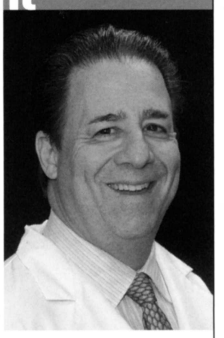
BY HOWARD T. MANGO, PhD



Evaluating the Dizzy Patient

The Times, They Are A'Changing

Growing up as a youngster in New York in the 1950s and '60s, I was fortunate to experience wide exposure to both theater and music, including the Jets and Sharks of *West Side Story*, the bright lights of Broadway and the music of Elvis Presley, Bob Dylan and The Beatles. The venues of the day included The Beatles at Shea Stadium circa 1964 and the iconic festival at Woodstock in 1969, both of which I attended.

The memories of those classic events as well as the music of the era, particularly of John, Paul, George, and Ringo, have remained with me throughout the years. The first song my 5-year-old son Dominic learned was "Sgt. Pepper's Lonely Hearts Club Band," which he still sings today. The lyrics continue to ring true, as some "classics" never change and some ideas remain as valid in 2009 as they were in 1969.

Other things have changed. Looking back on my more-than-35-year career in audiology, I have revisited the way we have evaluated the patient presenting with vertigo, dizziness, unsteadiness, or disequilibrium. The tests we performed in the early '70s certainly are nowhere near as sensitive as the evaluation procedures we have today. We also have seen technology move forward in imaging studies such as magnetic resonance imaging (MRI); today, we never would consider a patient evaluation complete without good imaging studies.

Unfortunately, as far as vestibular testing has been concerned, the medical profession is caught in a time warp. In many cases of a patient presenting with vertigo or dizziness, I still see work-ups that include only an audiogram and ENG or VNG, similar to the testing that would have been conducted in 1980. These limited procedures have proven to be less than effective in determining a differential diagnosis, as the VNG alone is not sensitive enough to determine the true status of the vestibular system, thus making it impossible to make an accurate differential diagnosis. In fact, VNGs often label the peripheral system "normal" and determine the fact that "it's not the ear."

These kinds of results push the patient, whose referral was initially generated by his primary care or internal medicine physician, to specialists in neurology, otolaryngology or cardiology, among others, only for the physician to find "it ain't me" and subsequently send the patient on their way again without being "figured out."

Our retrospective studies of more than 3,000 patients over the past 5 years show that 40 percent of the patients would be "missed" by performing VNG alone.

Comprehensive evaluation of a dizzy patient in 2009 certainly has to be different than what it has been in the past. The battery of tests currently available renders us much more effective in determining a differential diagnosis, both physiological and medical, and in determining the appropriate referrals as indicated for medical management, surgery, involvement of other specialists, and most importantly, vestibular rehabilitation, balance and VOR therapy. Our current statistics show that 93 percent of our patients improve significantly following a specifically tailored program of VRT.

So what do we do? A comprehensive evaluation today includes traditional audiological testing such as pure tone and speech testing, tympanometry and acoustic reflexes, and otoacoustic emissions. The vestibular examination includes vestibular evoked myogenic potentials (VEMP), vestibular autorotational testing (VAT), computerized dynamic visual acuity testing (CDVAT), computerized dynamic posturography (CDP), videonystagmography (VNG), and the rotational chair (RC).

We currently have a system in both of our clinics that includes unilateral centrification (UC) and off-vertical axis rotation (OVAR) testing. Being able to isolate the various parts of the vestibular system, including the otolith organs, has been of tremendous benefit in determining what is really going in the system, the current state of compensation and VOR disturbance, which subsequently drive the recommended treatment—typically vestibular rehabilitation, balance and VOR therapy.

If the future of audiology is the "doctor of audiology" and if we are truly after direct access and seeking to be the entry point for the care we provide, we must be prepared and have the capability, technology and proper methods to "figure these patients out appropriately" and determine a true differential diagnosis with appropriate recommended treatment.

This philosophy will go a long way toward establishing the profession of audiology as the "experts in vestibular testing" so that we may function "on our own… like a rolling stone." Because remember—and you've got to sing this one in the gravelly voice of Bob Dylan— "the times they are a-changing." **$**

Howard T. Mango, PhD, is founder and executive director of Newport Mesa Audiology Balance and Ear Institute, located in Newport Beach, CA. Some of the institute's current research involves the clinical utility of unilateral centrification and off vertical axis rotation testing.

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