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Preface

Our many years of clinical work have brought each of us great enjoyment and challenge. We have been privileged to work with a vast range of individuals with voice disorders in multiple settings, including clinics, hospitals, private practice, and university training departments. This unique and eclectic population encompasses preschool through elderly ages and represents etiologies arising from medical, environmental, social, psychological, occupational, and even idiopathic threats to vocal health. Our clients may be typical voice users, occupational voice users, elite vocal performers, individuals with head and neck cancer, and any others who have lost the ability to communicate competently and confidently due to detrimental voice changes. Regardless the onset and course of his or her disorder, each patient provides us with a unique diagnostic dilemma: How do we best return the voice to optimal condition?

To answer these questions, voice pathologists must apply knowledge of anatomy and physiology, etiologic correlates, laryngeal pathologies, and differential diagnosis to conduct an accurate evaluation. Traditional clinical management requires well-developed skills in the interpersonal interview, behavioral observation and modification, and task selection and elicitation. The contemporary voice assessment no longer relies solely on audioperceptual voice quality judgments, but also demands technical expertise in using voice laboratory instruments for acoustic analysis, aerody-

dynamic measures, and laryngeal imaging to help inform the management plan. Finally, we can succeed only when we have educated our patients to understand and self-monitor voice production behaviors independently and accurately.

Indeed, we have the same goal for speech-language pathology students and clinicians who may use this text to study clinical voice pathology or to improve their service to individuals with voice disorders. We seek to organize, explain, and illustrate the comprehensive hierarchy of knowledge necessary to manage voice disorders.

Chapter 1 begins with an entertaining history of voice disorders from its ancient foundations to the present. This information clarifies the role of speech-language pathologists in the care of voice disordered patients and introduces the interdisciplinary background that has permeated our history of successful voice therapy.

A progressive development of essential clinical knowledge areas begins with Chapter 2, the anatomy and physiology of voice production. Understanding the structure and function of the laryngeal mechanism is an essential basis for evaluating phonatory function, examining the larynx and vocal folds, and recognizing the impact of abnormal changes or adaptations on voice production. This fourth edition presents entirely new artwork to enhance the written descriptions of the three subsystems of voice: respiration, phonation, and resonance. This edition also expands

the discussion of vocal fold histology and DNA microarray gene expression analysis.

Chapter 3 provides a thorough update on the etiologies of voice disorders by discussing the common factors associated with the cause and maintenance of voice disorders, to understand best options for treatment planning. These etiologies include misuse, medically related factors, primary disorders, and personality-related influences. Chapter 4 presents the pathologies of the laryngeal mechanism, organized according to the *Classification Manual for Voice Disorders-I* developed by Special Interest Division 3 (Voice and Voice Disorders) of the American Speech-Language-Hearing Association (2006). The pathologies are presented in eight major groups: (1) structural pathologies; (2) inflammatory conditions; (3) trauma or injury; (4) systemic conditions affecting voice; (5) aerodigestive conditions affecting voice; (6) psychiatric or psychological disorders affecting voice; (7) peripheral neurologic disorders affecting voice; and; (8) other disorders of voice. The text illustrates many of the pathologies with color plates.

Chapters 5 and 6 discuss the objectives and procedures of a systematic diagnostic voice evaluation. Chapter 5 introduces traditional evaluation techniques, including the patient interview, audioperceptual judgments, patient self-assessment, determining the cause(s) and maintaining factor(s) of the voice disorder, and educating the patient about these findings to establish a collaborative management plan based on these clinical data. Chapter 6 provides a state-of-the-art overview of the instrumental measures that comprise a comprehensive voice assessment, including the scientific principles that underlie

their development, application, and interpretation. In addition to standard measures of acoustics, aerodynamics, electromyography, and stroboscopy, this edition explains the utility of high-speed digital imaging and videokymography tools. The appendix includes instrumental measurement norms and a helpful glossary of terms.

Knowledge of anatomy and physiology, pathologies, etiologies, and the diagnostic process have prepared the reader for Chapter 7, which explores an array of voice therapy approaches following the orientations of hygienic, symptomatic, psychogenic, physiologic, and eclectic treatments. Using frequent patient cases to illustrate major insights about voice treatment that we have each gathered from our 30-plus years of clinical experience, we orient the reader to the theories, selection criteria, and clinical methods for specific voice management principles. This treatment framework is appropriate for common, yet diverse, complaints due to nodules, laryngopharyngeal reflux, paralysis, and vocal fold dysfunction, as well as infrequent disorders such as papilloma, mutational falsetto, and transgendered voice. Finally, we highlight the current clinical evidence that either supports or refutes popular treatments used in voice therapy.

Because of the exceptional concerns of voice performers, Chapter 8 introduces the factors that influence clinical management approaches for this artistic population, such as personalities, temperament, performance routines and schedule, and other special considerations needed for their care and treatment. The chapter defines the roles of their expanded interdisciplinary team, and identifies the affiliated organizations that represent and support voice performers. In addition to traditional

voice therapy considerations, the chapter also discusses nontraditional alternative treatments that are popular with this population.

Chapter 9, Rehabilitation of the Laryngectomized Patient, serves as a stand-alone manual on the management of this special patient population. This chapter reflects the current “best practice” in voice rehabilitation or restoration in head and neck cancer patients. By outlining the complementary roles of the interdisciplinary treatment team, we understand the multiple management goals: cure the disease; select optimal communication methods; ensure safe swallowing; and address any associated physical, social, and emotional changes that affect each patient. The chapter also contains photographs of the latest communication and airway management devices currently on the market.

Over the past four decades, our chosen specialty of clinical voice pathology has expanded greatly within the field of communication disorders. Nonetheless, this fourth edition of our text retains its original purpose: to provide students and clinicians with a strong foundation of basic voice science infused with a deep clinical understanding of the best methods for assessing and treating

voice disorders. As we prepared this edition, we challenged ourselves to revise every chapter thoroughly, by referencing the latest relevant published research, infusing clinical treatment evidence, and sharing lessons learned from our ever broadening experience, whenever possible. The effort was both illuminating and rewarding. Consequently, we hope that you, the reader, will find this text clear, informative, and a worthwhile addition to your professional library.

As always, text development and editing requires the expertise of numerous contributors. We remain deeply indebted to Sadanand and Angie Singh, who have commended our work and inspired our revisions for many years. We also thank Stephanie Meissner, Judy Meyer, and Lauren Naransky for their assistance on this edition as well as Sandy Doyle who has been our tireless and talented editor for three editions of this text. We also wish to acknowledge the new artistic illustrations completed by Susan Boeckmann, whose clear eye, careful hand, and steady pen brought features of laryngeal structure to life. Finally, we would be remiss in not thanking the many patients who have taught us so much about voice disorders.

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