

# Abstracts

William J. Dawson, M.D.

Zeitels SM, Hillman RE, Desloge R, Mauri M, Doyle PB: Microsurgery in singers and performing artists: treatment outcomes, management theories, and future directions. *Ann Otol Rhinol Laryngol* 111:21–40, 2002.

Phon microsurgery in performing artists historically has been approached with great trepidation, and vocal outcome data are sparse. To examine the results of phon microsurgery in this special population, the authors conducted a prospective investigation of 185 performers who underwent resection of 365 lesions. Pathology included 201 nodules, 71 polyps, 66 varices and ectasias, 13 cysts, and 14 other lesions. Most of these lesions are the result of phonotrauma and arise within the superficial lamina propria (SLP) of the vocal folds. Nearly all patients with lesions of the SLP reported improvement in their postsurgical vocal function, and this subjective result was supported by objective acoustic and aerodynamic tests. All postsurgical objective vocal function measures fell within normal limits, including a few that displayed presurgical abnormalities. However, because standard measures are relatively insensitive in assessing higher-level vocal performance-related factors, it is even more noteworthy that 8 of 24 objective measures displayed statistically significant postsurgical improvements in vocal function. Phon microsurgical resection of vocal fold lesions in performers is enjoying an expanding role

because of a variety of improvements in diagnostic assessment, surgical instrumentation and techniques, and specialized rehabilitation. Successful management depends on prudent patient selection and counseling, ultraprecise surgical technique, and vigorous vocal rehabilitation.

Sommer M, Ruge D, Tergau F, Beuche W, Altenmüller E, Paulus W: Intracortical excitability in the hand motor representation in hand dystonia and blepharospasm. *Movement Disord* 17:1017–1023, 2002.

The pathophysiologic origin of focal dystonia is still obscure. Based on previous research, the authors hypothesized that impaired suppression of undesired or momentarily unsuitable motor programs might be reflected at the cortical level. Their study sought to determine the activity of inhibiting and facilitating cortical circuits in areas surrounding a hand muscle motor representation in patients with focal dystonia and in controls. In 15 patients with hand dystonia, 16 with blepharospasm, and in age-matched controls, they applied transcranial magnetic stimuli over the optimal representation of the relaxed abductor digiti minimi muscle of the dominant hand. Additional conditioning stimuli were delivered through a second coil that was held either above the test coil or 2 or 4 cm apart in the anterior, posterior, lateral, or medial direction. Intracortical excitability was measured in nine positions of the conditioning coil. Intracortical inhibition was reduced in both patient groups at all conditioning coil positions. The resulting facilitation was significant when the coils were separated by at least 4 cm. Results also demonstrate decreased intracortical inhibition in the cortical hand muscle representation not

only in patients with hand dystonia but also in those with blepharospasm. In addition, the authors' findings showed a trend toward relatively increased intracortical facilitation in surrounding motor areas.

Berlet GC, Kiebzak GM, Dandar A, Wooten C, Box JH, Anderson RB, Davis WH: Prospective analysis of body composition and SF36 profiles in professional dancers over a 7-month season: is there a correlation to injury? *J Dance Med Sci* 6(2):54–61, 2002.

This study evaluated body composition, strength, diet, lifestyle factors, and incidence of injuries in 15 professional dancers (6 male, 9 female). Measurements were taken before a 7-month dance season and, in 13 of the 15 dancers, at the end of the season. Body composition was measured with dual X-ray absorptiometry, and quality-of-life variables were determined by the SF36 general health status survey. Post-season bone mineral density (BMD) for arms, trunk, pelvis, and total body for females was significantly greater than preseason values. Total tissue mass for arms decreased significantly. No other body composition changes for either gender were observed, although striking differences were found when comparing dancers to age-matched and weight-matched nondancers. Total body percent fat was 43% lower for female dancers than for nondancers, while lean mass was greater. Arm and spine BMD was lower than in nondancers, but BMD for legs was significantly higher. Male dancers had significantly lower total body fat, greater lean mass in legs, and greater total body BMD than nondancers. Dietary profiles varied greatly, although most dancers met minimum caloric requirements. Eleven

---

Dr. Dawson is in the Department of Orthopaedic Surgery, Northwestern University Medical School, Chicago, Illinois.

Address correspondence to: William J. Dawson, M.D., 700 Woodmere Lane, Glenview, IL 60025-4469.

dancers (85%) suffered injuries during the season, but there were no significant correlations between injury rate and body composition or lifestyle variables. Dancers maintained their body composition profiles despite the physical and emotional rigors of the dance season, and BMD actually increased significantly in females.

**Rubin JS, Greenberg M: Psychogenic voice disorders in performers: a psychodynamic model. *J Voice* 16:544–548, 2002.**

The busy voice clinic often sees patients with psychogenic voice disorders. These disorders manifest one or more types of psychological dysequilibrium that interfere with normal volitional control over phonation. The authors present a clinician-friendly psychodynamic model and a multidisciplinary management approach to this problem, both of which have proven helpful for their voice team and patients. The formulation revolves around an “event” occurring, which may be either organic or psychological in nature. The ensuing dysphonia then leads to emotional consequences on the vocal tract. The situation can become reinforcing, and illness behaviors may develop. Elucidating this event and its accompanying processes to the patient improves the likelihood of a successful long-term outcome. The authors also discuss the diagnostic and management roles of the various members of the voice team.

**Schneider P, Scherg M, Dosch HG, Specht HJ, Gutschalk A, Rupp A: Morphology of Heschl’s gyrus reflects enhanced cortical activation in the auditory cortex of musicians. *Nature Neurosci* 5:688–694, 2002.**

Studies show that the primary auditory cortex (PAC) is largely confined to the medial two-thirds of Heschl’s gyrus (HG), namely the anteromedial portion. Using magnetoencephalography, the authors compared the processing of sinusoidal tones in the auditory cortex of 12 nonmusicians, 12 professional

musicians, and 13 amateur musicians. They found neurophysiologic and anatomical differences between the groups. In professional musicians as compared to nonmusicians, the activity evoked in PAC 19 to 30 ms after stimulus onset was 102% larger, and the gray matter volume of the anteromedial portion of HG was 130% larger. Both quantities were highly correlated with musical aptitude, as measured by psychometric evaluation (AMMA tonal test). In professional musicians, dipole amplitudes were significantly larger in the right than in the left hemisphere. For all three study groups, there was a strong correlation between the neurophysiologic and anatomical parameters. This functional/anatomical correlation was also significant within each group. These results indicate that both the morphology and neurophysiology of HG have an essential impact on musical aptitude. The question remains, however, whether early exposure to music or a genetic predisposition leads to these functional and anatomical differences between musicians and nonmusicians.

**Bastian RW: Vocal overdoer syndrome: a useful concept from the voice clinic. *J Singing* 58:411–413, 2002.**

Vocal overdoer syndrome (VOS) is a diagnostic category that can be of use not only in the voice clinic but also in the singing studio. In both contexts, application of this idea can lead, with surprising accuracy, to a diagnosis of mucosal injury of the vocal folds. The group of individuals with nodules, polyps, or other overuse sequelae almost invariably fulfill the criteria for the VOS. Diagnosis of VOS is accomplished in two steps: first, the clinician must obtain a self-rating of the subject’s innate or intrinsic degree of talkativeness, or propensity to talk; and secondly, it is necessary to ascertain the subject’s extrinsic opportunity and need to talk (information on occupations, life circumstances, and the like are most helpful in this regard). When both the intrinsic propensity and extrinsic opportunity/necessity to use

the voice are high, VOS is formally diagnosed. Among all the threats to vocal fold health, VOS has the highest correlation with acute and especially chronic injuries of the vocal fold mucosa. The most obvious application of the VOS concept is the early identification of individuals who are or who may become at risk for vocal fold injury; to be most efficient, this primary line of identification and defense would take place in the voice studio. Preventive techniques and proper voice use habits then can be taught and explained, in addition to the ongoing training of voice production for efficient and atraumatic speech and singing. For those voice users who already have progressed to pathologic sequelae, determination of the specific secondary diagnosis by a medically trained voice professional will permit the appropriate treatment (medical and/or behavioral and/or surgical).

**Mossblad G: Overcoming Bell’s palsy: Part I and Part II. *Saxophone J* 27(1):29–31, 2002; and 27(2):20–25, 2002.**

Occasionally, a first-person chronicle of recent medical difficulties provides an uncommon amount of personal insight, techniques for dealing with the problem, and in addition is clearly written. The author, a professional saxophonist, accomplishes all three of these in his two-part odyssey, and this reviewer recommends it highly for occupational and other therapists as well as for physicians. The embouchure is most complex in both structure and function, and even a small percentage loss of function can be disastrous for the wind instrumentalist’s special needs (and, often, his or her career). Mossblad is strikingly clear in his description of the physical problem of nerve loss and its effect on his playing techniques. Also evident is his self-reliance, determination, and ingenuity in devising both facial muscle exercises and an orthotic device for maintaining the air seal around his mouthpiece, even when full neurologic control had not been regained. Additionally, he describes the techniques for

making the face plate that fit over his mouthpiece and extended laterally to cover the adjacent cheek and support its underlying muscles. Mossblad emphasizes the rapid institution of appropriate medication, instituting

muscle exercises early in the course of the palsy, and making early instrument modifications—three aspects of treatment that were critical to his recovery and amazingly early return to professional-level playing. These principles

are pertinent for all wind musicians who develop Bell's palsy, although a degree of ingenuity will be needed to fabricate the appropriate face plates for different instruments.

	<h2>Book Notes</h2>	
--	---------------------	--

**Passionate Practice: The Musician's Guide to Learning, Memorizing, and Performing**  
By Margaret Elson (Oakland, CA, Regent Press, 2002, 105 pp, \$19.95, softcover).

The author of this book is both a musician and psychotherapist, and she brings the sensibilities of both to the task of providing this guide to learning, practicing, memorizing, and performing music. This book's aim is to help the performer learn the techniques of conscious practice and performance by integrating exercises in sensory perception, kinesthetic awareness, and creative visualization as a way of improving focus and concentration. These methods are designed to make the process of learning music, practicing, and performing more enjoyable and fruitful. By learning to identify and manage the distractions and anxieties that can impact the practice and performance environment, the performer can channel these potentially negative forces into a source of positive energy.

Although she writes specifically for the pianist, the author's techniques are easily extrapolated to other instruments and to singers, actors, and dancers. Essentially, these are the skills needed to develop good practice and performance habits, regardless of the instrument or performance style. The book is structured in such a way that the student is led through the process of preparation, practice, and performing, respectively. A few different techniques and exercises are offered for each task, but they are designed to build on the preceding ones. The book concludes with a review of the different aspects of the creative personality and how these can be unleashed to produce a more artistic and passionate performance. The author reminds us that growth and discipline in one aspect of

our creative lives often lead to positive change in other, seemingly unrelated areas. Anyone who performs or teaches performers knows this to be true.

The book is short, and perhaps by necessity the descriptions of the exercises and techniques are brief and to-the-point. This is the type of work that is best taught experientially and I can envision how this likely works best in a workshop or private session. Having said that, the descriptions are simple and easy-to-follow for anyone who wants to introduce themselves to these precepts. Those interested in developing cleaner, more-focused practice habits with the ability to block out the "chatter" of daily distractions will find these an agreeable way to start. In this reviewer's opinion, if one is truly crippled by performance anxiety, more intensive personal work is probably needed, and the author's prescription for overcoming that may seem simplistic to some.

Depending on one's needs and background as a student and performer, the ideas put forth in this book may seem new and interesting; others will recognize them as similar to those put forth by sports psychologists, performance consultants, and more enlightened teachers. I am reminded of the excellent *Power Performance for Singers* reviewed in this journal previously (June 1999). *Passionate Practice* is a shorter and simpler addition to the literature of performance psychology, but it may be enough for those who are looking for a brief introduction to the concepts.

SUSAN B. ARJMAND, M.D.  
*Department of Family Medicine*  
*Rush Medical College*  
*Chicago, Illinois*