Implementation of Lung Cancer Operative Standard 5.8 at a Comprehensive Cancer Center

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Background
Operative standard (OS) 5.8 for lung cancer resection was implemented in 2021 by the American College of Surgeons as part of the Cancer Surgery Standards Program to optimize mediastinal nodal staging. OS 5.8 requires the reporting of at least 1 hilar lymph node (LN) and 3 mediastinal LN stations to ensure adequate nodal sampling. This study evaluated implementation of OS 5.8 and clinical factors associated with OS 5.8 compliance at a comprehensive cancer center.

Methods
Adult patients who underwent curative resection for lung cancer at an NCI-designated comprehensive cancer center from January 2021 to August 2023 were included. OS 5.8 compliance and patient, disease, and operative factors were abstracted retrospectively. Statistical analyses were performed including bivariate analyses and multivariable logistic regression to evaluate factors associated with OS 5.8 compliance.

Main Takeaways
Compliance for OS 5.8 improved over time and varied by surgical modality, cancer sidedness, and extent of resection.

Ongoing efforts to improve compliance will require understanding potential barriers related to clinical and operative factors.

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**Variable** | **Cohort (n=274)** | **OS 5.8 Compliant (n=203), n(%)** | **OS 5.8 Non-Compliant (n=71), n(%)** | **P-value**
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Operative Standard 5.8 Compliance | | | | 0.04
Both Requirements Met | 203 (74.1%) | 176 (86.7%) | 27 (38.0%) | 0.04
≥ 1 Hilar Lymph Node | 214 (78.1%) | 185 (91.3%) | 29 (40.8%) | <0.001
≥ 3 Mediastinal Lymph Node Stations | 232 (84.7%) | 209 (105.3%) | 23 (32.4%) | <0.001
Year of Surgery | | | | 0.04
2021 | 113 (41.2%) | 89 (90.4%) | 14 (19.6%) | 0.04
2022 | 111 (40.5%) | 90 (81.1%) | 11 (18.9%) | 0.04
2023 | 50 (18.2%) | 44 (88.0%) | 6 (12.0%) | 0.04
Extent of Lung Resection | | | | 0.04
Partial lobectomy | 119 (43.4%) | 86 (72.1%) | 33 (27.9%) | 0.04
Lobectomy | 146 (53.5%) | 111 (75.9%) | 35 (24.1%) | 0.04
Pneumonectomy | 4 (1.5%) | 0 (0.0%) | 4 (100.0%) | 0.04
Other | 5 (1.8%) | 0 (0.0%) | 5 (100.0%) | 0.04
Surgical Modality | | | | 0.04
Robotic | 166 (60.8%) | 134 (80.8%) | 32 (19.2%) | 0.04
Video-Assisted Thoracoscopic Surgery | 53 (19.4%) | 41 (77.4%) | 12 (22.6%) | 0.04
Open | 54 (19.8%) | 42 (77.8%) | 12 (22.2%) | 0.04
Preoperative Lymph Node Sampling via Endobronchial Ultrasound (EBUS) | 93 (33.9%) | 76 (81.3%) | 17 (18.7%) | 0.04

**Likelihood of Operative Standard 5.8 Compliance**

- Lobectomy
- Robotic Surgical Modality
- Pneumonectomy
- Year of Surgery
- Year of Surgery - Surgeon B
- No Preoperative EBUS LN Sampling
- Right Sided Lung Cancer
- VATS Surgical Modality

**Reference:** Year of Surgery 2021, Surgeon A, Partial Lobectomy, Open Surgical Modality, Left Sided Cancer, Yes Preoperative EBUS LN Sampling