

Why This Book?

The vast majority of the roughly 200,000 thoracic surgical procedures this year will take place in centers where there is no dedicated, subspecialized thoracic anesthesia service. A considerable hunger for guidance and pearls is present among skilled generalists who occasionally find themselves thrust into thoracic cases with unfamiliar problems to solve. Similarly, fellows, residents, and medical students have expressed a need for efficiently accessible, essential principles, and specific management guidance for thoracic cases. All have experienced the frustration of wading through large, thickly referenced tomes that are reluctant to take a stand on controversial issues.

- When should one use PEEP vs. CPAP during one-lung ventilation?
- What else can one do if the patient desaturates? What really works?
- How do you know when it is safe to induce a patient with an anterior mediastinal mass?
- How do I decide whether an epidural is indicated?
- There is a tracheal resection/reconstruction in my room tomorrow. What do I need to know? What are my ventilation options while the airway is divided?
- How should the ventilator be set for patients with severe COPD during one-lung ventilation?
- What is the bottom line on fluids and post-pneumonectomy pulmonary edema?

We, as authors and editors, sought to distinguish this text in several respects. **First**, issues such as those above which are germane to concrete management decisions have been addressed directly, along with an assessment of the degree of certainty behind the positions which we take several respects. **Second**, we have deliberately included insights from the thoracic surgical perspective. Just as we perceive surgeons to be enlightened when they demonstrate some understanding of our issues, we believe that anesthesiologists elevate their own performance and perception when they understand key surgical considerations. **Third**, we have sought to make the information as practical and accessible as possible; heavy on bottom lines, and somewhat lighter on the evidence basis. This is not to suggest that the evidence basis was not diligently vetted. We have simply chosen to spare the reader most of the digestion process. **Fourth**, knowledge and technical skills at the fringes of thoracic anesthesia are given relatively more attention. The skilled thoracic anesthesiologist needs to understand respiratory therapy equipment (including delivery devices for inhaled nitric oxide), basic thoracic radiology, common ICU management issues following thoracic surgery, positioning issues, chronic post-thoracotomy pain syndrome, and other related aspects of total patient care. **Fifth**, the reader will find abundant illustrations; in particular, nearly 40 bronchoscopic images which will help advance his or her ability to recognize anomalies, guide surgery, and correct airway device malpositions.

How to Use This Book

Nobody reads medical textbooks cover-to-cover. We understand that. Most will open this book because they have a specific thoracic surgical case assigned which they are unfamiliar or uncomfortable with.

In that case, **Part IV** will quickly take you to a summary of the essential anesthetic management issues for some 30 specific procedures. Authors were asked to “get to the point” efficiently, and to make the essentials easy to extract. The surgical editor was asked to coedit this section with the following question in mind: “For each

procedure, what surgical issues do you wish that anesthesiologists understood?" You will also find the chapters in Part IV richly cross-referenced in order to connect the reader to deeper explanations of key points.

A challenge in putting this book together was the fact that so many issues were relevant to multiple specific surgical procedures. How to make each chapter of Part IV reasonably complete, without making the section horrendously redundant? **Start by reading Chapter 16.**

Chapter 16 (Part III) takes the reader step-by-step through a typical pulmonary resection case. The sequence of events, common decision points, common problems and their solutions, and essential principles are summarized. Many of these serve as foundations for the other specific surgical procedures which follow in Part IV. It is included in Part III because it is an overview chapter, but it also specifically addresses lobectomy and lesser resections, such as segmentectomy and wedge resection. Other chapters in Part III provide overviews of preoperative, postoperative, and surgical considerations for thoracic surgical patients.

Part I provides essential foundation concepts, principally respiratory physiology, targeted specifically to those which are relevant to thoracic anesthesia management. Radiology for thoracic anesthesia is inserted here as is a chapter specifically addressing the controversy of acute lung injury following pulmonary resection. While the latter is a hotly controversial topic, it is addressed here because of its very practical implications with regard to fluid management and management of one-lung ventilation; central, practical issues for so many thoracic cases.

Part II addresses very technical issues, and will be useful as a "how-to" manual for many procedures and pieces of equipment fairly specific to thoracic anesthesia.

Part V provides a practical summary of thoracic pain management issues, both acute and chronic.

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