super Radical Mastectomy

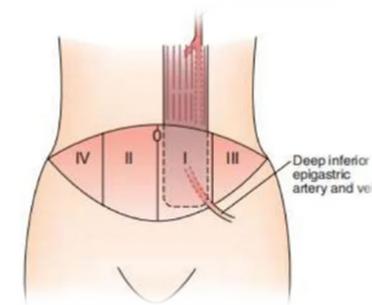
- What is the difference
- Who is a candidate?
- Why is this performed?
- What is the benefit?
- How is it performed?
  - What is removed?
  - Lymph node procedure?
    - Axillary dissection
      - No sentinel lymph node procedure
- Reconstruction Surgery?

# Mastectomy with Contralateral Breast

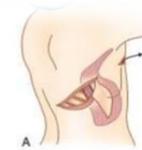
- Who is a candidate?
- Why is this performed?
- What is the benefit?
- How is it performed?
  - What is removed?
- Reconstruction Surgery?

# Autologous Tissue Replacement

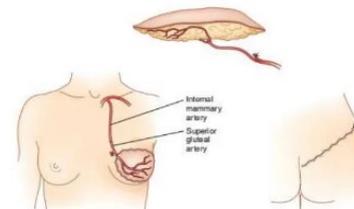
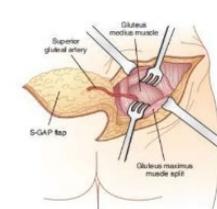
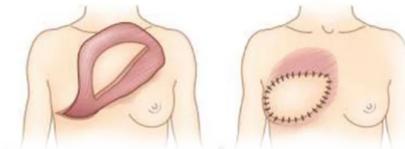
- Who is a candidate?
- Why is this performed?
- What is the benefit?
- How is it performed?
  - What is removed?
  - Tissue source?
- Reconstruction Surgery?



**Abdominal  
(Gold Standard)**



**Back**



**Gluteal**

**Questions?**