Axillary surgery: less is more

Over the past 10 years, there have been significant changes in how breast surgeons manage the axilla for their breast cancer patients.

The *axilla* is the armpit – where the lymph nodes that drain the breast live. Historically, the lymph nodes have been removed at the time of breast surgery to determine if further treatment, such as chemotherapy or axillary radiation, should be prescribed. This is called an **axillary lymph node dissection (alnd)**. Operating in the axilla is not without its risks. Lymphedema (swelling of the arm and hand), abnormal sensation, impaired mobility and chronic pain can occur. So, the less axillary surgery that is done, the better for the patient.

The first step in that direction came with the concept of the ***sentinel lymph node***. These nodes are the first nodes that see any drainage from the breast. If cancer spreads beyond the breast, chances are the sentinel nodes are the first stop. For years, breast surgeons have been performing sentinel lymph node biopsies at the time of breast cancer surgery. If the sentinel node is positive, the surgeon would proceed to a full alnd.

Experts began to ask if patients with positive sentinel lymph nodes needed full alnd every time. It turns out that the answer is NO. In 2017, a landmark trial showed that in many patients with early breast cancer and 1-2 positive sentinel nodes, omitting a full alnd does not impair their outcomes. So, surgeons increasingly have stopped doing full alnd's when 1 or 2 sentinel nodes are involved with disease.

Now, in 2026, more data has come out to support omitting a full alnd when up to **five** sentinel nodes are positive. For such women, their length of life is not impaired by leaving the rest of the axillary nodes alone.

In many cases, surgeons can omit axillary surgery altogether. Choosing Wisely guidelines have shown that for women aged 70 and over with the most common type of breast cancer, many derive no benefit from removing the sentinel lymph nodes. In another study, investigators supported omitting sentinel node biopsy for such women ages 40-65.

How does Dr. Q make sense of all of this? "It's important to ask if removing tissue with no clinical sign of cancer is beneficial. In many cases of breast cancer, women can be treated with targeted therapies that maximize their health. We know that removing apparently negative lymph nodes does not improve their outcomes. These studies support that it is safe, in many cases, to limit or completely exclude removing axillary nodes. This benefits the patient because there is less time under anesthesia. Also, their risk of complications of lymphedema, pain and impaired mobility are slim to none."

"But each patient must be assessed individually because not every woman can have the same type of surgery."

References:

1. Giuliano AE, Ballman KV, McCall L, et al. Effect of axillary dissection vs no axillary dissection on 10-year overall survival among women with invasive breast cancer and sentinel node metastasis: the ACOSOG Z0011 (Alliance) randomized clinical trial. *JAMA*. 2017;318(10):918–26. https://doi.org/10.1001/jama.2017.11470.
2. Tang, A., Wu, P.S., Farmah, P. *et al.* Omission of Axillary Lymph Node Dissection in Patients with pT0-2 ER+/HER2− Breast Cancer with 3–5 Positive Lymph Nodes Undergoing Adjuvant Systemic Therapy and Radiation Does Not Impact Overall Survival: A National Cancer Database Analysis. *Ann Surg Oncol* **33**, 1189–1200 (2026). https://doi.org/10.1245/s10434-025-18546-5
3. https://www.choosingwisely.org/clinician-lists/sso-sentinel-node-biopsy-in-node-negative-women-70-and-over/.

4. Reimer, T, *et.al, Axillary* Surgery in Breast Cancer — Primary Results of the INSEMA Trial N Engl J Med 2025;392:1051-1064 DOI: 10.1056/NEJMoa2412063
5. Gentilini OD, Botteri E, Sangalli C, et al. Sentinel Lymph Node Biopsy vs No Axillary Surgery in Patients With Small Breast Cancer and Negative Results on Ultrasonography of Axillary Lymph Nodes: The SOUND Randomized Clinical Trial. *JAMA Oncol.* 2023;9(11):1557–1564. doi:10.1001/jamaoncol.2023.3759