Non-intubated or tubeless thoracic surgery is a minimally invasive surgical technique without the use of mechanical ventilation or general anesthesia. The goal of this technique is to avoid the discomfort and complications associated with intubation, positive pressure ventilation, and general anesthesia. In recent years, tubeless thoracic surgery has gained popularity in a variety of procedures, including lung and pleural biopsy, wedge resection, segmentectomy, lobectomy, and resection of mediastinal masses. The future of tubeless thoracic surgery will continue to evolve with advancements in technology and studies evaluating potential benefits.

One potential benefit of tubeless thoracic surgery is the reduction of postoperative complications. Mechanical ventilation and general anesthesia can result in a wide range of complications, including postoperative respiratory failure, pneumonia, and acute lung injury. By avoiding mechanical ventilation and general anesthesia, tubeless thoracic surgery may reduce the risk of these complications and improve patient outcomes. Another potential benefit of tubeless thoracic surgery is the reduction of recovery time. Patients who undergo tubeless thoracic surgery tend to have faster recovery times compared to patients who have surgery under general anesthesia. This can lead to shorter hospital stays and quicker return to daily activities.

Advancements in technology have also contributed to the future of tubeless thoracic surgery. For example, new surgical tools combined with minimally invasive video-assisted thoracoscopic surgery (VATS) and robotic techniques have made it possible to perform increasingly complex surgeries with tubeless anesthesia. Additionally, new imaging techniques such as three-dimensional (3D) imaging and virtual reality have improved preoperative planning and visualization, leading to more precise surgeries and potentially better outcomes. However, tubeless thoracic surgery has its challenges. One of the main challenges is ensuring that patients selected are appropriate for the specific procedure. Patients with certain medical conditions or risk factors may not be good candidates for tubeless thoracic surgery and may require traditional surgery under general anesthesia. The greatest challenge is managing the possibility of intraoperative hemorrhage and the need to convert to general anesthesia and open thoracotomy immediately during a given procedure.

In conclusion, the future of tubeless thoracic surgery looks promising with potential benefits including reduced postoperative complications and faster recovery times. Advancements in technology are also contributing to the development of new tools and techniques to improve patient outcomes, which you will read about in this book in addition to an overview, anesthesia and application of tubeless thoracic surgery. However, careful patient selection and consideration of potential risks and benefits are important to ensure the safety of the patient and success of the procedure.

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