
Preface to the First Edition

We proudly stand on the shoulders of a number of giants with this textbook, *Auditory Electrophysiology: A Clinical Guide*. Our academic lineage in auditory electrophysiology can be traced back to Hallowell Davis, father of auditory evoked potentials. Our first tracing begins with our academic and research advisor at the University of Memphis, Herbert Jay Gould, who was trained by Albert Derbyshire at the University of Illinois at Urbana–Champaign. Derbyshire, as a student in 1929, brought to the attention of Davis a paper by Hans Berger on the recording of the alpha wave using an invention that he called the electroencephalogram. After several years of work, in 1934, Davis, Derbyshire, Pauline Davis, and H.N. Simpson recorded the first human alpha rhythm in the United States. Using this technology, Pauline Davis is credited for the discovery of the auditory evoked potential in 1939 of cortical origin. Hallowell Davis and various colleagues worked relentlessly through the 1960s to see if the cortical potential could be used as an objective audiometric tool for infants and children, and to a large extent, it fell short because successful recordings depended on long recording times, minimal physical movement, and an awake/alert patient. With the discovery, description, and wave nomenclature of the auditory brain-stem response (ABR) by two different teams in the 1960s and 1970s (H. Sohmer and M. Feinmesser, and D. Jewett, M. Romano, and J. Williston), the auditory evoked potential landscape changed drastically (at least for a time). Gould frequently jokes with his students about how, in 1975 (the year he completed his doctoral degree), he read every single published paper on ABR—all 12 of them.

Our academic lineage can be traced back by a second way through Maurice Mendel, who is currently Dean of the School of Communication Sciences and Disorders at

the University of Memphis and served on our respective dissertation committees. Mendel was trained by Robert Goldstein at the University of Wisconsin–Madison, and Goldstein worked collaboratively with Davis. Mendel enjoys sharing stories with students about his involvement with the historic and classic middle latency response (MLR) study published in 1977 that settled the debate on whether the MLR had myogenic origin from muscles around the ear or had neurogenic origin that was a true response of the auditory system. The subject of this study (one of the co-authors) allowed himself to be injected with succinylcholine (a muscle relaxer), and while unable to move a single muscle in his body, the MLR was recorded. This lineage has an interesting mix of clinician-scholar physicians and audiologists.

How much has our literature exploded since then? How much more knowledge are we responsible for in this day and age of evidence-based practice? How much more is still yet to be learned? The good news is that the use of auditory evoked potentials in the clinic is generally well established and through continued research (basic, translational, and applied), we fully expect that it will remain with us for a long time to come. Not only are we using evoked potentials to study the auditory system, but we are also using it to evaluate the vestibular system as well. We hope that this textbook serves its purpose well as an educational and practical guide for students and clinicians who have the interest and opportunity to add these various techniques to their clinical practice. As you read through this text, you will learn from numerous individuals who have contributed over the years to our current understanding of auditory evoked potentials (some with a similar lineage or not at all). We are indebted to the work of so many.

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Preface to the Second Edition

After the publication of the first edition in 2012, we were humbled to learn that this book was adopted by audiology degree programs and students around the world. Since that time, the field of auditory electrophysiology has continued to grow, which necessitated a revised edition. In this second edition, we have several returning contributors and some new ones, who bring their expertise to the book. The general organization of the book is similar to the first edition, but we

have made some chapter changes and additions as well. Since the first edition, we have witnessed rapid adoption of broadband and narrowband CE-chirp stimuli, changes in vestibular evoked myogenic potentials (VEMPs) which now include cervical and ocular types, and a growing interest in objective animal audiology. We are confident that the updates made in this book will be useful to those in clinical practice and the next generation of clinicians.

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