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Addressing Issues in Pediatric Audiology: Continuing One Legacy and Creating Her Own

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I first met Susan Scollie in the 1990s when she was working with Richard Seewald at Western University, and I was working with Pat Stelmachowicz at Boys Town National Research Hospital. Richard and Pat had worked together as clinical audiologists in Nova Scotia in the 1970s during a Rubella outbreak that impacted hearing in infants and young children during a time when there was little information to guide hearing-aid fitting in this population. Both went on to obtain PhDs and focused most of their illustrious and very productive careers addressing issues in Pediatric Audiology, remaining friends and colleagues throughout their careers.

Following in the footsteps of a giant can be daunting, and, in Pediatric Audiology, Richard Seewald has been a giant among giants. Susan has flourished, taking what she learned from her mentor and forging a path that builds on Richard's work while creating a new legacy to ensure that individuals with hearing loss will have communication access from infancy through adulthood.

There are many aspects of Susan's career that I could address in this short article (just type her name in Google Scholar or PubMed, and you'll see what I mean). However, I will focus primarily on one aspect; the ongoing development of the Desired Sensation Level (DSL) Method. You may be thinking, "Wait, what? We already know all about the DSL method". However, as someone much closer to the end of my career than to the beginning, I think it is important for us to be reminded that where we are regarding pediatric amplification could be very different if Susan and her colleagues had not been willing to take what Richard Seewald started and continue to gather evidence and update methods and protocols; doing this again and again so that audiologists can better meet the needs of children with hearing loss.

The DSL Method, introduced in the 1980s[1], was first designed to address electroacoustic fitting targets for linear amplification in children with hearing loss (the only type of amplification available then). Today, it provides an approach that considers factors specific to infants and young children during the assessment, selection, fitting, verification, and validation stages in pediatric amplification. Across these areas, the DSL Method must continue evolving, using evidence-based information to support decisions.[2] Without such evolution, the method could have become a historical note in Pediatric Audiology textbooks, with little relevance for today's professionals.

Susan began her involvement with the DSL Method while she was a student at Western. Since those early days, she has risen from a mentored student to a strong researcher in her own right, directing the Child Amplification Laboratory, co-directing the Hearing Aid Technology and Outcomes for Adults Laboratory, and most recently, serving as the Director of the National Centre

for Audiology.

After obtaining her degrees, it would have been perfectly acceptable for Susan to branch out into different research areas, leaving further development of the DSL Method to others. However, throughout her continuing career at Western, Susan and a fantastic group of collaborators has remained committed to the ongoing evolution of the DSL method. As hearing aids have progressed well beyond single-channel linear signal-processing devices, evidence-based changes in the prescriptive formulas and protocols have followed.[3,4,5] Recent work, for example, has addressed issues related to verifying hearing aids using nonlinear frequency compression processing[6,7] and issues associated with assessing bone-conduction devices.[8] The importance of children's access to speech in quiet and in noise also has been addressed.[5,9] Since the advent of newborn hearing screening, guidance for pediatric amplification has been needed that is more specific to different ages. In response to this need, Susan and colleagues have developed and adapted protocols and prescriptions for ages from infancy to adulthood to better address audiological assessment methods and available threshold information, changes in ear-canal acoustics and differences in needs for those with congenital/early-onset hearing loss versus later acquired hearing loss (Bagatto et al., 2005; Bagatto et al., 2011; Polonenko et al., 2010; Scollie, 2007; Scollie et al., 1998).

The work that Susan and her colleagues have done, and continue to do, has solidified the position of the DSL Method as the go-to approach for ensuring auditory access for infants and children with hearing loss. Today, it is incorporated in clinical guidelines, implemented in hearing-aid testing and fitting software, and is often used as the hearing-aid fitting method in research studies examining issues in pediatric amplification. This is undoubtedly true at BTNRH, where we use the DSL Method in our Audiology clinics and as the method for fitting hearing aids in our research studies involving children. In addition, research from Susan and her colleagues has provided an evidence base for protocols from assessment through validation. This work has helped move Pediatric Audiology forward in a way that would have been hard to envision in the early days of the field. Over the years I have known Susan, I have seen the thoughtful and thorough way that she addresses the questions and challenges that face the field of Pediatric Audiology. I can't wait to see what the future will bring!

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