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EDITORIAL

# Invitations and Presentations: Experiences of Sharing, Teaching, Learning, and Appreciation

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Over the years since 1975, I have had the experience of receiving many invitations and requests for presentations to share the clinical and research knowledge of our team for the diagnosis of tinnitus and attempts at achieving relief for the symptom of tinnitus of the severe disabling type. This experience has been reciprocal, between my hosts, the attendees, and me: one of sharing, teaching, and learning and of appreciation for one another's efforts for mutual interests.

One such invitation was very special, and I wish to share this with you. I was asked to return to my medical school, the faculty of medicine of the University of Bern, Switzerland, where I obtained my MD degree in 1955 and completed my dissertation, "Acute Laryngotracheobronchitis" (published the following year), in the Department of Otolaryngology.

The invitation, which I accepted, was extended to me in July 2005 by Dr. R. Hausler, director of the University of Bern, Department of Otolaryngology, Hals, Nasen, Ohren Klinik, Bern, Switzerland. Coincidentally, the recommended invitation dates were set for spring 2006, my fifty-first year of medical practice since graduation from medical school. I accepted the invitation first as an honor. It would provide me with two opportunities: to say thank you to the faculty of medicine at the university for the generosity extended to me and my colleagues in the United States who, in 1950, were seeking fulfillment of their dream and ambition to become physicians, and to share our clinical experiences with tinnitus diagnosis and treatment.

My presentation consisted of two parts: first, a brief review of my experience in Bern and how it influenced my future clinical and research interests, and second, a presentation to include the recommended theme—new concepts in tinnitus treatment.

In Bern, the medical curriculum suited me and allowed me to follow my dream, which from childhood was to become a physician. I was taught first and foremost that the practice of excellent medicine is to respect the humanity of the patient, to do one's best: to do no harm above all by respecting the confidence placed in the physician by the patient, and never to abuse the confidentiality of the patient-doctor relationship.

Preparation for my dissertation with Professor F. Escher, director of the Department of Otolaryngology at that time, taught me what excellence is in clinical research and a respect for the medical literature of the past. Knowledge of the past, both clinical and of the basic sciences, provides a basis for appreciation for and understanding of advances in the present and an opportunity to project to the future for the ultimate benefit of the patient. Today, this is called *translational medicine*.

In retrospect, I consider the background for our team efforts for tinnitus to be an application of my experiences gained in preparation of my dissertation. The focus on tinnitus evolved from our cochlear implant efforts in the 1970s: a search and review of the medical literature for an answer to the question of what effect cochlear implant (i.e., electrical stimulation) would have on the production and complaint of tinnitus in a patient. As one of four attendees to the first cochlear implant course in Los Angeles in 1974, I asked Bill House what the incidence of occurrence of severe tinnitus was after insertion of the cochlear implant? His answer—"It can be a problem"—together with our clinical experience with a severely disabled tinnitus patient before attending the first cochlear implant course started our focus on tinnitus as part of our cochlear implant project.

Organization of the first and second international tinnitus seminars in New York City (1979 and 1983) provided a source of information and direction for the state of the art for tinnitus and recognized Jack Vernon for his contribution and teaching. Funding for educational and research efforts since 1985 has been and continues to be received from the Martha Entenmann Tinnitus Research Center, Inc. My coworker and coordinator for all efforts is my friend and colleague of more than 30 years, Dr. Barbara Goldstein, audiologist. Together, we have established international collaborations, numbering 14 investigators in 2006.

On the occasion of my return to Bern 50 years after graduation, I revisited the campus of the basic sciences: anatomy, biochemistry, physiology, and the clinical sciences—the *Insel Spital*. My professors were not in any place of prominence. One realizes, again, that what is lasting and provides continuity from the past to the

future is family and the printed word. The campus of the clinical sciences was unrecognizable to me. In place of separate buildings for each medical discipline was a high-rise tower accommodating the clinical disciplines and clinics. The otolaryngology space was first-rate and state-of-the-art. Plans for a new tower to open in October 2006 were described. I was surprised at the planned move, in view of the excellence of the observed space and quality of care provided in this “old” space.

Prof. Hausler arranged for me to stay in the old city, which caused me no trouble in becoming reacquainted with Bern: the old and the center city. The old city was the same, maintaining its special character of arcades protecting shoppers, as were the outlying areas. The center city was changed. Automobiles—not bicycles—were predominant. Buses outnumbered the trams. The train station, first-rate, was transformed to accommodate the increased population. The quiet city that I had learned to appreciate and remembered was bustling. The Bernese were, as always, gracious and courteous.

My conversations with Prof. Hausler, both before and after my presentation, were a true exchange of information for otology and neurotology and for topics of mutual interest to us. Highlights of the department include an active international resident staff, an active attending staff providing all aspects of otolaryngological care, an active cochlear implant program, reconstructive craniofacial surgery, head and neck cancer surgery, and thyroid surgery.

New pursuits include ongoing efforts for robotic ear surgery, a new operative procedure known as the *DACS procedure*, which is reported to increase the hearing result in patients after stapedectomy with a mixed loss of hearing. We acknowledged tinnitus to be problematic in terms of both diagnosis and treatment. The issue of sound localization and tinnitus was discussed, particularly for patients who report a tinnitus localization “outside [their] body.” Positive results for treatment were reported in some tinnitus patients with the drug cinnarizine. The role of nuclear medicine imaging (single-photon emission computed tomography, positron emission tomography, functional magnetic resonance imaging) was reviewed, particularly in regard to past and recent reports of identification of neural substrates and its application to treatment and drug development. The problem of sudden hearing loss and hearing loss associated with stroke was reviewed. Outstanding reprints of publications were received. I was impressed with the excellence of the efforts in otolaryngology and the leadership and direction provided by the department’s director, Prof. Hausler.

My presentation was entitled “New Concepts in Tinnitus Diagnosis and Treatment—The Tinnitus Dyschronization Theory.” I took the occasion of this return to Bern to present for the first time the tinnitus dys-

chronization theory, which has evolved since 1979 out of translational medicine. Recent reports from neuroscience and our results with quantitative electroencephalography analysis support its clinical significance for tinnitus diagnosis and treatment and do not support any longer the view that tinnitus is a phantom phenomenon. Future publication of this theory is planned for the *International Tinnitus Journal*. In addition, this theory provides concepts for tinnitus diagnosis and treatment. For diagnosis, the primary concept is to establish an accurate tinnitus diagnosis by focusing on a medical audiological tinnitus patient protocol, including complete evaluation of the cochleovestibular system (both peripheral and central), objective methods of nuclear medicine imaging to identify neural substrates in tinnitus patients, and testing for brain function with quantitative electroencephalography. For treatment, the concepts are to consider treatment that combines medication and instrumentation, with a focus on the clinical treatment GABA receptor-targeted therapy, which is based on the identification of a biochemical marker—the GABA-A receptor—for a predominantly central-type severe disabling tinnitus. The concept for drug development, tinnito-pharmacoproteogenomics, now in progress also was presented.

The clinical application of these new concepts with a combined therapy of instrumentation and medication is resulting in significant long-term tinnitus relief. Overall, this invitation and presentation provided an opportunity to share clinical experiences and new concepts for the diagnosis and treatment of tinnitus of the severe disabling type. The presentation was well received. A stimulating session of questions and answers followed. The sophistication of the questions reflected an active clinical and research program for tinnitus diagnosis and treatment.

My visit reemphasized the need for exchange of information between professionals involved in the care of tinnitus patients. The audience was invited to share in the educational efforts of the Neurotological and Equilibrium Society and the Martha Entenmann Tinnitus Research Center, Inc., by participating in the next international tinnitus forum scheduled for September 16, 2006, in Toronto, Canada.

I was fortunate in my fifty-first year of medical practice to have been invited to return to my medical school, an invitation that allowed me to say thank you for the opportunity to study medicine in the faculty of medicine of the University of Bern. Our team looks forward to continued communication with Prof. Hausler and his visit to the Department of Otolaryngology, State University of New York, Downstate Medical Center, Brooklyn, and the Martha Entenmann Tinnitus Research Center, Inc., Forest Hills, New York.

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