Anesthesia for Otolaryngologic Surgery

Edited by

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_Basem Abdelmalak_

I am eternally grateful to my wife Lisa, my children David and Jeremy and my late parents for all they have done and the wonderful encouragement they have provided. Thanks also to all my mentors who have taught me so well, and my dear friend John Doyle; without his help this textbook would not have existed.

_John Doyle_

Special thanks to my wife of over three decades Dr. Jo-Anne Williams, my son Jonathan, my parents-in-law, and my late parents. I’m also grateful to the many residents who have kept me both young and humble. And finally, special thanks to Basem, who taught me that “good enough” is just not good enough.
Contents

Foreword by Prof. Hanneberg ix
Foreword by Prof. Benninger x
List of contributors xi
Preface xv

Section 1 Introduction
1 Clinical head and neck anatomy for the ENT anesthesiologist 1
   Nicole M. Fowler and Joseph Scharpf
2 Otolaryngology instruments 101 for the anesthesiologist 18
   Paul C. Bryson and Michael S. Benninger
3 Preoperative evaluation for ENT surgery 26
   Jie Zhou and Linda S. Aglio
4 The difficult airway in otolaryngology 36
   D. John Doyle
5 Preoperative endoscopic airway examination (PEAE) 50
   William H. Rosenblatt
6 Awake intubation 58
   Carlos A. Artimo and Carin A. Hagberg
7 Anesthesia for ENT trauma 83
   Matthew R. Eng and Marshal B. Kaplan
8 Anesthesia for ENT emergencies 90
   D. John Doyle
9 Airway pathology in otolaryngology: anesthetic implications 94
   D. John Doyle
10 Use of Heliox in managing stridor: an ENT perspective 101
   D. John Doyle
11 Prevention and management of airway fires 105
   D. John Doyle

Section 2 Anesthesia for nasal, sinus and pituitary surgery
12 Anesthesia for septoplasty and rhinoplasty 113
   Ursula Galway and Daniel Alam
13 Endoscopic sinus surgery 121
   Paul Kempen
14 Transsphenoidal pituitary surgery 133
   Gazanfar Rahmathulla, Robert Weil and David E. Traul

Section 3 Anesthesia for head and neck surgery
15 Neck dissection and laryngectomy 143
   David W. Healy and Carol R. Bradford
16 Anesthesia for head and neck flap reconstructive surgery 151
   Edward Noguera, Brian Burkey and Basem Abdelmalak
17 Anesthesia for thyroid and parathyroid surgery 163
   Twain Russell and Richard M. Cooper
18 Anesthesia for obstructive sleep apnea surgery 175
   Ursula Galway and Alan Kominsky
19 Perioperative anesthetic management of carotid body tumor resection 186
   Maged Argalious and Sivan Wexler
## Contents

<table>
<thead>
<tr>
<th>Page</th>
<th>Anesthesia for Zenker’s diverticulectomy</th>
<th>195</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ashish Khanna, Benjamin Wood and Basem Abdelmalak</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Anesthesia for parotid surgery</td>
<td>203</td>
</tr>
<tr>
<td></td>
<td>Mauricio Perilla, Biao Lei and Daniel Alam</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Anesthesia for maxillary, salivary gland, mandibular and temporomandibular joint surgery</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>Gail I. Randel and Tracey Straker</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Anesthetic care for face transplantation</td>
<td>220</td>
</tr>
<tr>
<td></td>
<td>Jacek B. Cywinski, Thomas Edrich and D. John Doyle</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Anesthesia for EUA and panendoscopy</td>
<td>228</td>
</tr>
<tr>
<td></td>
<td>Louise Ellard and David T. Wong</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Anesthesia for ENT laser surgery</td>
<td>237</td>
</tr>
<tr>
<td></td>
<td>D. John Doyle</td>
<td></td>
</tr>
</tbody>
</table>

### Section 4 Anesthesia for laryngotracheal surgery

<table>
<thead>
<tr>
<th>Page</th>
<th>Anesthesia for laryngoplasty</th>
<th>245</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Michael S. Benninger and Tatyana Kopyeva</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Anesthesia for tracheotomy</td>
<td>255</td>
</tr>
<tr>
<td></td>
<td>Onur Demirci and Marc Popovich</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Anesthesia for tracheal resection</td>
<td>263</td>
</tr>
<tr>
<td></td>
<td>John George III and D. John Doyle</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Anesthesia for otologic and neurotologic surgery</td>
<td>271</td>
</tr>
<tr>
<td></td>
<td>Vladimir Nekhendzy</td>
<td></td>
</tr>
</tbody>
</table>

### Section 5 Anesthesia for bronchoscopic surgery

<table>
<thead>
<tr>
<th>Page</th>
<th>Anesthesia care for diagnostic bronchoscopic procedures</th>
<th>297</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basem Abdelmalak and Mona Sarkiss</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Anesthesia care for therapeutic bronchoscopic procedures</td>
<td>310</td>
</tr>
<tr>
<td></td>
<td>Basem Abdelmalak and Mona Sarkiss</td>
<td></td>
</tr>
</tbody>
</table>

### Section 6 Anesthesia for pediatric ENT surgery

<table>
<thead>
<tr>
<th>Page</th>
<th>Anesthesia for pediatric otolaryngologic surgery</th>
<th>323</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rahul G. Baijal and Emad B. Mossad</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Reconstructive airway surgery in pediatrics</td>
<td>339</td>
</tr>
<tr>
<td></td>
<td>Megan Nolan and David S. Beebe</td>
<td></td>
</tr>
</tbody>
</table>

Index | 348 |
Foreword

This volume is a reminder of the depth of the historical connection between otolaryngology and anesthesia. Remember that it was head and neck surgery for which Dr. Crawford Long and Dr. W.T.G. Morton administered ether anesthesia in 1842 and 1846, respectively. The very birth of our specialty was in the setting of head and neck surgery!

There may be no area of surgical specialization for which seamless coordination with the anesthesiologist is of such paramount importance. The shared, perhaps compromised, airway demands that each physician approach the patient with a deep understanding of each other’s needs and abilities. More so than in many surgical fields, the ENT patient can be a newborn or a centenarian and the anesthesia knowledge base is correspondingly broad. The pace of innovation in ENT surgery has been relentless, with the introduction of advanced laser therapies, image guided procedures and endoscopic approaches. All these considerations demand an up-to-date reference for anesthesiologists involved in these procedures.

The editors have assembled a group of authors who have devoted their anesthesia careers to the highest level of care for patients undergoing the full range of otolaryngologic surgery. They come from institutions in which innovations in ENT surgery are developed and practiced. All of us now have the opportunity to benefit from their experience.

Alexander A. Hannenberg, M.D.
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The management of anesthesia for any surgical procedure is of the highest importance and is often fraught with difficulty and risk. This is particularly true for patients undergoing otolaryngology surgery. Compounding these issues is the pathology (tumor, infection, trauma, etc.) that prompted the need for surgery in the first place.

An otolaryngologic procedure case typically requires multiple exchanges of real-time clinical information between the surgeon and the anesthesia provider. There are few circumstances where preoperative planning and a formal “huddle” around the patient to discuss planned management are more critical than in an ENT patient. The roles of each member of the anesthesia, surgical and nursing team should be explicitly identified, and specific steps to ensure maximum safety should be articulated. All the necessary equipment should be available and ready. The group should also be prepared for unexpected problems that may necessitate the execution of a back-up plan.

Although this is not per se a textbook on clinical airway management, airway issues naturally arise on a regular basis in otolaryngology surgery. This is particularly true of upper airway surgery, which relies heavily on the coordinated efforts of both the anesthesia and surgical teams. In such cases these teams need to plan a coordinated approach to establishing a safe airway, must maintain that airway during the procedure and have to ensure that the airway is maintained as the procedure ends. There are many times throughout the procedure where the control of the airway needs to be shared or complete control relegated from one team to the other. This exchange requires not only knowledgeable team members and timely communication; it requires seamless transition and continuous vigilance.

This book will help to illustrate the complexities of anesthesia in the otolaryngology patient. It will help to identify the key procedures that are performed and the surgical and anesthesia set-up needed to protect the patient during the procedure. Besides airway management considerations, it details the other anesthetic considerations, systematically presented in the form of preoperative consideration, intraoperative management, as well as postoperative care and potential complications. Of great importance, the book highlights the significance of communication between the clinical teams and such a detailed “full picture” presentation of class of or individual procedures is expected to help greatly facilitate such communications. Only with an experienced and prepared combined effort can the procedures be performed in a safe and efficient manner.

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This textbook was motivated by our discovery that there is serious dearth of detailed information on the topic of anesthesia for ENT surgery in current anesthesiology texts. (For instance Kathryn E. McGoldrick’s book *Anesthesia for Ophthalmic and Otolaryngologic Surgery* is now over 20 years old.) In most anesthesia books, anesthesia for ENT surgery shares a chapter with anesthesia for ophthalmologic procedures. However, because of size limitations, such chapters have barely enough information to begin to describe what it is like to provide safe, effective anesthesia for these often highly specialized procedures. In addition, anesthesia airway textbooks focus often on the management of the difficult airway, and airway devices, more so than discussing the broad spectrum of the anesthetic management options for otolaryngologic surgery. Thus, there is an information gap we seek to address.

This textbook is designed to provide account of the currently available evidence in the field of anesthesia for ENT surgery. When rigorous scientific evidence is lacking (regrettfully, this is still the case in many areas of medicine and surgery) expert opinion on the management of these often very complex procedures is offered. In addition, many new procedures have been introduced to the field, such as laryngoplasty, jaw and face reconstruction, and facial transplantation, which we cover in this volume. However, we have omitted some extremely rare procedures like laryngeal and tracheal transplantation. Also, the new expanding field of bronchoscopic surgery performed by ENT surgeons, pulmonologists and thoracic surgeons is a new field that only a specialized book like this one would be able to discuss in detail.

In an attempt to make our textbook clinically relevant, we have ended many clinical chapters with clinical case descriptions where the concepts discussed in the chapter are applied to a clinical scenario. In addition, some especially important topics are covered briefly in early overview chapters and are covered in more detail later. We believe that this macro/micro approach has been helpful in our teaching and hope that it will also be successful here.

The diversity of the authors’ institutions, background expertise, and geographical location was intentional, as it allows us to present different examples of clinical practice. For example, smooth emergence from anesthesia is one of the much sought after goals in the majority of otolaryngologic surgical procedures, and a number of chapters discuss completely different ways to accomplish that goal. Indeed, in many chapters, the presented anesthetic plan is not the editors’ first choice, but is presented in the spirit of clinical diversity and clinical richness. It should similarly follow that this book is not intended as a resource to definitively state standards of clinical care so much as it aims to offer clinicians broad approaches to tackle difficult, sometimes unique, situations in ENT surgery.

Finally, we would like to point out that many chapters are intentionally co-authored by an anesthesiologist and a surgeon, to make sure that the chapter is providing an accurate account from both points of view.

We sincerely hope that this textbook will be of great value to both practicing clinicians and trainees, with the ultimate goal of improving patient safety and comfort.

*Basem Abdelmalak*
* D. John Doyle
* Cleveland, February 2012*