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## Neurologic and Neurodegenerative Diseases of the Larynx

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Philip A. Weissbrod • David O. Francis  
Editors

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 Springer

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ISBN 978-3-030-28851-8      ISBN 978-3-030-28852-5 (eBook)

<https://doi.org/10.1007/978-3-030-28852-5>

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The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

*To Caro, Izzy, and Nina for being my inspiration and  
motivation and making even bad days bright.  
To my parents for a lifetime of unwavering support.  
To my mentors and colleagues for your teaching, guidance, and  
friendship.  
To my patients, for it is only through your experience that we  
can improve the lives of others.*

Philip A. Weissbrod

*To my wife, Jackie, and little Evie for their unwavering support,  
for making me laugh, and for making me a better husband,  
father, and doctor. You are my world.  
To my parents who were my first editors and always pushed me  
to see beyond the horizon.  
To my many mentors who fostered a sense of exploration,  
curiosity, and integrity.  
To my patients who have taught me more about medicine and  
humanity than any professor could.*

David O. Francis

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## Foreword

The larynx is a busy organ. Every natural breath, every soaring aria, and every hotdog eating contest are regulated to spectacular precision by the wonder that is the larynx. Books on this subject are full of feats and amazing facts of anatomy and physiology; to me, the larynx deserves special recognition in the pantheon of organs due to this versatility and precision. All of this magic is due to the elegant neuromuscular function of the larynx.

We have work to do, you and me. The mechanics and sensory processing that begin with hearing transduction, for example, have deservedly captured the enthusiasm and amazement of investigators for a century or more. In contrast, the larynx has as yet unplumbed depths of complexity in health and disease as it relates to sensory and motor function.

In this volume, expertly curated and edited by Drs. Weissbrod and Francis, today and tomorrow's leading authors have presented the first truly comprehensive text of the twenty-first century on this topic. This book will set the stage for the next 20 years of conversation about neurologic function and dysfunction as it relates to the larynx.

If that uncanny bargain between author and reader works out as it should, you will emerge from this book both with more knowledge and yet somehow with even more questions to ponder. The future of caring for laryngology patients depends on our commitment to educating ourselves, other physicians, our allied health partners, and, of course, our patients. *Neurologic and Neurodegenerative Diseases of the Larynx* from Weissbrod and Francis will undoubtedly be a mark on the map for both existing and emerging generations of students of the larynx.

Seattle, WA, USA  
July 1, 2019

Albert L. Merati, MD

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## Preface

For most providers, how neurologic and neurodegenerative disease affect the upper aerodigestive tract is somewhat of a black box. The interplay between these types of diseases and dysfunction of this complicated area of the body is difficult to understand even for laryngologists and speech-language pathologists who focus all their attention on it. Disease presentations can range from subtle to profound, disease course can be progressive, and treatment options can seem limited. Even for experienced providers, care for these patients is difficult and outcomes can be bleak, depending on diagnosis. As we have both gained experience in working with these populations, we have recognized that even in the most difficult of patients, there are options for voice, airway, and swallowing intervention that can lead to improvement in quality of life. It was this concept that inspired us to curate this text.

The objective of this book was to create a common source that summarizes what is known about the myriad of different neurological conditions that cause dysfunction of communication, swallowing, and breathing as it relates to the upper aerodigestive tract. It is critically important to understand that this knowledge is not under the auspice of any particular specialty and that most clinicians, at some point in their careers, encounter the described conditions and manifestations of disease. We recruited the foremost minds and experts in these conditions from a broad spectrum of medical specialties in order to create a book that is inclusive of diagnostic and therapeutic considerations that clinicians should think about when caring for patients with these conditions.

As a community of clinicians and scientists, we are constantly learning how to better diagnose and characterize disease and to improve our management of patient symptoms and concerns in order to maximize both quality of life and longevity. We have both been deeply affected by the patients we have cared for in our practices over the years. Their stories and experiences were our ultimate motivation to put this text together and to push our field forward. These diseases afflict both young and old, and most of us have had friends and relatives who have personally been touched by these pathologies. It is our duty to continually learn and advance scientific discovery to improve the lives of future patients.

We believe this book provides clinicians and scientists at all levels of experience a practical and thorough review of these diseases, their manage-

ment, and frontiers in science. It is our intention for this book to act as a resource to guide our practices and research endeavors. We hope the work herein will help clinicians from various fields better recognize the subtle and not-so-subtle voice, swallowing, and airway manifestations of these diseases so that we can develop a more efficient, evidence-based, and patient-focused multispecialty approach to managing these complex and challenging patients.

Madison, WI, USA  
La Jolla, CA, USA

David O. Francis, MD, MS  
Philip A. Weissbrod, MD

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