

## Commission on Cancer Standard 5.8: Pulmonary Resection: Evidence Behind the Standard

- [Invasive Staging Procedures Do Not Prevent Nodal Metastases From Being Missed in Stage I Lung Cancer](#) Resio BJ, Canavan M, Mase V, Dhanasopon AP, Blasberg JD, Boffa DJ. Invasive Staging Procedures Do Not Prevent Nodal Metastases From Being Missed in Stage I Lung Cancer. Ann Thorac Surg. 2020 Aug;110(2):390-397. doi: 10.1016/j.athoracsur.2020.03.026. Epub 2020 Apr 10. PMID: 32283084.
  - **Researchers at Yale University used the Society of Thoracic Surgeons General Thoracic Surgery Database to demonstrate that even in experienced centers, both bronchoscopy (EBUS) and mediastinoscopy have real false negative rates when clinically evaluating early stage lung cancer patients, thus bolstering the recommendation for thorough lymph node assessment at the time of curative intent lung cancer surgery.**
- [Confirmatory Mediastinoscopy after Negative Endobronchial Ultrasound-Guided Transbronchial Needle Aspiration for Mediastinal Staging of Lung Cancer \(Systematic Review and Meta-Analysis\)](#) Sanz-Santos J, Almagro P, Malik K, Martinez-Cambor P, Caro C, Rami-Porta R. Confirmatory Mediastinoscopy after Negative Endobronchial Ultrasound-guided Transbronchial Needle Aspiration for Mediastinal Staging of Lung Cancer: Systematic Review and Meta-analysis. Ann Am Thorac Soc. 2022 Sep;19(9):1581-1590. doi: 10.1513/AnnalsATS.202111-1302OC. PMID: 35348446.
  - **While bronchoscopy with EBUS remains an essential tool for the clinical staging of lung cancer, surgical lymph node harvesting can help minimize false negatives while proceeding towards curative intent lung cancer surgery.**
- [The International Association for the Study of Lung Cancer Staging Project for Lung Cancer: Proposals for the Revision of the N Descriptors in the Forthcoming Ninth Edition of the TNM Classification for Lung Cancer.](#) Huang J, Osarogiagbon RU, Giroux DJ, Nishimura KK, Bille A, Cardillo G, Detterbeck F, Kernstine K, Kim HK, Lievens Y, Lim E, Marom E, Prosch H, Putora PM, Rami-Porta R, Rice D, Rocco G, Rusch VW, Opitz I, Vasquez FS, Van Schil P, Jeffrey Yang CF, Asamura H; Members of the Staging and Prognostic Factors Committee, Members of the Advisory Boards, and Participating Institutions of the Lung Cancer Domain. J Thorac Oncol. 2024 May;19(5):766-785. doi: 10.1016/j.jtho.2023.10.012. Epub 2023 Oct 20. PMID: 37866624
  - **Outlines the new N2 staging.**
- [The International Association for the Study of Lung Cancer Lung Cancer Staging Project: Proposals for Revision of the Classification of Residual Tumor After Resection for the Forthcoming \(Ninth\) Edition of the TNM Classification of Lung Cancer.](#) Detterbeck FC, Ostrowski M, Hoffmann H, Rami-Porta R, Osarogiagbon RU, Donnington J, Infante M, Marino

M, Marom EM, Nakajima J, Nicholson AG, van Schil P, Travis WD, Tsao MS, Edwards JG, Asamura H; Members of the Staging and Prognostic Factors Committee and Advisory Boards. *J Thorac Oncol.* 2024 Jul;19(7):1052-1072. doi: 10.1016/j.jtho.2024.03.021. Epub 2024 Apr 1. PMID: 38569931

- **Explains the difference between R0 and R-Unknown.**
  
- [Outcomes After Use of a Lymph Node Collection Kit for Lung Cancer Surgery: A Pragmatic, Population-Based, Multi-Institutional, Staggered Implementation Study.](#) Osarogiagbon RU, Smeltzer MP, Faris NR, Ray MA, Fehnel C, Ojeabulu P, Akinbobola O, Meadows-Taylor M, McHugh LM, Halal AM, Levy P, Sachdev V, Talton D, Wiggins L, Shu XO, Shyr Y, Robbins ET, Klesges LM. *J Thorac Oncol.* 2021 Apr;16(4):630-642. doi: 10.1016/j.jtho.2020.12.025. Epub 2021 Feb 16. PMID: 33607311
  - **Highlights a simple tool to help surgeons label and perform a systematic nodal sampling.**
  
- [Lobar or Sublobar Resection for Peripheral Stage IA Non-Small-Cell Lung Cancer.](#) Altorki N, Wang X, Kozono D, Watt C, Landrenau R, Wigle D, Port J, Jones DR, Conti M, Ashrafi AS, Liberman M, Yasufuku K, Yang S, Mitchell JD, Pass H, Keenan R, Bauer T, Miller D, Kohman LJ, Stinchcombe TE, Vokes E. *N Engl J Med.* 2023 Feb 9;388(6):489-498. doi: 10.1056/NEJMoa2212083. PMID: 36780674
  - **Pivotal trial on optimal treatment of early stage lung cancer.**
  
- [Biopsy first: Lessons learned from Cancer and Leukemia Group B \(CALGB\) 140503.](#) Kohman LJ, Gu L, Altorki N, Scalzetti E, Veit LJ, Wallen JM, Wang X. *J Thorac Cardiovasc Surg.* 2017 Jun;153(6):1592-1597. doi: 10.1016/j.jtcvs.2016.12.045. Epub 2017 Feb 7. PMID: 28274562
  - **Highlights the pitfalls of nodal understaging with radiographic imaging alone, stressing the need for systematic nodal assessment.**
  
- [Predictors of lymph node metastasis and possible selective lymph node dissection in clinical stage IA non-small cell lung cancer.](#) Ding N, Mao Y, Gao S, Xue Q, Wang D, Zhao J, Gao Y, Huang J, Shao K, Feng F, Zhao Y, Yuan L. *J Thorac Dis.* 2018 Jul;10(7):4061-4068. doi: 10.21037/jtd.2018.06.129. PMID: 30174849; PMCID: PMC6105984.
  - **Highlights the rarity of lung cancer without risk of nodal involvement.**
  
- [Distinct Clinicopathologic Characteristics and Prognosis Based on the Presence of Ground Glass Opacity Component in Clinical Stage IA Lung Adenocarcinoma.](#) Hattori A, Hirayama S, Matsunaga T, Hayashi T, Takamochi K, Oh S, Suzuki K. *J Thorac Oncol.* 2019 Feb;14(2):265-275. doi: 10.1016/j.jtho.2018.09.026. Epub 2018 Oct 25. PMID: 30368010.

- **Demonstrates the risk of nodal spread of a radiographic solid tumor, with and without the presence of ground glass opacification.**
- [NCCN Guidelines version 8.2024.](#)
  - **Highlights CoC Standard 5.8 in the management of early-stage lung cancer.**
- [Operative Standards for Cancer Surgery Video Series: Right-Side and Left-Side Lung Cancer](#)
  - **Surgical videos highlighting the nodal stations that may be assessed for left and right sided lung resections.**
- [A National Survey of Surgeons Evaluating the Accuracy of Mediastinal Lymph Node Identification.](#) Yang, CF, Veeramachaneni N, Hurd J, Potter AL, Zheng L, Teman N, Blair S, Martin LW. Clin Lung Cancer. 2023 Jul;24(5):445-452. doi: 10.1016/j.clcc.2023.03.005. Epub 2023 Mar 21.
  - **Highlights the knowledge gaps of US surgeons for accurate mediastinal nodal stations. This was a correlative study of CoC Standard 5.8.**
- [Two Interventions on Pathologic Nodal Staging in a Population-Based Lung Cancer Resection Cohort.](#) Osarogiagbon RU, Ray MA, Fehnel C, Akinbobola O, Saulsberry A, Dortch K, Faris NR, Matthews AT, Smeltzer MP, and Spencer D, on behalf of the MS-QSR Consortium. Ann Thorac Surg 2024;117:576-85.
  - **Summative work demonstrating that a lymph node collection kit plus detailed pathologic dissection of the primary specimen leads to significantly improved lymph node yield and survival.**
- [A randomized Phase III trial of lobe-specific vs systematic nodal dissection for Clinical Stage I-II non-small cell lung cancer \(JCOG1413\).](#) Hishida T, Saji H, Watanabe S, Asamura H, Aokage K, Mizutani T, Wakabayashi M, Shibata T, and Okada M, on behalf of the Lung Cancer Surgical Study Group of the Japan Clinical Oncology Group (JCOG-LCSSG). Jpn J Clin Oncol, 2018;48(2):190-194.
  - **Description of probably the only known ongoing randomized controlled trial of more versus less lymph node harvesting techniques (results not yet published).**