Trends In Amplification

From the Editor

The prescription of amplification devices for persons with hearing loss has come a long way since the early recommendations of the *Harvard Report* (Davis, *et al.*, 1946) and the “comparative” approach to fitting hearing aids (Carhart, 1946). Research at that time suggested that one or two frequency gain responses (flat or gently rising) might be appropriate for all configurations of hearing loss. As our understanding of the relationship between hearing loss, hearing aids, and speech understanding grew, our profession shifted away from this relatively simple approach. Current guidelines now advocate, in part, the use of generic prescriptive procedures (*i.e.*, prescriptive procedures that are not product or manufacturer specific) to select the appropriate amplification characteristics when fitting hearing aids (ASHA, 1998).

The Desired Sensation Level (DSL) method, developed by researchers at the University of Western Ontario, is one such prescriptive procedure that has been used extensively in clinical practice. Early versions of the DSL were developed specifically to address the amplification needs of children. These early formulas were developed for use with linear amplification devices and provided recommendations for gain and output. With the growth of wide-dynamic-range compression (WDRC) processing in hearing aid circuits, the number of amplification characteristics that must be prescribed by the clinician increased significantly. As the complexity of amplification devices increased, researchers behind the DSL continued to modify their algorithm to address these additional parameters. Likewise, although the DSL was originally developed for use with children, ongoing research has resulted in modifications to expand the algorithm for use with adults with hearing loss in both quiet and in noise.

The development and implementation of the DSL algorithm has been an ongoing process and this process continues today. In this issue of *Trends in Amplification*, we are fortunate to have the leading researchers behind the DSL discuss the motivation, rationale, and research leading to the current version of the DSL (DSL *m*[i/o] v5.0).

As discussed in the first chapter, Dr Richard Seewald has been a driving force behind the

development of the DSL procedure for many years. In 1987, Dr Seewald established the Child Amplification Laboratory at the University of Western Ontario, London, Ontario, Canada. Much of the research and development for the Desired Sensation Level (DSL) method has taken place in this laboratory with participation from the coauthors of this issue of *Trends in Amplification*: Susan Scollie, Leonard Cornelisse, Sheila Moodie, Marlene Bagatto, and John Pumford, both as graduate-level students of Dr Seewald's and/or as Research Audiologists during their professional careers.

John Pumford and Leonard Cornelisse are most recently with Unitron Hearing in Kitchener, Ontario, Canada. Dr Susan Scollie has recently joined the faculty at the National Centre for Audiology, University of Western Ontario and now co-directs the Child Amplification Laboratory with Dr Seewald. Sheila Moodie and Dr Bagatto continue to work in the Child Amplification Laboratory. Shane Moodie is a clinical collaborator with the CAL group in his position as a clinical lecturer at the University of Western Ontario's H.A. Leeper Speech and Hearing Clinic. Continued work and revisions to the DSL Method are made possible by graduate students like K.P. (Rachel) Liu who work in the Child Amplification Laboratory. Dr Diana Larnagaray is a clinical audiologist in private practice in Bahia Blanca, Argentina. Her work in this issue was completed as part of her professional doctorate in audiology completed at FASTA University, Mar del Plata, Argentina. Steve Beaulac is a computer systems specialist with the National Centre for Audiology.

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Senior Editor

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