

## Current status of robot-assisted thoracoscopic surgery for lung cancer

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### Abstrak

#### <b>ABSTRACT</b><br>

The robotic surgical system was designed to overcome the drawbacks of conventional endoscopic surgery. Since national health insurance in Japan began covering robotic assisted thoracoscopic surgery (RATS) for malignant lung and mediastinal tumors in 2018, the number of RATS procedures being performed domestically has increased rapidly. This review evaluates the advantages and disadvantages of RATS for patients with lung cancers, based on an electronic literature search of PubMed. The main advantages of RATS are its ability to achieve excellent lymphnode removal with low morbidity and mortality, and minimal postoperative pain. Conversely, its disadvantages include a long operation time and the need for specialized instruments. However, the learning curve for RATS is reported to be shorter than that for VATS: some studies recommend that a surgeon needs to perform 18-22 robotic operations to attain sufficient skill. RATS for lung cancer is more expensive than VATS and the cost of training is high. Although the main disadvantage of RATS is that it reduces operators tactile senses, the endoscope, which is directly manipulated by the surgeon at the console, using various magnifications, and 3D HD images on the monitor, may compensate for this. Ultimately, RATS offers better maneuverability, accuracy, and stability over VATS.