

What is the Structure of the Breast?

Worksheet

The breast consists of 15-20 lobes of glandular tissue drained by lactiferous ducts, supported by fibrous (Cooper's) ligaments and fat, and drained lymphatically mostly (~75%) to the axillary lymph nodes.

Questions

1. What percentage of breast lymphatic drainage goes to the axillary nodes?
A) ~25%
B) ~50%
C) ~75%
D) 100%
2. Which quadrant of the breast is most likely to drain to internal mammary nodes?
A) Upper outer
B) Lower outer
C) Medial (inner)
D) Central/areolar only
3. What structure carries milk from a lobe to the nipple?
A) Cooper's ligament
B) Lactiferous duct
C) Axillary vein
D) Pectoral fascia
4. What is a sentinel lymph node?
A) The largest lymph node in the body
B) The first node a tumor's lymph drainage reaches
C) A node found only in the neck
D) A node that never contains cancer
5. A tumor is found in the upper outer quadrant of the breast. Which lymph node group is most likely to be involved first?
6. A tumor sits in the medial (inner) part of the breast near the sternum. Besides the axilla, which node group should be checked?
7. Name the structural layers of the breast from skin to chest wall.
8. Define: How many lobes does the breast typically have?
9. Define: What are Cooper's ligaments?
10. Define: Where does most breast lymph drain?

Answer Key

1. C) ~75% - Roughly 75% of breast lymph drains to the axillary lymph nodes.
2. C) Medial (inner) - Medial quadrants drain significantly toward the internal mammary (parasternal) chain.
3. B) Lactiferous duct - Each lobe has its own lactiferous duct opening at the nipple.
4. B) The first node a tumor's lymph drainage reaches - It's the first-stop node, biopsied to assess spread.
5. The upper outer quadrant contains the most glandular tissue and drains predominantly to axillary nodes. Axillary nodes receive about 75% of breast lymphatic drainage. The sentinel node (first node in the drainage chain) is typically an axillary node. Surgeons biopsy this axillary sentinel node first in breast cancer staging.
6. Medial quadrants drain significantly to internal mammary (parasternal) nodes. These lie deep along the internal thoracic vessels, not palpable on exam. Imaging (CT/PET) or sentinel lymphoscintigraphy is needed to assess them. Missing this route can understage a medially located cancer.
7. 1. Skin with nipple-areola complex 2. Subcutaneous fat 3. Glandular tissue (15-20 lobes) with Cooper's ligaments for support 4. Retromammary fat and fascia 5. Pectoralis major muscle (chest wall)
8. About 15-20 lobes of glandular tissue, each drained by its own lactiferous duct.
9. Fibrous suspensory ligaments that support breast tissue and attach it to the skin and chest wall.
10. About 75% drains to the axillary (armpit) lymph nodes.

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