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Commentary: Thoracoscopic right middle lobectomy—small but tricky

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As far as we are aware, there are many possible sequences of steps to complete a video-assisted thoracoscopic surgery lung resection without any clear demonstration of superiority from one to another. It is nevertheless important for trainees and mentors alike to develop a structured approach upon which to rely, especially when it comes to the right middle lobe, which harbors malignancy in only 5% to 7% of patients.¹⁻⁴ Primary lung cancer of the right middle lobe is associated with a poorer prognosis, presumably because most of its lymphatic network drains directly into mediastinal lymph nodes.^{4,6} This is part of the rationale to recommend lobectomy rather than sublobar resection for a right middle lobe primary lung cancer.⁷

The anatomy of the right middle lobe is somewhat unique in that it shares its vein with the upper lobe and its bronchus with the lower lobe. In their description, Polhemus and colleagues⁸ summarize their right middle lobectomy approach in 12 steps, which are easy to follow and understand. Alternate approaches for certain steps are also described in the text as a mean of addressing difficult or unusual anatomy. Unfortunately, a limitation to this article is that different approaches to right middle lobectomy were not mentioned, such as the fissure first approach or the uniportal approach. Awareness of different approaches to the same operation may better equip surgeons to adapt their strategy to unexpected intraoperative findings and achieve excellent outcomes



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CENTRAL MESSAGE

This article is a good resource for trainees to gain a better understanding of minimally invasive right middle lobectomy.

despite atypical anatomy and oncologic challenges. Technical essays will provide our community with an up-to-date, stepwise, methodic approaches to right middle lobectomy. This contribution and others will become key as we enter the era of competency-based postgraduate surgical training. This contribution from Polhemus and colleagues will hopefully assist program directors and educators in developing entrusted professional activities and milestones relevant to surgical trainees pursuing competence and excellence pulmonary resection.

We hope this manuscript will serve as an ongoing educational resource to thoracic surgical trainees and that it will help them develop a systematic approach to resection of the right middle lobe and, along with other aspects of surgical training, enable them to perform a right middle lobectomy safely.

References

- Allen MS, Darling GE, Pechet TT, Mitchell JD, Herndon JE II, Landreneau RJ, et al. Morbidity and mortality of major pulmonary resections in patients with early-stage lung cancer: initial results of the randomized, prospective ACOSOG Z0030 trial. *Ann Thorac Surg*. 2006;81:1013-20. <https://doi.org/10.1016/j.athoracsur.2005.06.066>
- Miura H, Kato H, Konaka C, Usuda J, Uchida O, Taira O. Primary lung cancer of the middle lobe. Is its prognosis poor? *Lung Cancer*. 1996;14:273-9.
- Mazza F, Ferrari E, Maineri P, Venturino M, Dozin B, Ratto GB. Pulmonary middle lobectomy for non-small-cell lung cancer: effectiveness and prognostic implications. *Eur J Cardiothorac Surg*. 2015;48:e117-23.
- Handa Y, Tsutani Y, Ikeda T, Hanaki H, Miyata Y, Mukaida H, et al. Reassessment of right middle lobe lung cancer: comparison of segments 4 and 5 tumors. *Ann Thorac Surg*. 2018;105:1543-50.
- Peleg H, Antkowiak JG, Lane WW, Regal AM, Takita H. Prognosis after resection of non-small cell lung cancer of the right middle lobe. *J Surg Oncol*. 1987;35:230-4.
- Bedini AV, Cataldo I, Valente M, Alloisio M, Pastorino U, Ravasi G. Surgical prognosis in stage I bronchogenic carcinoma of the middle lobe. *Scand J Thorac Cardiovasc Surg*. 1989;23:283-4.

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7. Lv X, Cao J, Dai X, Rusidanmu A. Survival rates after lobectomy versus sublobar resection for early-stage right middle lobe non-small cell lung cancer: surgery for middle lobe lung cancer. *Thorac Cancer*. 2018;9:1026-31. <https://doi.org/10.1111/1759-7714.12782>
8. Polhemus EL, Dolan DP, Lee DN, Khalil HA, White AA, Swanson SJ. How I do it: multiport video-assisted thoracoscopic surgery of the right middle lobe for non-small cell lung cancer: right middle lobectomy in 12 steps. *J Thorac Cardiovasc Surg Tech*. 2022;14:130-5.