# Introduction

Voice disorders in children probably occur more frequently than voice disorders in adults. Estimates of the prevalence of voice disorders in school-age children range from 6% (Hull et al. 1976) to a high of 23% (Silverman & Zimmer 1975). Despite this high prevalence, many speech-language pathologists (SLPs) working primarily with children rarely see a child with a voice disorder. Wilson (1979) noted that although 6-9% of elementary school children have voice disorders, only 1% of children on SLPs caseloads have voice disorders. Andrews and Summers (2002) hypothesized that this may be related to the difficulty in getting the child examined by a physician before beginning therapy. It may also be related to an acceptance that the child "has always sounded that way." Sometimes parents and teachers are so accustomed to hearing the child's hoarse voice that it doesn't sound "abnormal" to them.

Whatever the reason, the fact that SLPs don't see lots of children with voice disorders may contribute to a lack of confidence in evaluating and treating these children. Yet it can be fun and rewarding to treat children with voice disorders — they generally demonstrate quick progress and get better. SLPs should have a critical role in the management of children with voice disorders. Often, behavioral voice treatment is the preferred treatment.

In all areas of practice, it is important that clinicians use an evidence-based approach to treatment. This means that we should carefully analyze evaluation and treatment techniques to determine if they have been shown to be efficacious. Voice disorders are no exception, and solid research studies do exist on treatment efficacy, though often not specific to the pediatric population. For example, Ramig and Verdolini (1998) wrote a review article on the efficacy of treatment for voice disorders. In this article, they indicated that the consensus is that "children with vocal hyperfunction and vocal nodules should receive voice treatment." In a study of 31 school children with vocal nodules, 84% (after six months) had reduced nodule size and 65% had normal larynges (Deal et al. 1976). Allen et al. (1991) also reported that voice treatment was effective in treating vocal nodules. Vocal hygiene programs have also been found to reduce the number of children perceived as hoarse (Nilson & Schneiderman 1983).

This book is not designed to teach you everything you need to know about voice disorders in children. There are many excellent, comprehensive textbooks that you may want to use to supplement the information provided here. This book is designed to serve as a reference tool and to give you techniques, methods, and materials (including a PowerPoint presentation on the accompanying CD that is designed to educate children about the voice) to use with children who have typical voice disorders. Unusual or low incidence voice problems (e.g., paralysis of vocal folds) are not addressed. This book should be useful to SLPs in school or healthcare settings who see children from kindergarten to middle school. Many of the techniques described can be used with older children, though the handouts may need to be adapted in some cases to be more age appropriate. In addition, this book does not deal with voice problems unique to adolescents (e.g., puberphonia).

Chapter 1 describes the kinds of things that can go wrong with the voice. You'll find descriptions of problems related to voice abuse/misuse and the consequences (e.g., vocal nodules) of such abuse. Medically-related causes of voice problems (e.g., upper respiratory infections, GERD) are also addressed, as well as congenital medical disorders with related voice problems (e.g., cleft palate, cerebral palsy).

Clinical evaluation of the voice (discussed in Chapter 2) is an important step in analyzing the perceptual characteristics of the child's voice. This analysis will provide valuable information for developing a treatment plan. Chapter 3 gives some basic information about instrumental evaluations of voice disorders. It does not provide enough information to prepare you to perform such instrumental

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evaluations. However, it should help you understand reports of instrumental evaluations you receive from others, and to determine when and why you might want to refer a child for a comprehensive instrumental evaluation.

The combined information from both types of evaluation forms the basis for treatment planning. Many other factors must be considered, however, when planning treatment (Chapter 4) for children. One of the challenges is motivating the child to change something he may not perceive as a problem. Behavior management techniques need to be utilized and other adults need to be enlisted in the effort to change the behaviors. The framework for using short-term goals and treatment objectives is also addressed in this chapter.

Most voice problems presented by children will be problems of hyperfunction, which Boone et al. (2005) described as "the involvement of excessive muscle force and physical effort in the systems of respiration, phonation, and resonance." A description of types of hyperfunction and the relationship of hyperfunction to the development of organic problems is described in Chapter 5. The fundamentals for treating hyperfunction are explained, along with several specific techniques.

Since many children with hyperfunctional voice disorders are abusing their voices, Chapter 6 provides detailed information about behavior management strategies that can be used to modify vocally abusive behaviors. The appendices in this chapter include forms that should help you in collecting data on these behaviors.

Chapters 7, 8, and 9 provide more in-depth information and treatment strategies about three specific physiologic functions that contribute to voice production: respiration, phonation, and oral-nasal resonance. You'll find yourself referring to these chapters for the child who has an isolated problem with these functions or for the child who needs extra practice in these areas to supplement treatment of a hyperfunctional voice pattern.

Chapter 10 describes Paradoxical Vocal Fold Dysfunction. This really isn't a voice disorder (though some children with PVFD may have an accompanying voice problem). However, it is a problem with the larynx, and a book on voice disorders seemed the logical place to include information on how to treat it.

I hope you find *The Source for Children's Voice Disorders* to be a helpful resource and a trigger to seek out more information about voice disorders in children.

Nancy

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