

“What are you doing, doc?” a radiologic technologist asked me when I was using a computed tomography workstation at night about 10 years ago. “I’m looking at data from a patient on whom we are planning to perform an operation tomorrow,” I replied. At that time, there were only two CT machines/workstations in our hospital, and only a few technologists could reconstruct 3-D images from computed tomography volume data. Furthermore, it took them more than 2 hours to do so, so we were generally hesitant to ask them to perform these complex tasks. In those days, I usually obtained and installed the patients’ data on my PC and made the 3-D images using free software. However, it was complex work, so I sometimes used the workstation after the technologists who worked day shift were finished. Over time, I became close with this technologist. For some difficult segmentectomies, we manipulated real-time images using my PC and a sterilized mouse in the OR to rotate and resize the 3-D images until they appeared just as in the surgical view. This technologist became the head of the technologists and helped me introduce a client reconstruction system to our hospital’s OR. Many things have changed since that time, including imaging technology, which has in turn led to surgical advances.

Although the standard surgical procedure for resection of lung cancer has been lobectomy, the demand for sublobar resection has increased because the detection of small-sized lung nodules considered malignant has increased as CT resolution continues to develop. Wedge resection is simple but has some problems, such as surgical margins, non-palpable features, depth of nodules, and so forth. I thought that the resolution of these problems should be through the development of anatomical segmentectomy, especially via thoracoscopy. Basal, superior, lingular, and left upper division segmentectomies are simple to dissect in the intersegmental plane. However, both lungs can be divided into 18 segments, and each segment has 2 or 3 subsegments; therefore, there are various segmentectomy patterns for resecting tumors with sufficient margins but without excessive volumes. Moreover, the segmental anatomy of one patient is quite different from that of another. I began designing resections using 3-D reconstruction from multidetector CT for respective anatomical interpretation.

If our hospital had had a sufficient number of radiologic technologists or radiologists who could have easily handled the 3-D imaging of patients, we would not have understood lung anatomy in such detail and would not have been able to perform the various kinds of precision anatomical segmentectomies. I have to appreciate the environmental circumstances of that era, as we discovered a lot about anatomy and surgical procedures during the process of overcoming these difficulties. Lung segmentectomy might be considered a complex or difficult procedure in some aspects, but I do not think it is. It has become easy with the development of imaging technology. I also believe that this procedure will become the standard of care even for lung cancer in the near future of personalized medicine. Therefore, every lung surgeon should get rid of hesitation about using it.

This book, *Segmentectomy for Thoracic Diseases*, covers the background, logic, oncology, techniques, and more. A lot of important topics but concise data from outstanding contributors from all over the world are included. I would like to give my deep thanks for the outstanding work done by all of the contributors in the production of this timely textbook. I hope that all readers enjoy this book and that lung segmentectomy will become easy for you.

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