

# Normal and Abnormal Clinical Findings: Identification and Documentation

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## Review of Breast Anatomy

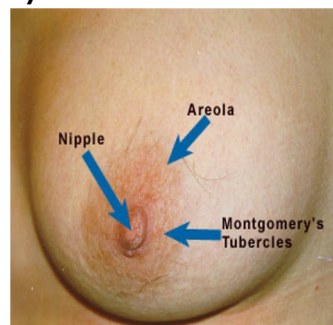


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## External Anatomy of the Breast

- Areola
- Nipple
- Montgomery's/Morganii's Tubercles



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## External Anatomy of the Breast

- Nipple
  - Pigmented, cylindrical
  - 4<sup>th</sup> inter-costal space at age 18
- Areola
  - Pigmented area surrounding nipple
- Montgomery's Tubercles
  - Sebaceous glands within the areola
  - Lubricate nipple during lactation



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## Montgomery's Tubercles



A milk-white discharge and palpable mass associated with Montgomery gland blockage.



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## Tissue Types

- Glandular tissue
  - Milk-producing
- Fibrous/connective tissue
- Fatty tissue



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## Tissue Types

- **Glandular tissue**
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- Fibrous/connective tissue
- Fatty tissue



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## Glandular Tissue

- Lobules
  - Alveoli cells or acini
  - Milk producing cells
- Lactiferous ducts
  - Drain milk into nipples



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## Glandular Tissue

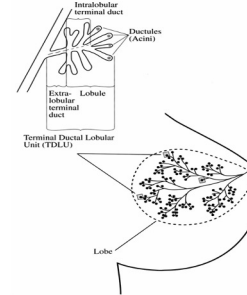
- 15-20 lobes
  - Radiate around nipple and under areola
- Lobe
  - Consists of 20-40 lobules



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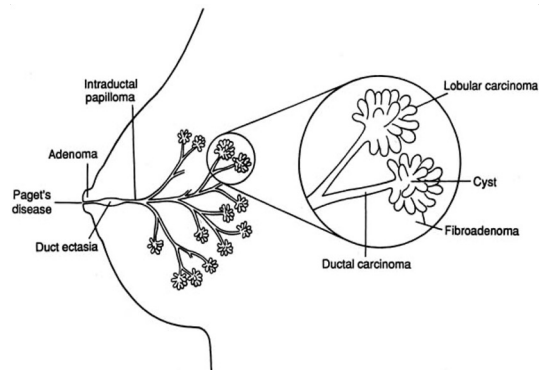
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## Terminal Lobular Unit and Branching System of Ducts



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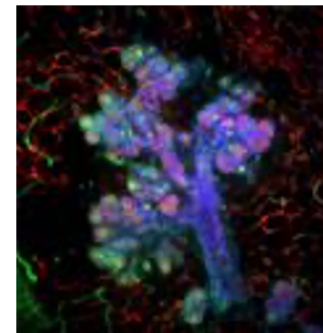
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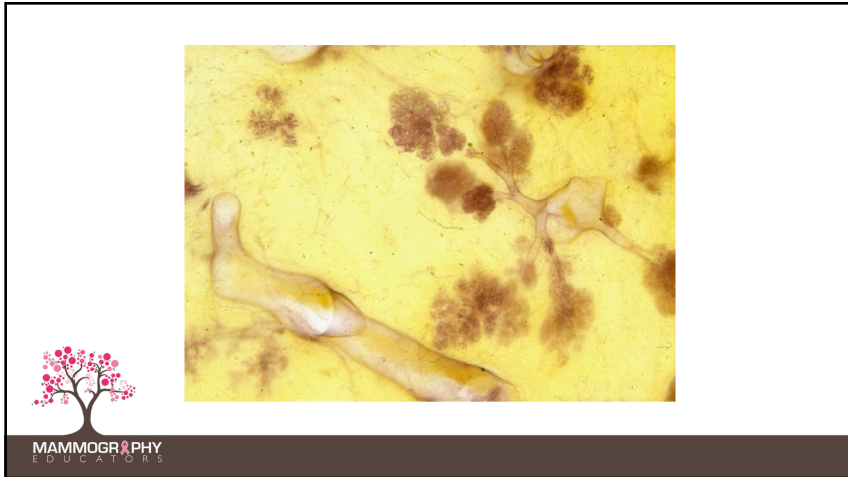
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## Terminal Ductal Lobular Unit



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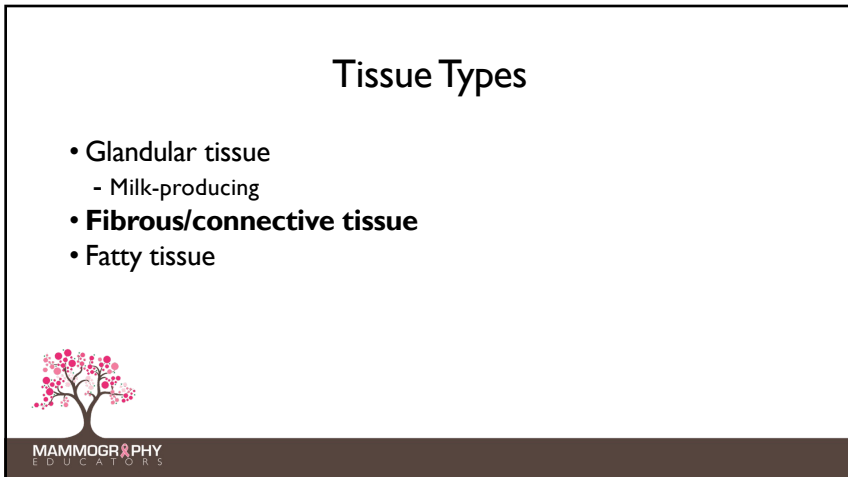
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## Tissue Types

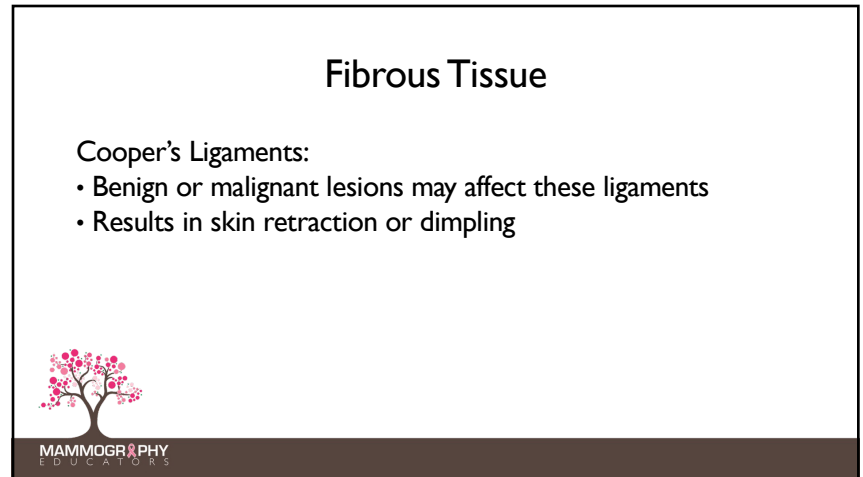
- Glandular tissue
  - Milk-producing
- **Fibrous/connective tissue**
- Fatty tissue



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## Fibrous Tissue

- Cooper's Ligaments:
- Benign or malignant lesions may affect these ligaments
  - Results in skin retraction or dimpling



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## Fibrous Tissue

Cooper's Ligaments:

- Suspensory ligaments
- Extend through the breast to underlying muscle fascia



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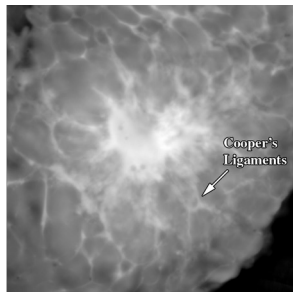
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## Fibrous/Connective Tissue Cooper's Ligament



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Tomosynthesis images of a mastectomy specimen show individual linear Cooper ligaments and glandular elements below the nipple and areolar complex.



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## Tissue Types

- Glandular tissue
  - Milk-producing
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- **Fatty tissue**



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## Fatty Tissue

- Subcutaneous and retro-mammary fat
- Makes up most of the breast
- No fat beneath the areola and nipple



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## Tissue Composition

- The percentage of fat volume in the total breast volume varied from 7-56%
- The percentage of fat weight in the total breast weight varied from 3.6-37.6%



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## Tissue Composition

This great variability in the respective proportions of fat and glands in the evaluated specimens was not significantly correlated to age and body mass index.



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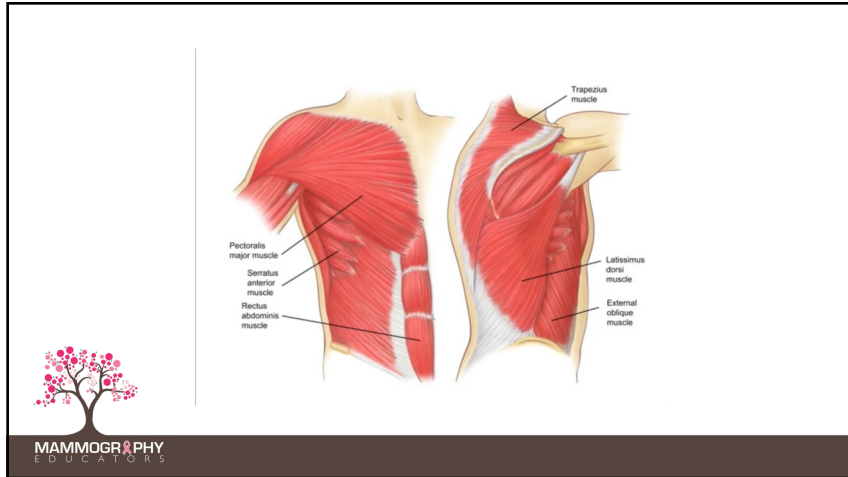
## Musculature of the Chest

- Pectoralis major and minor
- Latissimus dorsi

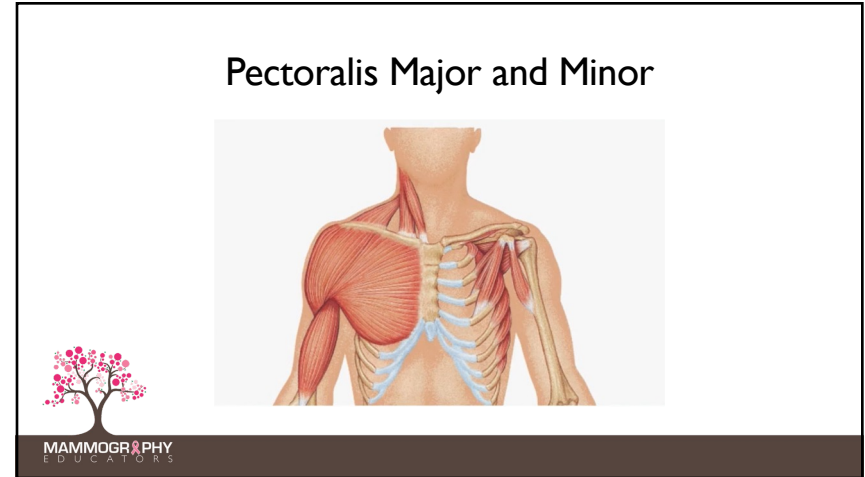


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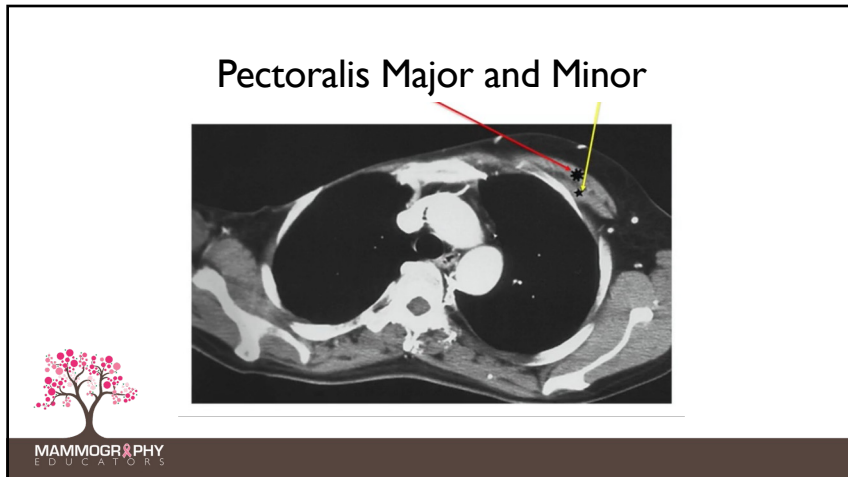
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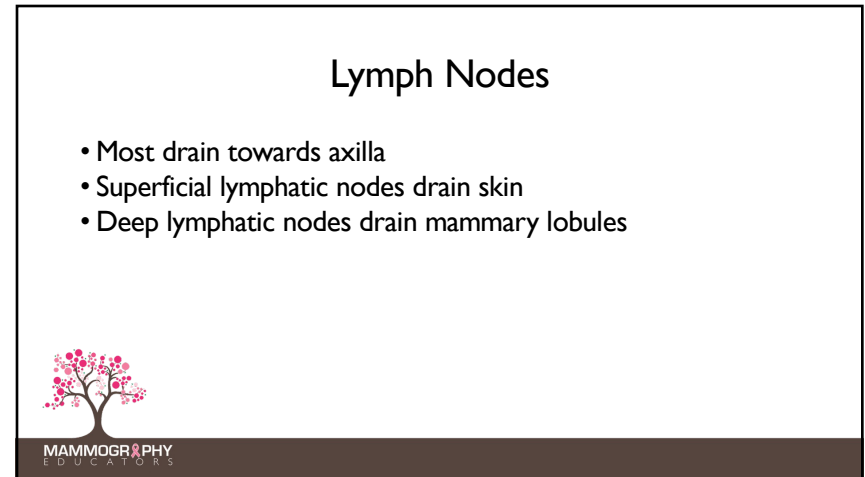
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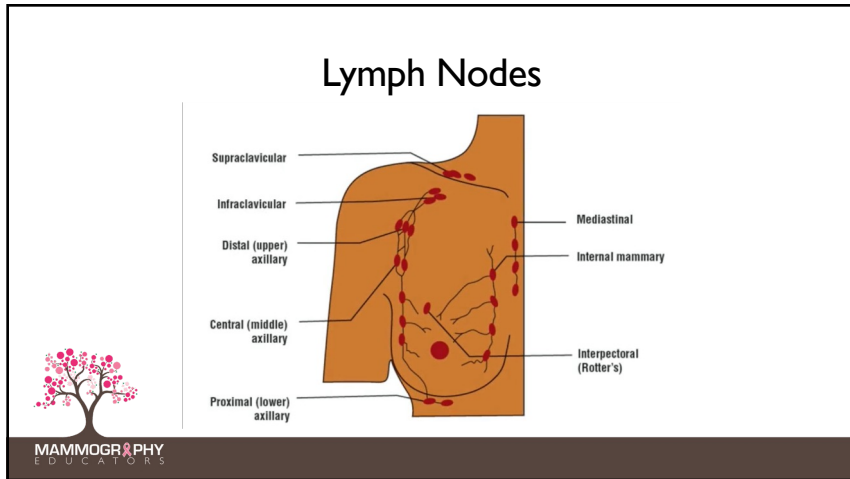
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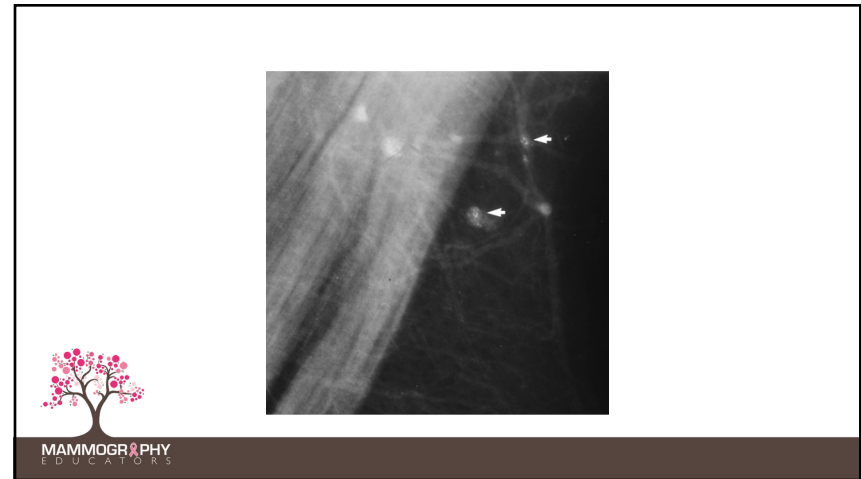
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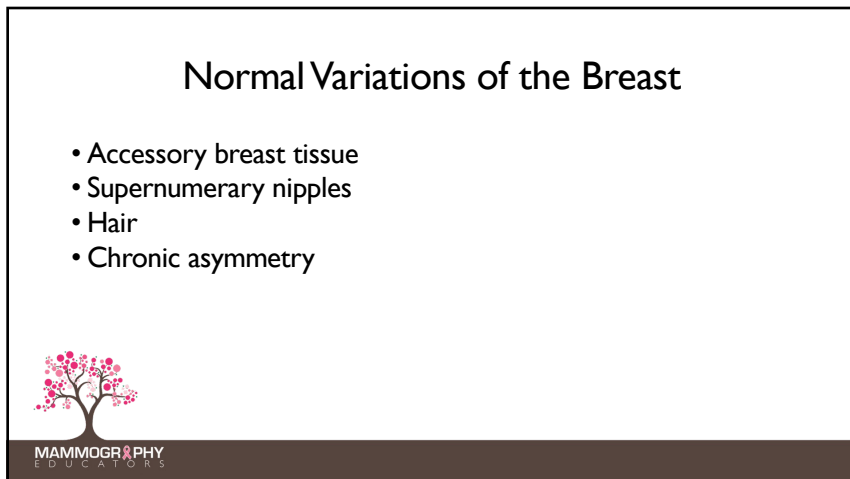
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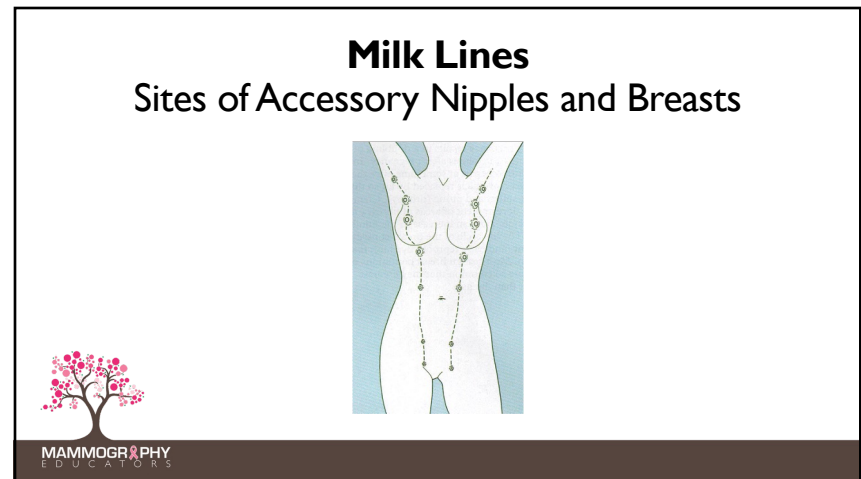
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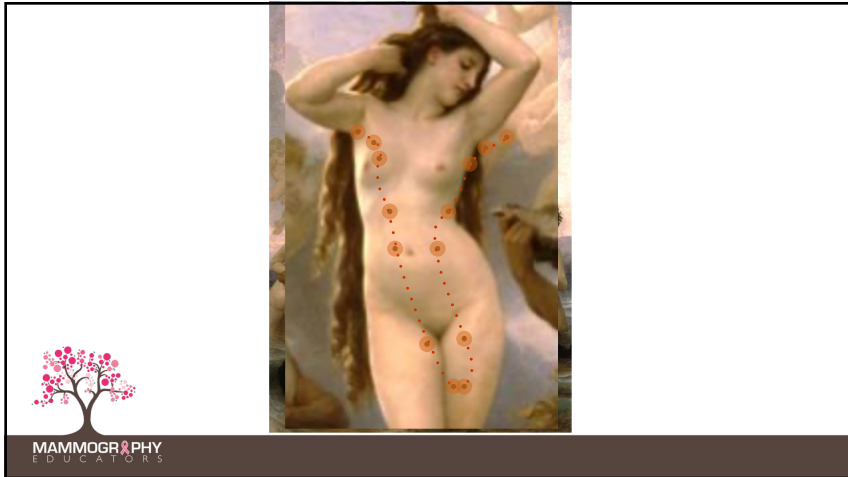


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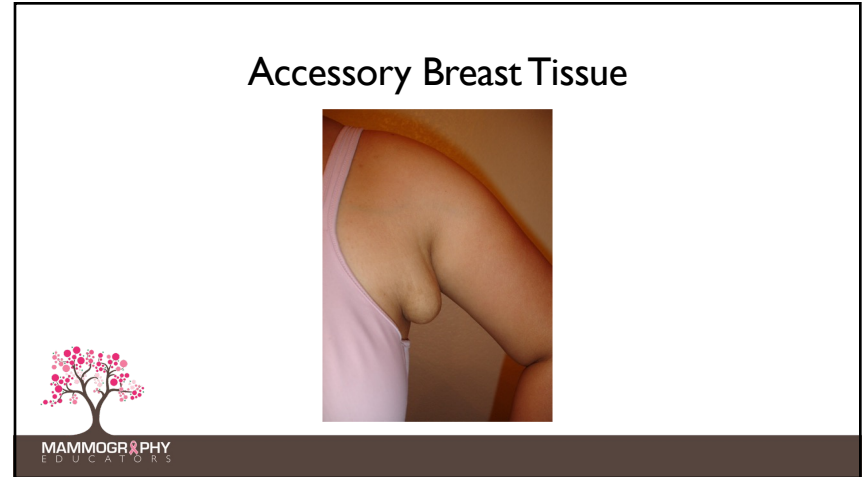


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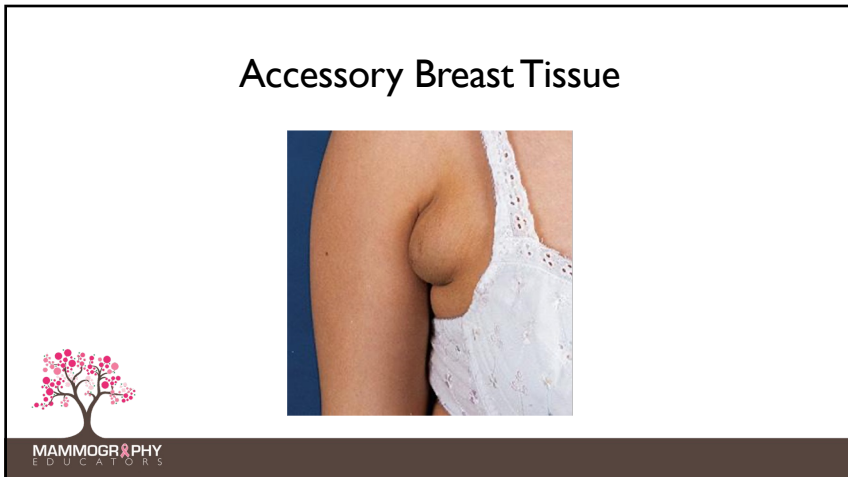




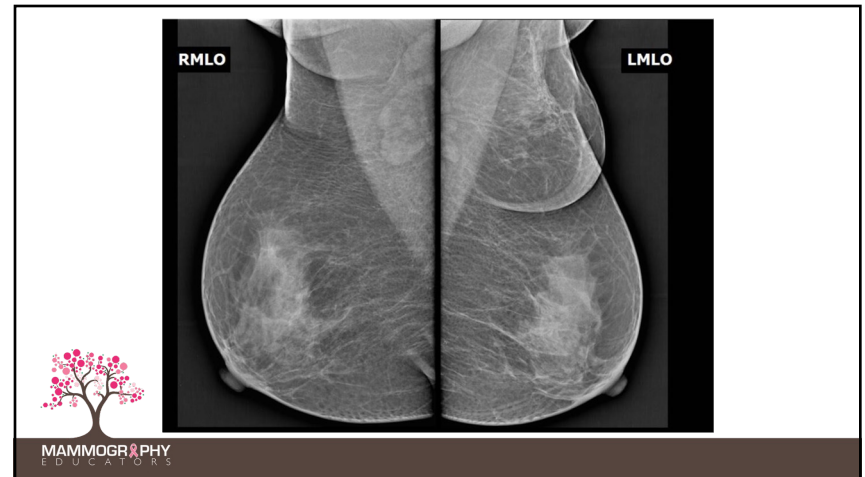
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## Axillary Fat Pad vs. Ancillary Breast?



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## Accessory Nipples



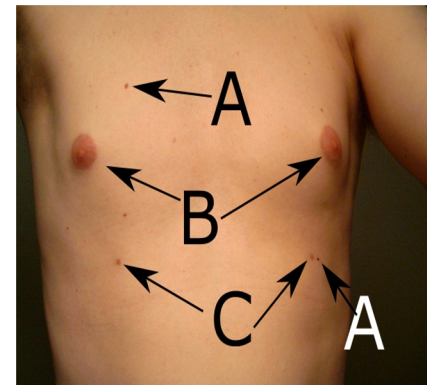
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## Accessory Nipples

Often mistaken for moles, supernumerary nipples are diagnosed at a rate of 1 in 18 males and 1 in 50 female humans.



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## Accessory Nipples

- *Polythelia* refers to the presence of an additional nipple alone while *polymastia* denotes the much rarer presence of additional mammary glands
- Although usually presenting on the milk line, pseudomamma can appear as far away as the foot



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## Pseudomamma - Pseudomammae

A kind of supernumerary/accessory nipples with areola and fat tissue.



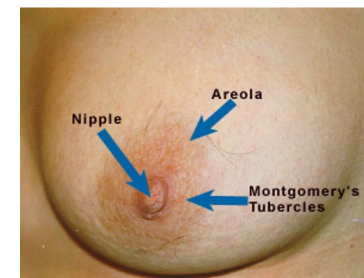
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## Accessory Nipple and Bilateral Accessory Breasts



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## Breast Hair



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## Chronic Asymmetry



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## Common Benign Breast Disorders

- Fibrocystic changes
- Intraductal papilloma
- Nipple discharge
- Mammary duct ectasia
- Mastitis
- Male gynecomastia



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## Common Benign Breast Disorders

- **Fibrocystic changes**
- Intraductal papilloma
- Nipple discharge
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- Mastitis
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## Fibrocystic Changes

- Lumpy, bumpy breasts
- 50-80% of all menstruating women
- Ages 30-50 and 10% in women older than 21
- Caused by hormonal changes before menses
- Relationship to breast cancer highly unlikely



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## Common Benign Breast Disorders

- Fibrocystic changes
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- Nipple discharge
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## Intraductal Papilloma

- Slow growing
- Overgrowth of ductal epithelial tissue
- Usually not palpable
- Cauliflower-like lesion
  - Length of involved duct
- Most common of bloody nipple discharge
- 40-50 years of age



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## Treatment for Intraductal Papilloma

- Test for occult blood
- Ductogram
- Biopsy
- Excision of involved duct



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## Common Benign Breast Disorders

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## Signs and Symptoms

- Watery, serous, serosanguinous or bloody discharge
- Spontaneous discharge
- Usually unilateral



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## Signs and Symptoms

- Multi-colored discharge
  - Thick, pasty (like toothpaste)
  - White, green, greenish-brown or serosanguinous
- Intermittent, no pattern



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## Signs and Symptoms

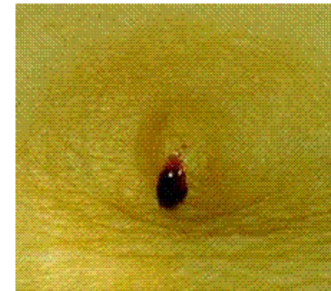
- Often from a single duct
- Pressure elicits discharge from a single duct
- 50% - no mass palpated



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## Bloody Nipple Discharge



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## Common Benign Breast Disorders

- Fibrocystic changes
- Intraductal papilloma
- Nipple discharge
- **Mammary duct ectasia**
- Mastitis
- Male gynecomastia



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## Mammary Duct Ectasia

- Inflammation and dilation of sub-areolar ducts behind nipples
- May result in palpable mass because of ductal rupture
- Greatest incidence after menopause
- Pathogenesis may be a reaction to stagnant colostrum



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## Colostrum

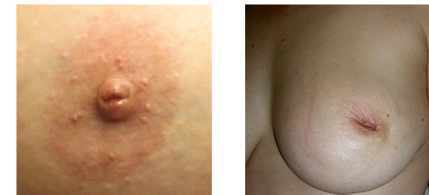
- The first secretion from the mammary glands after giving birth
- Rich in antibodies



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## Mammary Duct Ectasia vs Breast Cancer



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## Signs and Symptoms

- Bilateral from multiple ducts
- Nipple itching
- Drawing or pulling (burning) sensation



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## Treatment

- A 10 or 14-day course of antibiotics to treat any infection caused by mammary duct ectasia
- A mild pain reliever, such as acetaminophen (Tylenol, etc.) or ibuprofen (Advil, Motrin, etc.), as needed for breast discomfort



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## Common Benign Breast Disorders

- Fibrocystic changes
- Intraductal papilloma
- Nipple discharge
- Mammary duct ectasia
- **Mastitis**
- Male gynecomastia



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## Mastitis

- An infection in the tissue of the breast
- Usually caused by a common bacteria (*Staphylococcus aureus*) found on normal skin
  - Bacteria enter through a break or crack in the skin, usually on the nipple



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## Mastitis

- Infection takes place in the fatty tissue of the breast and causes swelling
- Swelling pushes on the milk ducts, which can result in pain and lumps in the infected breast
- Usually occurs in women who are breastfeeding



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## Symptoms

- Breast tenderness or warmth to the touch
- General malaise or feeling ill
- Swelling of the breast
- Pain or a burning sensation continuously or while breastfeeding



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## Symptoms

- Skin redness, often in a wedge-shaped pattern
- Fever of 101°F (38.3°C) or greater
- Although mastitis usually occurs in the first several weeks of breastfeeding but can happen anytime during breastfeeding
- Lactation mastitis tends to affect only one breast, not both



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## Treatment

- Mastitis usually improves without treatment
- If symptoms are bothersome, treatment options may include:
  - Antibiotics
  - Self-care/home remedies
  - Surgery



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## Treatment

- Antibiotics:
  - 10 to 14-day course of antibiotics
- Self-care remedies:
  - Resting, continuing breastfeeding, and drinking extra fluids
  - Empty the milk from the affected breast frequently



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## Treatment

### Surgery:

- If antibiotics and self-care methods don't work, the affected milk duct may be surgically removed
- Surgery is rarely needed for mammary duct ectasia



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## Common Benign Breast Disorders

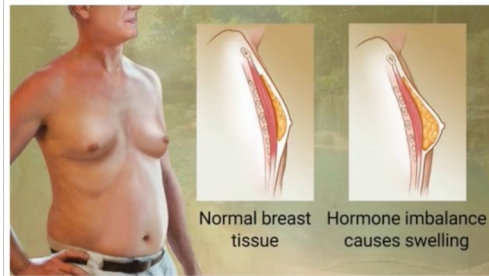
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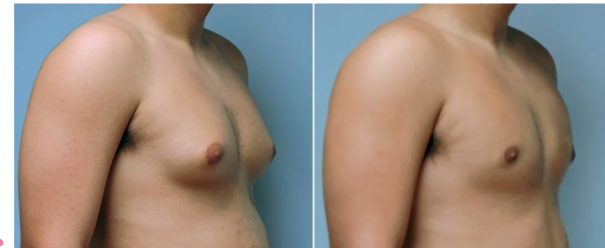
## Male Gynecomastia



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## Male Gynecomastia



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## Conclusion

- Benign conditions of the breast may initially cause patients great concern and anxiety
- Be sensitive to their feelings
- Although most changes in the breast are normal (90%), all changes should be reported to the patient's healthcare provider



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## Conclusion

There are many “benign” findings/conditions related to the breast that are not related to the risk and/or onset of breast cancer.



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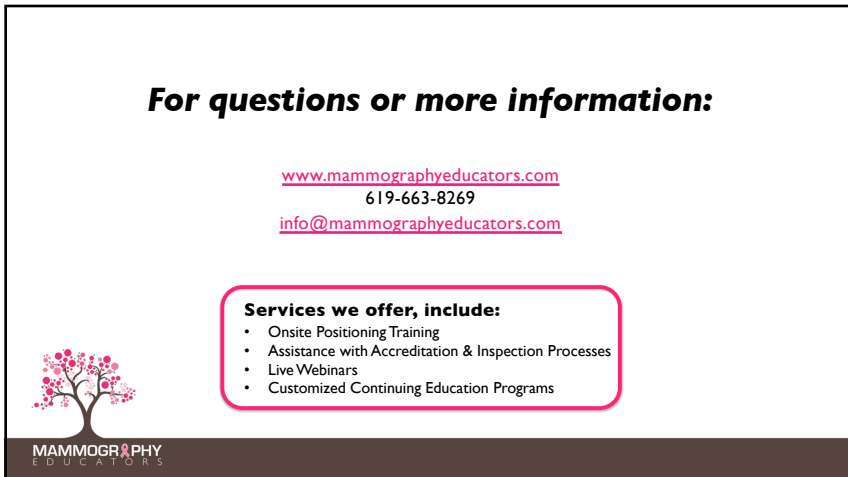
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