What Is Evidence-Based Audiology?

By James W. Hall III

This article is the first of a two-part series on evidence-based audiology and the education of audiologists. A second article will offer additional strategies for more effectively instilling in students the principles of evidence-based audiology, and their application in clinical practice.

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To expand on this theme, let us look at the ACAE Accreditation Standards for the Doctor of Audiology Program, Standard 25:

Student Research & Scholarly Activity: The program must demonstrate that students have knowledge of the fundamentals of research and research design, enabling them to read the professional literature and understand and critically evaluate the concepts related to evidence-based practice. The students must be critical consumers of research and be able to apply this knowledge in evidence-based practice" [Accreditation Standards for the Doctor of Audiology (AuD) Program, p. 9].

Believe it or not, some 30-plus years later, I still remember the exact place where I first heard, or technically read, the phrase "best practices." The then rather strange term caught my eye as I looked over the program of an upcoming out-of-state speech and hearing convention while standing near the window of my office on the sixth floor of the University of Texas Medical School in Houston. Truthfully, I felt a little anxious as I reread the phrase in an attempt to decipher its meaning. My first thought was that I really should at least have a vague understanding of best practices since I was one of the speakers at the same convention. Also, as director of audiology in a teaching hospital within a large medical center, I was presumably responsible for making sure that our audiology team was following best practices in the provision of diagnostic and rehabilitative services to varied clinical populations.

Momentarily taking my eyes off of the convention program to contemplate the meaning of "best practices," my anxiety immediately faded away as I gazed down from my vantage point to Dr. James Jerger's famed audiology clinic at The Neurosensory Center of The Methodist Hospital and Baylor College of Medicine. That's where I acquired most of my clinical knowledge and skills over a six-year period on the way to earning a PhD in audiology. If best practice had anything to do with evidence- or research-based practice, then I was in good shape and so was my clinic.

Dr. Jerger's audiology facility was the model for translating research findings into clinical practice. Clinical services there were state-of-the-art largely because they were guided directly by research conducted in house. Multiple ongoing clinical investigations on varied diagnostic audiology themes, from speech audiometry to auditory neurophysiology, led to dozens of articles in peer-reviewed journals, sometimes at the rate of one or two per month. Importantly, the same audiologists involved in data collection also provided patient services in the clinic. Indeed, research findings were immediately incorporated into clinical practices and protocols, often before articles actually appeared in print. The classic 1976 Jerger and Hayes article on the crosscheck principle is perhaps the best example of highly efficient implementation of research findings into clinical practice.

By the 1990s, perhaps five years after my first encounter with the term "best practices," another related term…evidence-based medicine… appeared regularly in the literature. One of the well-known pioneers in the emerging field, David Sackett of the National Health Service (NHS) in the United Kingdom, offered this simple definition:

Evidence-based medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research" (Sackett et al, 1996, p. 71).

Dr. Sackett and colleagues emphasized in multiple publications that both clinical expertise and external evidence are necessary for the practice of good health care. Another quote clearly makes this important point: "Without clinical expertise, practice risks become tyrannized by evidence, for even excellent evidence may be inapplicable to or inappropriate for an individual patient. Without current best evidence, practice risks becoming rapidly out of date, to the detriment of the patient" (Sackett et al, 1996, p. 72).

In incorporating these principles of evidence-based practice in doctor-of-audiology programs, we face four inescapable and significant challenges in the education of audiologists. They are presented here in a reasonably logical sequence.

- Students must acquire knowledge and develop clinical competences, and ultimately skills, across the broad scope of clinical audiology.
- In addition to mastering technical skills in performing diagnostic procedures and implementing management strategies, students must, for any given patient, select the most effective battery of tests, and/or management options.
- Students must know how to access and critically evaluate research evidence pertaining to the identification, diagnosis, and management of hearing loss and related disorders in children and adults, such as vestibular disorders, tinnitus, and disorders of sound tolerance.
- Finally, students must learn how to integrate their clinical expertise and their knowledge of appropriate research evidence to independently make good clinical decisions for their patients.

Instilling in doctor of audiology students the principles of evidence-based audiology is truly challenging. Other health professionals are meeting this challenge and we can too. The second article in this ACAE Corner series will identify those persons and professional entities with a role and a stake in the education of students in the principles and practice of evidence-based audiology. The follow-up article will also offer some ideas about classroom and clinical instruction strategies for meeting the four challenges just listed.

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Reference

Sackett D, Rosenberg WMC, Gray JAM. (1996) Evidence-based medicine: what it is and what it isn't. *British Medical J* 312:71–72.