



Miller's Anesthesia, Eighth Edition

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Miller's Anesthesia is a well-established academic textbook consulted by anesthesiologists the world over for its exhaustive content, illustrations, and extensive references, which makes it a comprehensive resource and reference in the field of anesthesiology.

During the time since the seventh edition was published in 2010, new chapters have been created and selected chapters updated to reflect new realities and challenges that face anesthesiologists in their daily clinical practice. The editor and associate editors have provided a rigorous review, including updating the table of contents and selecting from a number of potential authors to contribute to this most recent version of the textbook. More than 250 world-renowned contributors participated in the writing of this *Eighth Edition*. Because many collaborators come from outside the United States, the content reflects an international perspective of the field of modern anesthesia. This textbook has been translated into several languages and has an international edition, making it a truly global reference.

The *Eighth Edition* is divided into two volumes containing nine main sections with 112 chapters spanning more than 3,200 pages and including more than 1,500 full-colour illustrations. A quick-reference, “Key Points”, can be found at the beginning of each chapter, giving readers a framework and summary of significant highlights of the chapter.

Ten new chapters have been created to cover new topics that have grown in importance in the field of anesthesia over the past five years. This new content reflects the need

to cover new areas of competence the anesthesiologist must acquire to face their evolving clinical practices. Some of the notable highlights are briefly discussed below.

“International Scope, Practice, and Legal Aspects of Anesthesia” (Chapter 2) has been updated from the last edition to include a description of the evolution of anesthesia across countries up to and including the modern era. The prevalent growth and awareness of international health has resulted in anesthesiologists seeking new practices in foreign countries. This chapter is especially helpful for learning more about the various facilities, equipment, education, accreditation, and research activity worldwide. A notable new feature in this chapter is the issue of safety and medicolegal initiatives.

“Perioperative Management” (Chapter 3) highlights the expanded scope of anesthesiology practice through the continuum of perioperative medicine. It clarifies the role that the various categories of health care providers offer and presents models of perioperative care management.

In “Anesthesia Business Models” (Chapter 12), the European and North American business models are addressed, including their staffing protocols and essential business practice skills such as contracting, audits, insurance, legal services, and recruitment. This section is particularly useful for anesthesiologists who must also develop their management and administrative skills in the modern work environment.

“Perioperative and Anesthesia Neurotoxicity” (Chapter 15) is a new offering. It introduces the potential mechanisms of anesthetic neurotoxicity in very young and elderly patients because it has the potential to influence long-term cognitive and behavioural outcomes.

“Nonopioid Pain Medications” (Chapter 32) outlines the broader role that anesthesiologists must play in acute and chronic pain management. It emphasises the

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importance of understanding and recognising the role of novel therapeutic agents in a multi-drug treatment strategy.

“Palliative Medicine” (Chapter 65), which is new, presents a concise overview of anesthetic concerns related to supporting palliative care. It discusses the importance of developing strong communication skills, conducting an analysis of the patient's resuscitation status, currently available prognostic tools, and the dying process.

Chapter 90, entitled, “Non-Operating Room Anesthesia (NORA)” focuses on NORA procedures, such as those conducted in the endoscopy suite, interventional pulmonary procedures, neuroradiology, interventional cardiology, and electrophysiology. It highlights the cultural and practical adaptations required to provide safe anesthesia.

“Anesthesia for Organ Procurement” (Chapter 75) complements the chapter dedicated to abdominal organ transplantation. It describes the management of organ donors after brain and cardiac death—specifically related to procurement and surgery. It addresses ischemia-reperfusion injury and the organ-preservation process.

The topic of increasingly performed fetal surgery is addressed in “Anesthesia for Fetal Surgery” (Chapter 78). This chapter outlines the indications for fetal surgery and provides details on both procedures and outcomes. Anesthetic management is clearly described, helping to simplify the readers' understanding of these unusual and rare interventions.

The continuing expansion of robotic usage in the operating room is the subject of “Administration of Anesthesia by Robots” (Chapter 86). The potential that robots have to shape, contribute, and advance the future of operating room activities is discussed as well as their subsequent influence on the practice of anesthesiology. The chapter outlines the decision support systems called on for intraoperative use (e.g., reminders to give antibiotics). It also describes the research that has been performed on closed-loop systems. The last section of the chapter presents an interesting perspective on how manual robots could assist with intubation and regional blocks.

Evidenced-based guidelines are outlined in “Evaluation and Classification of Evidence for the ASA Clinical Practice Guidelines” (Chapter 112), where well-defined methodology for developing these guidelines is discussed. As evidence-based guidelines have considerable influence

on clinical anesthesia practice, it is important to understand their history and the course of their design.

In addition to the expanded printed edition, *Miller's Anesthesia* includes access to the ExpertConsult.com website, where readers have online access to the full text, tables, and figures as well as links to related websites that support the textbook. The website also offers an expanded video library on patient positioning for anesthesia, ultrasonography-guidance techniques, and the various types of intubation. Downloading the electronic textbook to a smartphone or tablet is available for mobile access. All references are linked to PubMed abstracts and full-text articles. The Expert Consult website also provides regular content updates.

Although it is difficult to argue that this all-encompassing reference text has any major shortcomings, it is important to consider how one intends to use it. For example, *Miller's Anesthesia* may serve as a primary reference for effective examination preparation or academic presentation, although the bulky format of this large textbook is not always convenient or practical. For instance, anesthesiologists and medical residents working in the busy operating room environment may not have access or the time to search through a large textbook for time-sensitive information related to their immediate needs. Creation of concise and portable delivery formats for easy reference (e.g., a quick reference handbook, companion guide, mobile “app”) could have complemented the textbook. For example, a *Miller Anesthesia* Mobile App could include checklists and diagnostic tools, making the key content of the textbook more accessible and applicable to the working environment.

In summary, *Miller's Anesthesia* continues to serve as the most in-depth review textbook of contemporary anesthesia. It presents the full range of anesthesia-related knowledge, from the most fundamental aspects of physiology and pharmacology to detailed subspecialty management to the newest technologies that will affect our daily practice in the near future. In doing so, this most recent edition attempts to unify and standardize the scope of anesthesia practices around the world. It well deserves a place on the reference shelves of anesthesiologists, departmental libraries, and other institutional collections.

Conflicts of interest None declared.