Axillary management following neoadjuvant chemotherapy (NAC) is a critical aspect of surgical decision-making in breast cancer, with evolving strategies aimed at minimizing morbidity while maintaining oncological safety. From a surgical oncologist's perspective, the indications for axillary surgery are increasingly tailored based on clinical response and emerging evidence.

In clinically node-negative patients, sentinel lymph node biopsy (SLNB) remains the standard approach for axillary staging, effectively balancing accuracy with reduced morbidity. Recent trials, such as ACOSOG Z0011 and AMAROS, support the omission of axillary lymph node dissection (ALND) in patients with negative SLNB, especially those with limited nodal disease. Moreover, in select low-risk populations—particularly older women with small, hormone receptor-positive tumors—SLNB may be safely omitted altogether, as demonstrated by CALGB 9343 and the SOUND trial, which suggest that axillary ultrasound (AUS) alone could serve as a non-invasive alternative for staging, thereby sparing patients from surgical intervention.

In patients with clinically node-positive disease, NAC plays a pivotal role. Patients demonstrating nodal downstaging after NAC may be candidates for SLNB, potentially avoiding ALND if nodes are negative on biopsy post-treatment. The role of ALND in this setting is becoming more nuanced, with consideration given to the extent of residual disease and response to systemic therapy. Ongoing trials, such as NAUTILUS, neo-NAUTILUS and ASLAN, are further delineating the indications for surgical axillary management.
Recent evidence also highlights radiotherapy as a viable alternative to ALND in selected cases, particularly in patients with limited nodal involvement, which can reduce surgical morbidity without compromising oncological

outcomes. Ultimately, axillary management following NAC is moving toward a highly individualized, multidisciplinary approach—aimed at optimizing oncological control while preserving patient quality of life. The integration of axillary ultrasound, minimally invasive procedures, systemic therapy response, and ongoing clinical trials continue to refine surgical strategies in this evolving landscape.