



# Voice Foundation Newsletter Editors

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# The Voice

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## Voice-Related Quality of Life

by Nadine Connor, PhD, Editor



Nadine Connor, PhD

reliable “instruments,” which are the questionnaires or interview methods used to derive the HR-QOL and VR-QOL assessments. Instruments that incorporate an individual’s perspective are particularly useful for concepts for which the individual is the only person who can truly appreciate the condition. As a field of study, HR-QOL research and measurement has expanded greatly over the last 30 years. To date, there are over 93,300 articles indexed in Medline (PubMed) with a medical subject heading (MeSH term) of “quality of life.” However, only 227 of these articles are associated with the term “voice disorder.” Because VR-QOL measures can be important clinical endpoints, more research that incorporates these constructs is needed. Along with traditional measures of voice, VR-QOL

**T**his issue of *The Voice* addresses the concept of voice-related quality of life (VR-QOL). Overall, quality of life (QOL) is a concept with many facets that describes an individual’s perception of well-being. A major contributor to perception of is health quality, known as health-related quality of life (HR-QOL). HR-QOL, in turn, is multidimensional. We can consider voice-related QOL (VR-QOL) to be one of the dimensions that may affect health quality. HR-QOL, in turn, is multidimensional and the construct VR-QOL can be considered one of these dimensions. HR-QOL and VR-QOL are often evaluated with the use of valid and

assessments can serve to evaluate the extent to which a treatment affects the status of a patient’s overall health and well-being, as related to his or her voice. What constitutes VR-QOL may differ across the lifespan, and may have an occupational influence. That is, VR-QOL may be influenced by an individual’s perspective as a singer or teacher. Additionally, VR-QOL concepts may be different in children of different ages when compared with young adults or seniors. To address these issues,

*The Voice* presents four articles from five outstanding authors. First, Ebony Brown and Ryan Branski address issues related to VR-QOL and its measurement. Following this introduction, we have articles by Jan Prokop, Sharon Morrow and Ingrid Verduyck describing VR-QOL in singers, teachers and children, respectively. We hope you enjoy reading this issue of *The Voice*.

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**Terms not found in my Music Scores.**

QOL = Quality of Life

HR-QOL = Health Related Quality of Life

VR-QOL = Voice Related Quality of Life

Check out **World Voice Day Events**  
beginning on page 10.

# Developing Voice-Related Quality of Life Instruments: More Than Meets the Eye

by **Ebony Brown, Graduate Student**  
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And **Ryan C. Branski, PhD**  
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To quantify the deleterious effects of voice disorders on patient quality of life, several instruments have been developed and have evolved in both the clinical and research mileus. Conceptually, the design of these instruments appears relatively straightforward; we need some means to quantify the patient's perception of the effects of voice disorders and furthermore, track this perception over time or as a function of treatment. However, the development of these instruments is neither straightforward nor simple. In 1997, the landmark paper by Jacobson et al. introduced the Voice Handicap Index (VHI), the first such instrument specific to voice disorders.<sup>1</sup> Since then, others have followed, and a recent review of the literature revealed nine English language instruments, and many more in various other languages (see footnote).<sup>\*</sup> The development of these instruments, currently referred to as patient-reported outcome measures or PROMs, has gained significantly more attention recently, suggestive of the inherent value these instruments play in the management of a variety of disease processes. This increased attention has been accompanied by standardized protocols for the development of such instruments as well as means to assess their psychometric properties.

**"In summary, the development of a patient-based outcome measure is a lengthy, rigorous process which, if done according to the strict, recently-published guidelines, could possibly encompass an entire academic career."**

PROMs are patient-derived instruments that measure any aspect of a patient's health status ranging from symptomatic to increasingly complex concepts such as quality of life (QOL), which is a complex, multi-domain construct involving physical, psychological, and social components. Recently, the Food and Drug Administration clarified a 2002 report by the Scientific Advisory Committee of the Medical Outcomes Trust specifically outlining the steps required for optimal PROM development. Due to the complexity of those guidelines, Cano et al. summarized the document succinctly, describing a



**Ryan C. Branski, PhD**



**Ebony Brown**

relatively rigorous, three-stage system of instrument development with step-by-step procedures for item generation, item reduction, and psychometric evaluation.<sup>2</sup> Briefly, Stage I involves the development of the conceptual model and questionnaire items. Most notably, this stage is predominated by extensive and rigorous qualitative methods including patient interviews, focus groups, and review of the literature. Potential questions are then pretested or piloted on a small sample of patients to reduce ambiguities in the wording, confirm appropriateness, and determine acceptability and time required for instrument completion. State II involves field testing of the instrument in a larger patient cohort, resulting in revisions and item reduction, and Stage III involves psychometric evaluation of the questionnaire in its final form.

Given that all of the currently-available voice-related PROMs were developed well before the release of these guidelines, it is not surprising that none of them strictly conform to the prescribed criteria for instrument development. Furthermore, the majority of these instruments were developed in an era heavily devoted to "objective" analyses of vocal function and the authors of these instruments were pioneers given their insight and progressive thinking to consider patient factors as being equally important in the diagnostic process. In fact, many of the PROMs currently employed have exhibited some degree of psychometric strength, as outlined previously by Franic et al.<sup>3</sup> Specifically, the VHI and the Voice-Related Quality of Life (V-RQOL)<sup>4</sup> were identified as the strongest, but none of the instruments assessed satisfied all relevant psychometric criteria. One might hypothesize that these psychometric deficiencies may be related to development. This hypothesis is not meant to disparage the currently available instruments, as many have proven remarkably valuable in the field. However, these guidelines speak more to how to proceed moving forward. Most notable and most troubling with regard to these guidelines is the increasing trend towards translation of English language PROM instruments to other languages. Not only do these translations often fail to address issues related to linguistic validation, but also likely fail to capture culturally relevant health-related issues due to a lack of

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# Quality of Life Issues in Singers with Voice Disorders

by Jan Prokop

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**O**ur voice is frequently the first impression. It announces who we are. It expresses our personalities and defines us intellectually as well as culturally. It portrays our emotions. We identify ourselves by our voice, by the way we sound. But what happens when our voice fails us? What happens when illness, injury or fatigue result in an inability to vocalize or put constraints on vocalization? This instrument can't be exchanged for a new model. A variety of adverse consequences occur when the voice is compromised. These consequences vary according to how dependent an individual is, professionally and personally, on consistent vocal behaviors. Regardless of training or use, the range of adversity varies in impact from person to person. A singer's quality of life and overall well-being are profoundly affected by the way the voice functions. Conversely, the way a person sings profoundly affects their quality of life.

**"Without access to adequate knowledge and proper care, the singer's frustrations increase, they feel ashamed to admit having a problem and primary problems become overlaid with secondary symptoms."**



Jan Prokop

The pop singer Adele prematurely ended her 2011 concert tour because of a vocal fold hemorrhage, telling a BBC reporter, "It's devastating. I've lost my voice a few times and it's like having your right arm cut off. Your vocal cords are one of the most delicate muscles in your body."<sup>1</sup> After being ordered to 10 days of vocal rest following her performances of *Anna Bolena* at the Metropolitan Opera, Anna Netre-

bko recently cancelled her Carnegie Hall debut. She announced that "...no one is more disappointed and frustrated than me that I won't be able to perform for New York audiences next week. I apologize for any inconvenience this has caused and am deeply appreciative of everyone's understanding of this difficult situation." (<https://www.annanetrebko.com>).

A voice problem can cause emotional as well as occupational consequences for those who use their voice professionally. Their overall quality of life is also at risk. The World Health Organization defined quality of life as an "individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns."<sup>2</sup> Quality of life is therefore multi-dimensional, affecting physical, mental, emotional and social well-being. It represents a person's relationship between the reality of the situation and the perception of that reality, and will ultimately test a person's resolve in all aspects of life.

The specific artistic demands of performance are what separate singers from other professional voice users such as clergy, politicians, teachers and coaches.<sup>3</sup> As vocal athletes, singers require special diagnostic and treatment considerations when voice difficulties

develop because they must maintain higher-than-normal levels of phonatory agility, strength and stamina to repeatedly execute complex laryngeal maneuvers.<sup>4</sup> Trained and experienced singers are typically sensitive to subtle nuances and variations in their singing voice, identifying abnormalities during singing that are not perceived similarly during speech.<sup>5</sup> As a result of vocal problems, singers report more disability and emotional distress than other groups of professional voice users. They are more likely to seek medical attention for mild as well as severe vocal deviations than non-singers. Both professional and avocational singers report a greater prevalence of disability and are more likely to seek medical attention than non-singers. Mishra et al. (2000) noted that experienced, classically trained singers sought medical help sooner than younger, less experienced individuals or musical theater performers.<sup>6</sup>

It is essential that professional voice users, especially singers, seek the care of a laryngologist for whom voice is a specialty. These voice professionals need to be knowledgeable about the possible cause(s) that can put a singer's voice at risk.<sup>3</sup> The amount of vocal use, compromised technique, fatigue, tension, stress, diet, sleep,

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## Quality of Life Issues in Singers with Voice Disorders

(Continued from page 3)

lifestyle, performance venues, humidity and other environmental factors are all potential culprits. These issues need to be taken into consideration and discussed when making a diagnosis and designing a treatment plan. The singer's livelihood, self-worth and identity are connected to the successful functioning of their voices. Without access to adequate knowledge and proper care, the singer's frustrations increase, they feel ashamed to admit having a problem and primary problems become overlaid with secondary symptoms.

The various parameters of what constitutes a positive quality of life need to be addressed and evaluated by all members of the educational and medical team who work with singers. If a problem is suspected with the singing voice, professional, student and avocational voice users can become anxious about what will happen when they attempt to sing. When the underlying causes are unidentified, there may be a greater likelihood that the voice disorders can be effectively treated. That is, the negative impact may be minimized when diagnosis and treatment occur in the early stages of the problem. The emotional and psychological tolls must be considered when treating these individuals. For a singer experiencing a disruption or loss of voice, the physical, functional, emotional and psychological cost can vary. If these issues are not openly discussed, singers begin to doubt themselves, their talents and abilities.<sup>7</sup>

Unfortunately, many voice-related quality of life evaluations do not entirely capture the unique specifics of the effects of singing voice impairment. In-depth assessment and implementation of additional voice-related quality of life instruments to assess the emotional, physical, and functional aspects of singers' voice disorder are required. These will enable voice care providers to adequately treat the entire person, not just the voice disorder. The psychological, emotional and physical state of the individual determines the breadth of the treatment protocol and influences recommendations for both assessment and treatment. These parameters also have an impact on the rate of compliance of the treatment. The Vocal Handicap Index (VHI) was developed to assess the severity to which a person perceives his or her disorder. This index is a series of questions designed to evaluate a person's perception of their vocal situation and how it affects their life.<sup>8</sup> However, unless statements specific to singing were included, singers and non-singers scored similarly on the VHI-10, a shorter version of the VHI.<sup>5</sup> The Murry group found that on the VHI-10 singers ranked items relating to the emotional impact on quality of life higher than non-singers.<sup>8</sup> Cohen et al (2009)

developed the Singing Voice Handicap Index (SVHI) and SVHI-10 to better measure voice handicap specific to the singing voice to further assist voice care providers.<sup>9</sup>

Additionally, pre- and post-testing is needed to ascertain the cognitive understanding of key informational items pertinent to a singer's rehabilitation before treatment is begun. Some students present with voice problems and have difficulty comprehending the severity of the situation because they have little knowledge of the mechanics of voice production, let alone how lifestyle factors impact voice. It would be useful to know the extent of their baseline knowledge prior to the onset of therapy because it would inform the intervention process.

As a singing voice specialist, voice teacher and performer, singers with voice disorders are often referred to me. What I find in younger, less knowledgeable singers is a fear of the unknown. They are reluctant to acknowledge a vocal problem. They are vocal ostriches. They are paralyzed by their lack of information and this immobility impacts on the severity of the problem and the type of therapy designed to remedy the situation. Because of this denial, the problem intensifies, the diagnosis is delayed while time is spent dealing with their emotional reactions, thus delaying and prolonging the recovery time. It took one young woman three months to admit she had developed a voice problem, thereby delaying the confirmation of a vocal fold cyst. This pathology could have been managed more efficiently if the diagnosis had been made earlier, but her fear and frustration were incapacitating. She described her spiraling situation in a written assignment.

*"The harder I worked the more depressed I became... My voice was how I defined myself; it was who I was. I was depressed the majority of the time and if I were to try to sing my way out of this I would be more depressed. It was a vicious circle."*

Another student experienced similar feelings.

*"I lost my voice to nodules in high school. I was a dancer, singer, actress and cheerleader. My teachers told me they never thought I could overcome this. I lost my identity because my whole life's plan of being a Musical Theatre performer seemed to be falling apart. I moved to NYC for college and was very depressed – alone, upset and lost."*

It is essential for all members of voice teams to have as much information as possible about each singer to help them successfully navigate the vocal rehabilitation process when it is needed. Voice care providers need to be aware of singers' psychological and emotional state as well as their vocal situation. The severity of this situation is often contingent on the singer's knowledge. Without adequate information, singers have no idea where to turn or what to do. They have no

### Developing Voice-Related Quality of Life Instruments:

(Continued from page 2)

qualitative methods described in Stage I of Cano's protocol.

Finally, innovative instrument development and measurement techniques including Rasch and Item Response Theories, which are based on latent trait theories have not been implemented in the development of voice-related instruments. Latent trait theory, or item response theory (IRT), is comprehensive model for the design, analysis, and scoring of instruments related to ability, attitude, or other variables and has been implemented in the development of high level tests such as the Graduate Record Examination (GRE). Bogaardt et al<sup>5</sup> recently suggested the utility of Rasch or IRT in the dysphonic population, specifically with regard to the VHI, but a review of the recent literature shows little progress in that regard. This is an area that is ripe for development.

In summary, the development of a patient-based outcome measure is a lengthy, rigorous process which, if done according to the strict, recently-published guidelines, could possibly encompass an entire academic ca-

reer. With that being said, clinicians and researchers alike should understand the inherent strengths and weaknesses of the available instruments, with regard to both the psychometric properties as well as the strategies employed during the development process, and furthermore, select an instrument that addresses the specific research or clinical question(s) of interest.

**\*Voice Handicap Index, Voice Handicap Index -10, Voice-Related Quality of Life, Voice Outcome Survey, Voice Activity and Participation Profile, Voice Symptom Scale, Pediatric Voice Outcome Survey, Pediatric Voice-Related Quality of Life, Pediatric Voice Handicap Index.**

#### Author Bios

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### Quality of Life Issues in Singers with Voice Disorders

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tools to inform them of the degree of severity of their situation. This knowledge is crucial for them to realistically address key quality of life issues. It is essential for them to realize that others have had to deal with similar devastating conditions and have recovered. Many singers discover that things they thought were insignificant or inconsequential often play a role in their vocal problem and recovery. Quality of life issues in addition to the vocal problem need to be addressed and managed. Singers need to play an active role in their recovery, behavior modifications and lifestyle changes. Understanding the impact a dysfunctional voice has on this population can offer guidance for treatment protocol. Information that can help prevent voice problems in this group of vocal athletes needs to be continuously disseminated to singers as well as to the community of voice care providers. Armed with this information, singers will be better equipped to seek appropriate help. It is our responsibility to ensure that singers are sensitive to and informed about all areas contributing to voice training and rehabilitation and the lifestyle practices that play a vital role in the long term maintenance of vocal health. All of us – singer, doctor, speech language pathologist, singing voice specialist, voice teacher and singer – must work together to ensure a return to an acceptable quality of life for the vocally disabled singer.



# Voice-Related Quality of Life in Teachers

by Sharon Morrow

**T**eachers worldwide have significantly higher rates of voice-use problems compared with non-teachers.<sup>1, 2, 3</sup> These elevated rates of voice problems are a predictable consequence of such commonly encountered stressors for teachers as prolonged voice use, poor acoustics, high background noise, and increased vocal effort to speak loudly enough to be heard by students. These subsequent voice problems, however, have deleterious personal and professional effects on teachers, and in addition to health concerns, can interfere with job satisfaction, performance, and attendance.<sup>4, 5</sup>

Teachers are the largest single group of occupational voice users in the United States and rely heavily on their voice for the delivery of educational material, classroom management, and dealing with student behavior. As a result, a heavy vocal workload burden is placed on the voice apparatus. This daily vocal workload often results in increased physical and emotional stress among teachers, leading some teachers to reduce the quality and quantity of teaching activities they offer their students, and for others, these vocal problems can be among factors precipitating early withdrawal from their careers.<sup>6</sup>

Several studies have shown that even though teachers frequently report incurring voice-related problems and are the most common occupational group to seek medical advice for problems associated with voice, many more teachers may avoid seeking professional help for voice-related problems.<sup>2, 7</sup> Teachers can view vocal problems as an occupational hazard that they must accept as part of their job, and further, feel that these voice problems can be interpreted by colleagues or their employer as a weakness that they should be able to overcome without support.<sup>8</sup>

The medical community has expanded its definition of health to include a multidimensional concept encompassing physical, social, psy-

chological and mental measures of well-being, and to include the individual's own impressions and feelings about his/her general health status. Quality of life is one way to assess the overall health and well being of the individual, allowing a more comprehensive and holistic view of the individual to be formed.



Sharon Morrow

Voice-related quality-of-life issues for teachers embrace teachers' perceptions of how voice problems impact their personal and professional lives. Voice problems in teachers cannot be fully assessed solely by acoustic measurements or visual imaging alone. Individual factors that extend beyond the acoustic, biologic, and physiologic variables must also be considered. For example, the extent of the problem should address whether a teacher can maintain an optimum voice throughout the teaching day. Assessment should also include the person's ability to maintain current employment and address such issues as satisfaction in the person's use of voice in normal social as well as work-related situations.

teachers' perceptions of how voice problems impact their personal and professional lives. Voice problems in teachers cannot be fully assessed solely by acoustic measurements or visual imaging alone. Individual factors that extend beyond the acoustic, biologic, and physiologic variables must also be considered. For example, the extent of the problem should address whether a teacher can maintain an optimum voice throughout the teaching day. Assessment should also include the person's ability to maintain current employment and address such issues as satisfaction in the person's use of voice in normal social as well as work-related situations.

## Scope and Impact of Teachers' Voice

### Disorders on Quality of Life

Research has shown that voice-related quality of life affects teachers' professional activities, personal lives, and teaching careers. Voice problems among teachers are not only physically costly to the teachers, and academically costly to the students; they are also financially costly to society at large. Voice problems in teachers have monetary implications for teachers, school districts, insurance companies, and the general public.<sup>9</sup> Based on missed workdays and expenses associated with treatment, the societal costs in the United States for these teachers are estimated at roughly \$2.5 billion annually.<sup>10</sup>

**"As a result, a heavy vocal workload burden is placed on the voice apparatus. This daily vocal workload often results in increased physical and emotional stress among teachers, leading some teachers to reduce the quality and quantity of teaching activities they offer their students, and for others, these vocal problems can be among factors precipitating early withdrawal from their careers.<sup>6</sup>"**

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## Voice-Related Quality of Life in Teachers, continued

(Continued from page 6)

*Effects on Teachers' Professional Activities*

Research has found teachers significantly more likely to indicate that voice problems had limited their ability to do certain job-related tasks, and had intentionally reduced their activities in their jobs by significantly higher numbers of days than non-teachers.<sup>9</sup> Further, teachers recognize the correlation between the increased risk of incurring voice problems as a direct result of their teaching, and the direct effect these voice problems have on their teaching.

Absenteeism can be construed as decreased effectiveness for a teacher because even with the best fashioned substitute teacher lesson plans, children typically have adjustment issues when a new person is in charge of their class; thus teacher absenteeism decreases the likelihood of fully engaging students in learning activities. Additional studies support the hypothesis that voice problems negatively impact teachers' professional activities and perceived effectiveness at work.<sup>2, 11</sup>

*Effects on Teachers' Personal Lives*

It has been posited that persons with voice disorders experience social, communicative and psychological problems not only in their professional lives but also in their personal lives.<sup>12</sup> The effects and frequencies of voice problems on social interactions, psychological well-being, and communicative aspects of quality of life found that individuals considered voice problems as having a negative effect on their social functioning and preferred to avoid or limit social interactions as much as possible.<sup>13</sup> Participants also reported depression related to voice and identified decreased professional self-esteem at significantly higher incidence rates. In a study of female teachers, voice problems were found to be a chronic source of stress or frustration.<sup>14</sup>

*Effects on Teachers' Careers*

Occupation-related voice problems in teachers can have significant adverse effects on current and future careers.<sup>5</sup> Furthermore, voice problems of sufficient concern to seek medical evaluation are common and can strongly influence people's perception of job function and quality of life.<sup>11</sup>

Music teachers, a subspecialty among teachers, have an even higher rate of developing voice problems than classroom teachers, with reports of music teachers presenting in voice clinics at more than four times the rate of other teachers.<sup>15, 16</sup> Even higher rates of chronic voice problems have been documented among music teachers who sang with their students.<sup>17</sup> Elementary music teachers, who are especially dependent on their voice as it is often the best tool for demonstrating musical concepts or techniques, were found to have almost twice the vocal load as their classroom teacher counterparts when monitored throughout their work week.<sup>18</sup>

Even under ideal conditions, voice problems among music as well as classroom teachers may be unavoidable. A related series of issues is concerned with what can be done to rehabilitate voice problems once they occur and what are effective prophylactic measures to help ward off voice problems before they become established. However, it is important for all teachers to understand the importance of voice-related quality of life issues that underpin the importance of voice use for this population.

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## IMPORTANT DATES, UPCOMING CONFERENCES &amp; EVENTS

**March 1, 2012**

- New Investigator Proposals Deadline

**April 16, 2012**

- World Voice Day

**May 30—June 3, 2012**

- 41st Annual Symposium: Care of the Professional Voice

**June 1, 2012**

- Voices of Summer Gala

## News and Updates Submission

If you have an event or an update you would like to share in the newsletter, please email: [office@voicefoundation.org](mailto:office@voicefoundation.org).

41st Annual Symposium: *Care of the Professional Voice*

## PROGRAM HIGHLIGHTS

## Medical Panel:

Management of Complications in Endoscopic Microlaryngeal Surgery.

Moderator: Michael Pitman (NYEE) Panelists: Jonathan Bock, David Francis, Adam Rubin, Tom Carroll

## Keynote Speaker - Quintana Award

Kiyoshi Honda, MD, DMSc

*The Voice and Evolution*

*Through the Time Space Continuum*

## Vocal Master Class

Frederica von Stade

## Medical Panel:

Stroboscopy Oscars

Moderator: Michael M. Johns III

Panelists: TBD

## G. Paul Moore Lecture

Peak Woo, MD

*Imaging of Vocal Fold Vibration During Phonation:*

*What's New Since Dr. Moore*

## Friday Morning Session: The Voice Sleuth

Malcom Brenner, PhD, Harry Hollein, PhD

Ruth Huntley Behr, PhD

Nancy Pearl Solomon, PhD, CCC-SLP



# Voice-Related Quality of Life in Children

by Ingrid Verduyckt

**V**oice related quality of life (VRQOL) has long been recognized as an important treatment outcome measure of dysphonia in the field of otorhinolaryngology. Measurements of VRQOL were first made possible in 1997 with the validation of the Voice Handicap Index (VHI) <sup>[1]</sup> and two years later with the publication of the voice related quality of life questionnaire (VRQoL) <sup>[2]</sup>. Different disease specific VRQOL instruments have since been developed, such as the Voice Outcome Survey (VOS) <sup>[3]</sup>, that address unilateral vocal fold paralysis. Furthermore, existing instruments have been adapted to specific populations as exemplified by the singing VHI. Validated VRQOL measures have gained acceptance as a natural part of a complete vocal assessment, and are now on an equal footing with traditional subjective and objective measures.

While acceptance and standard use of VRQOL measures has been in place for adults with dysphonia for more than a decade, use in pediatric populations has been slow to develop. In 2002, the Pediatric Voice Outcome Survey (PVOS) <sup>[4]</sup> was the first tool permitting quantification of the subjective evaluation of dysphonia in children. Four years later, the Pediatric Voice Related Quality of Life Survey (PVRQoL) <sup>[5]</sup> was published, followed in 2007 by the Pediatric Voice

Handicap Index (pVHI) <sup>[6]</sup>. In common for these three pediatric instruments is that they are adaptations of adult questionnaires and that they only exist in the form of parental proxies. That is, the child is not expected to respond and answer questions for him or herself. Rather than measuring VRQOL in children, these instruments are actually measuring parents' perception of VRQOL in their children. Although it can be argued that the

parents may answer in consultation with their child, we cannot know what part of the answer is the adult's or the child's. Undoubtedly, even with parent-child consultation, the response is filtered by the parent's perspective. Thus, considering only the parental response means that we either do not think that child and parental perception of VRQOL diverges or that we do not think that the divergences matter. In other health domains, the use of parental proxies for the report of children's HRQOL has been discussed and several instruments have been developed to address the child rather than the adult, or parallel form surveys are developed, enabling the assessment of both parts simultaneously.

In 2006, Connor and colleagues were the first to study the VRQOL of children with dysphonia as perceived by the children and their parents separately <sup>[7]</sup>. Their results revealed that children with dysphonia were aware of and concerned about their vocal deviance and that it had a negative impact on their daily lives. They also found discrepancies between parental and child reports. These results were later replicated in a study led by our team and which contributed to the creation of the Pediatric Voice Symptom Questionnaire (PVSQ) <sup>[8]</sup>; the first instrument to allow for the parallel evaluation

of dysphonia by the child and his or her parents.

During the validation procedure of the PVSQ we had the opportunity to study both treatment seeking and non-treatment seeking children with dysphonia. The parallel form design made it possible to observe similarities and differences among parents and children in treatment seeking and non-treatment seeking groups. We found that the non-treatment seeking children with dysphonia had PVSQ scores equal to those obtained by the treatment seeking children with dysphonia. Further, scores from both groups of children with dysphonia were significantly higher than the scores of normophonic children, indicating impairments in VRQOL were present in both groups of children with dysphonia, regardless of voice treatment status. Interestingly, there was a difference in parent's PVSQ scores based on treatment seeking status. Parents of non-treatment seeking children with dysphonia had scores equal to the normophonic children's parents and significantly lower scores than those from parents of treatment seeking children with dysphonia. Thus, parents of non-treatment seeking children with dysphonia may not have perceived a potential problem with VRQOL in their children, although dysphonia existed. This finding is noteworthy because parents are the gatekeepers for healthcare interactions regarding their children. If parents are the sole respondents to VRQOL instruments, it is possible that some children may have delays in access to voice treatment because their impairments in VRQOL are not appreciated by their parents and thus treatment may not be pursued.

These results certainly challenge the common idea that children with dysphonia are unaware of or unconcerned about their devi-

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Ingrid Verduyckt

## Voice-Related Quality of Life in Children, continued

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ant vocal quality. A supposed lack of awareness or concern has been held as an explanation of observations of lack of motivation in children with dysphonia to engage in behavioral treatment. If the lack of motivation is a reality, the recent literature suggests that the reason for this disengagement must be found elsewhere than a problem with awareness. We believe that the correlation of child and parental perception of the impact of dysphonia could have a role in this matter. If we stop looking at divergences between child and parent as problematic and stop trying to establish whose version is the "right" one, we could instead look at the discrepancies as a valuable source of information in understanding of the dysphonic child's situation. This seems important especially when addressing a disorder whose treatment requires the active involvement of both the parent and child.

We also believe that the correlation between quantity/severity of voice symptoms and perceived impact on VRQOL has a role in evaluating therapy outcome. Improved VRQOL may be obtained in parallel with improved vocal function or through other means. For example, a child who reports difficulties in being heard in noisy environments and rates this difficulty as an important VRQOL problem may have the problem partially resolved using environmental modifications, such as being moved to a smaller, quieter classroom or having the TV turned off during dinner. Thus, being heard in noisy environments, while still a notable sign and symptom of the child's voice disorder, would not be rated as an important issue in assessments of child-reported VRQOL. Another child may have similar voice symptoms but instead of environmental modifications, this child may learn in voice treatment how to speak safely with a higher vocal intensity. This second child, therefore, does not present after treatment with the voice sign or symptom of difficulty being heard and this also does not have a negative impact on VRQOL. This example illustrates how vocal symptoms and VQOL are separate but still correlated. There is a clinical interest in addressing both factors.

We strongly believe that VRQOL measurements should be part of any future treatment outcome study of pediatric dysphonia and become a standard part of vocal assessment in children as it is in adults.

The research on VRQOL in children to this date has taught us that dysphonia has an impact on QOL as perceived by the caregivers of children with dysphonia and by the children themselves. We also have learned that the perception of parents and children can be divergent but that both respondents are reliable, at least from the age of 7.

Future research should try to determine the predictive value of VRQOL instruments on treatment seeking behavior, adherence to treatment and therapy outcome.

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**2012 Benefit  
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# World Voice Day Events

World Voice Day encourages men and women, young and old, to assess their vocal health and take action to improve or maintain good voice habits. The American Academy of Otolaryngology-Head and Neck Surgery has sponsored the U.S. observance of World Voice Day since its inception in 2002.

**In Royal Oak, Michigan**

## Celebrate World Voice Day

You are invited to celebrate the human voice  
with a special concert led by:

**Adam D. Rubin MD and**

**Cristina Jackson-Menaldi, PhD.**

Directors of the Lakeshore Professional Voice Center,  
Lakeshore ENT.



**Friday, March 23, 2012**

**7 p.m.**

**The Baldwin Theatre**

**415 S. Lafayette**

**Royal Oak, MI 48067**

Raise awareness of your vocal health while you enjoy  
wonderful performances of popular musical theatre, opera,  
gospel and rock and roll.

RSVP requested by March, 16, 2012 by calling  
1-866-501-DOCS or email at [healthconnect@stjohn.org](mailto:healthconnect@stjohn.org)



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# World Voice Day

In Philadelphia, PA

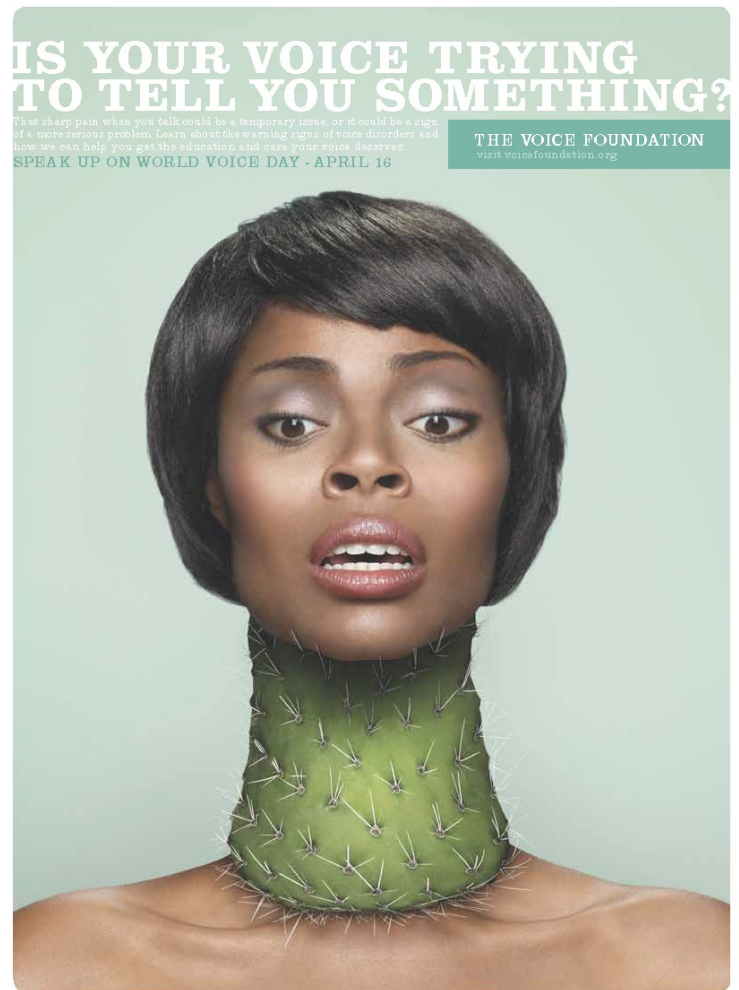
## Educational Outreach:

### Your Voice Counts—Can You Count On Your Voice?

The mini-musical, *Your Voice Counts – Can You Count On Your Voice?*, is a multi-genre vocal health awareness presentation for teenagers. Using original text and popular Broadway tunes, this upbeat, humorous musical addresses correct vocal use in challenging and sometimes detrimental situations common to high schools and middle schools, on- and off-stage as well as on and off the sports field.

*Your Voice Counts – Can You Count On Your Voice?* follows a young woman who wants to be a star. She auditions, both singing and reading text. We hear her account of rehearsals and the phases of exhaustion, the screaming and hoarseness, a doctor visit and finally an informative voice- and speech lesson.

The Voice Foundation World Voice Day Committee has put together this presentation **which will be available to you** for years to come. Libretto is by Michael Ashby. To be performed in Philadelphia schools.



**World Voice Day, April 16, 2012** will be flashing all day across the top of the PECO building. The PECO Crown Lights, a Philadelphia tradition, now feature two million new, energy-efficient LED bulbs.

# World Voice Day Events

In Philadelphia, PA

## IS YOUR VOICE TRYING TO TELL YOU SOMETHING?

A rough, hoarse voice can be a minor irritation, or it can be the start of a more serious condition. Learn about the warning signs of voice disorders and how we can help you get the education and care your voice deserves. SPEAK UP ON WORLD VOICE DAY - APRIL 16

THE VOICE FOUNDATION  
visit [voicefoundation.org](http://voicefoundation.org)



**Melissa Cross**

**Master Class:**

**From Classical Broadway to  
the New Broadway Sound  
(and Back)**

Sunday, April 15, 2012 3:00PM

Academy of Vocal Arts

In the early '90s, a passionate and unrestrained movement of singers emerged from the underground that would test the extreme limits of the human voice. Heeding the call of the warriors of rock and metal for over 15 years, Melissa Cross developed a vocal training method that has since been embraced by these artists who value raw power and passion above everything in their performance. Her groundbreaking vocal technique can enhance range and increase endurance without sacrificing intensity and individuality.

Creator of the acclaimed [The Zen Of Screaming](#) instructional DVD.

Limited Availability

\$15 per person in advance

\$20 per person at the door (if available)

Register at

[www.voicefoundation.com/registration](http://www.voicefoundation.com/registration)

## Jen Creed performs at World Café Live

Wednesday, April 25, 2012 - 8:00pm

World Live Cafe

3025 Walnut Street, Philadelphia, PA 19104

Jen will be singing Adele songs, among others and will talk about vocal health. This **will** sell out!

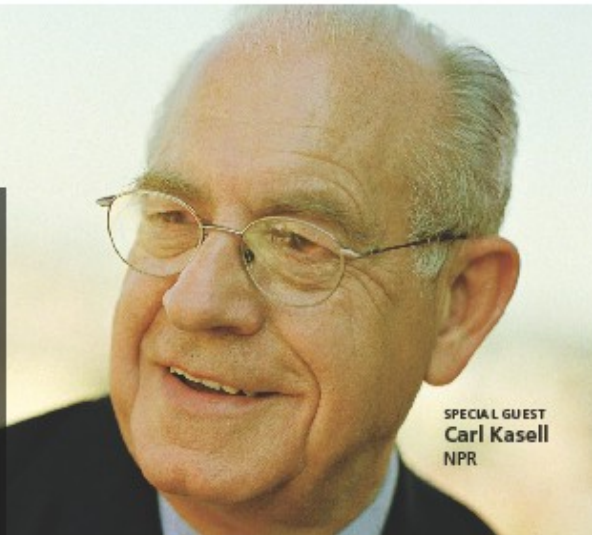
Tickets at [www.jencreed.com/concert](http://www.jencreed.com/concert)

# World Voice Day

## Raleigh—Durham, NC

### 2012 WORLD VOICE DAY CELEBRATION

World Voice Day is a day for everyone to become aware of the importance of vocal health and to take action in learning and maintaining good vocal habits. Duke Voice Care Center will celebrate throughout April with three exciting events to help you make your voice last a lifetime.



SPECIAL GUEST  
**Carl Kasell**  
NPR

2010 NPR, by Doby Photography

Thursday, April 5

#### Tips for Overcoming Hoarseness and Maximizing Your Voice

6:30–8:00 p.m.

Teer House

4019 N. Roxboro Road, Durham

Part of Duke University Health System Clinical Education & Professional Development

Learn about problems that can affect the voice and how to keep your voice healthy and strong with the voice health experts of Duke Voice Care Center.

Saturday, April 14

#### Care of the Singing Voice

9:00 a.m.–noon

Unitarian Universalist Fellowship of Raleigh

3313 Wade Avenue, Raleigh

Jointly hosted by Duke Voice Care Center, North Carolina Opera, and the Unitarian Universalist Fellowship of Raleigh, as part of the 2012 Southeast District Choir Festival of the Unitarian Universalist Association of Congregations

This workshop will be of interest to singers of all styles, worship leaders, and music educators. Learn the basics of voice anatomy and physiology, typical voice injuries, and how to prevent voice problems and keep your voice healthy for a lifetime. Presenters will discuss the special needs of vocal performers and provide tips for voice exercise and fitness. Enjoy performances by singers from the North Carolina Opera and more.

We are grateful for the generous support of our lead sponsor:



Tuesday, April 24

#### The Voice of Experience: Vocal Health for Broadcasters and Occupational Voice

Check-in: 6:00–6:30 p.m.

Program: 6:30–9:00 p.m.

WRAL 3D Theater

North Carolina Museum of Natural Sciences

11 West Jones Street, Raleigh

Jointly hosted by Duke Voice Care Center, the North Carolina Museum of Natural Sciences, and North Carolina Public Radio WUNC

With guest speaker Carl Kasell of NPR, recipient of the 2012 Patrick D. Kenan Award for Vocal Health and Wellness

Many careers place high demands on the voice, which can increase the risk of developing a voice problem. Broadcasters, teachers, clergy, attorneys, salespeople—anyone with a vocally demanding job can benefit from learning how to care for the voice and keep it healthy. A Q&A session will follow a presentation from the voice health experts of Duke Voice Care Center. WUNC on-air personalities will also be in attendance to talk about how they keep their voices healthy.

#### FREE ADMISSION FOR ALL EVENTS

Space is limited • Registration required

Register online at [dukehealth.org/events](http://dukehealth.org/events) or call 888-ASK-DUKE.

**Duke Voice Care Center**

[dukevoicecare.org](http://dukevoicecare.org)



Cleveland, OH



## World Voice Day April 16, 2012

### Free, 15-minute noninvasive voice screenings Thursday, April 12

Call 216.444.4961 or visit [clevelandclinic.org/voicescreenings](http://clevelandclinic.org/voicescreenings) to schedule your screening at one of the following locations:

Cleveland Clinic  
Main Campus Crile Building  
9500 Euclid Avenue, A71  
10 a.m. to 4 p.m.

Beachwood Family  
Health & Surgery Center  
26900 Cedar Road  
2 p.m. to 4 p.m.

Twinsburg Family Health  
& Surgery Center  
8701 Darrow Road  
1 p.m. to 2 p.m.

Westlake Medical Campus  
850 Columbia Road  
Westlake, OH 44145  
1 p.m. to 2:30 p.m.

### Free educational events:

"Your Voice Matters: What is Your Voice Saying?" health talk  
Thursday, April 19, 6:30 p.m. to 8 p.m. (registration at 6 p.m.)  
Beachwood Family Health & Surgery Center  
26900 Cedar Road

Learn all about the importance of voice health from  
Cleveland Clinic voice specialists Tom Abelson, MD, and  
Douglas Hicks, PhD. To register or for more information,  
please call 216.444.3641 or 800.548.8502. Visit us online  
at [clevelandclinic.org/healthtalks](http://clevelandclinic.org/healthtalks).

"Let's Talk About Voice" webchat Thursday, April 26, noon

Are you a teacher or public speaker who finds your voice gets  
tired quickly? Do you experience your voice becoming a whisper  
in conversation? Do you have trouble hitting high notes while  
singing? Cleveland Clinic Voice Specialist Paul Bryson, MD, will  
answer your questions about voice preservation and rehabilitation.  
To register, visit [clevelandclinic.org/voice](http://clevelandclinic.org/voice).

**FREE PUBLIC CONCERTS:** April 13 and April 16 at Cleveland Clinic Main Campus, hosted by the Arts & Medicine Institute. Visit [clevelandclinic.org/voice](http://clevelandclinic.org/voice) for details.

## The National Anthem—In Honor of World Voice Day

Paul Bryson, Laryngologist at Cleveland Clinic, is singing the National Anthem at both the Cleveland Cavaliers and Cleveland Lumberjacks (AAA Hockey) games in recognition of World Voice Day.

Saturday, April 7 @ 7:30 p.m.; Lake Erie Monsters vs. Rockford Ice Hogs (hockey)

Tuesday, April 10 @ 7 p.m. Cleveland Cavaliers vs. Charlotte Bobcats

### 41st Annual Symposium:

### *Care of the Professional Voice*

Philadelphia Westin, Philadelphia, PA

May 30—June 3, 2012

**Remember to register by  
May 1st  
for the Early Bird Price**

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## THE VOICE FOUNDATION

*41st Annual Symposium: Care of the Professional Voice*

The Westin Hotel - Philadelphia, PA USA May 30-June 3, 2012

REGISTER BEFORE MAY 1 FOR  
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We are pleased to announce The Voice Foundation's 41st Annual  
Symposium: *Care of the Professional Voice*. This Symposium attracts  
hundreds of medical and scientific experts, speech-language  
pathologists, performing artists and teachers from over 35 states and  
30 countries.

The Voice Foundation -  
founded in 1969, is the preeminent scientific and professional organization  
for the voice community, serving thousands of vocal health practitioners,  
researchers, professional voice users, and the general public.

### Important Deadlines

- April 30th**
  - Discount Symposium Registration Deadline
  - Dormitory Housing Deadline
  - (Space fills quickly - Reserve early!)
- May 1st**
  - Symposium Discounted Room Rate Deadline
  - (The Westin Hotel, 99 S. 17th St. Philadelphia, PA 19102)
- June 1st**
  - Gratis Presentation Coaching Deadline—Sign up early!

For more information:  
[www.voicefoundation.org](http://www.voicefoundation.org)  
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