

Axillary Lymph Node Dissection for Breast Cancer

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INDICATIONS

Nowadays, for diagnostic staging of the axilla, dissection of the sentinel lymph node is the advised procedure, preferably preceded by ultrasound of the axilla with fine needle aspiration (FNA) if suspicious lymph nodes are seen. Consequently, axillary lymph node dissection for breast cancer is indicated mainly for treatment of (early) lymph node metastases.

An axillary dissection is performed if:

- The sentinel node is considered positive, with a tumour load of more than 0.2 mm¹;
- FNA cytology or core biopsy confirms lymph node metastases;
- The sentinel node cannot be found or is not performed.

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TECHNIQUE

We prefer the following technique for axillary lymph node dissection for breast cancer:

- The patient is in a supine position, tilted away from the surgeon. The lateral chest wall of the patient is placed close to the side of the table. The ipsilateral arm is in maximal abduction on an arm board and can be draped separately.
- Curvilinear incision is cranial along the lateral border of the pectoralis major muscle and distal towards the posterior axillary line.
- Dissect the dorsal skin flap down to Scarpa's fascia to reach the free anterior border of the latissimus dorsi (LD) muscle.
- Free the LD muscle from the anterior by lifting the muscle upwards by traction to the skin with the free hand. This is the lateral border of the dissection.
- Free the thoracodorsal bundle (nerve and vessels) and secure crossing vessels until the axillary vein. Usually, by retracting the axillary fat pad ventrally, the nerve is medial to the vessels at the cranial part (Fig. 1).

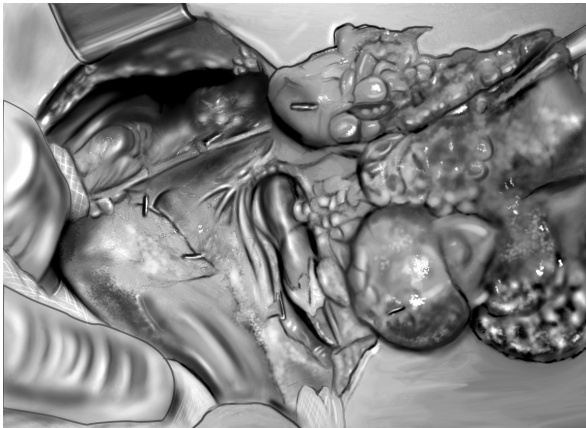


FIGURE 1 ■ The thoracodorsal bundle (nerve and vessels) has been freed. The axillary fat pad is retracted ventrally.

- Intercostobrachial nerves are sensory nerves for the medial aspect of the upper arm, and the posterior aspect of the axilla and can be preserved.^{2,3} It is uncertain whether this will lead to less sensory disturbances.
- From dorsolateral the fascia of the serratus anterior muscle can be cleared.
- The long thoracic nerve can be identified at the level of the highest descending branch of the intercostobrachial vessels towards the thoracic wall. It should not be dissected from the thoracic wall.
- The ventral skin flap is dissected to free the lateral border of the pectoralis major muscle and further dorsal to the pectoralis minor muscle. The crossing vessels can be spared, harvesting the interpectoral nodes (Rotter's nodes).
- Cranially, the axillary vein's inferior margin is dissected and forms the cranial border of the dissection. The small motor nerves to the lateral part of the pectoralis minor muscle should be spared. The descending ventral branch(es) of the vein usually needs to be dissected. Care should be taken not to clear completely the perivascular fascia and the fatty tissue surrounding the vein.
- The total content of the axilla dorsal from the pectoralis minor muscle is removed (level II).
- The caudal border of the dissection is the axillary tail of the breast tissue.
- Finally, the axillary specimen is cleared from the serratus anterior muscle fascia, the proximal part of the thoracodorsal nerve and of the anterior plane of the subscapular muscle (Fig. 2).
- If level III needs to be dissected (in the case of palpable nodes), the complete proximal part of the minor pectoral muscle is lifted by a large Langenbeck's retractor and the area boarded medially by the clavipectoral fascia, which can be palpated as a bridging fascia, cranially by the subclavian vein, and the medial border of the pectoralis minor muscle cleared and the fat pad removed.
- Remove the specimen. It is advised to mark the medial apex (top) and the axillary tail of the breast specimen for orientation by the pathologist.

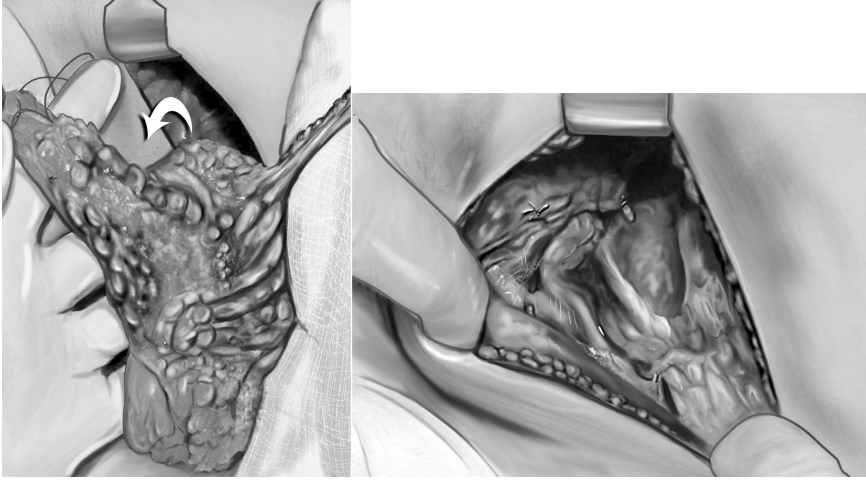


FIGURE 2 ■ The axillary dissection is completed and the apex is marked.

- Closure of Scarpa's fascia by absorbable sutures. Obliteration of dead space of the axilla by tagging down the subcutis to the serratus anterior fascia is optional.⁴
- Skin closure by running subcuticular absorbable sutures (Fig. 3).
- There is no need for external compression dressing.

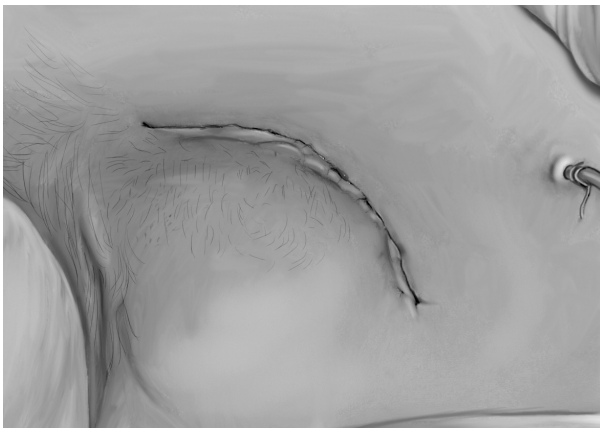


FIGURE 3 ■ Skin is closed by running sutures without a dressing. The axilla is drained for 24 hours.

- Different drain policies are advocated:
 - None⁵;
 - 24-hour suction drainage⁶;
 - 3–5 days.

An alternative — more traditional — method is described by Ung *et al.*⁷ Our dorsal approach has the great advantage that the important motoric nerves are easily identified and spared, also in obese patients.

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