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Clinical Trade-Offs

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Audiology is a field of clinical trade-offs. While it is true that some of our forms of assessment are both a “gold standard” and are clinically efficient, most of what is accomplished clinically is only about half-way there.

Pure tone audiometry immediately comes to mind. This test is easy to do, is quick, and is ubiquitous in the literature (primarily because it is quick and easy). However, it doesn't take long to realize that the results of pure tone audiometry, while looking nice on a piece of paper, don't explain everything. Actually, for what it is, pure tone audiometry does explain an incredible amount, but certainly not as much as perhaps clinically we would like to see.

As clinicians, we have all learned to "read between the lines.” A moderately-severe sensori-neural hearing loss isn’t just the next category up from moderate but implies significant involvement of inner hair cell damage and an increased possibility of cochlear dead regions, whereas those with slightly better hearing can significantly benefit from hearing aids because it is just a loudness correction issue where WDRC can perform its magic. The slope of the audiogram tells another story — a flat or gradually sloping audiometric configuration clinically implies greater success with amplification than for someone else who has an audiogram that falls off at 300 km/hour.

Audiologists are great at “reading between the lines” but Brandon Paul’s feature article in this issue of CanadianAudiologist suggests a more complete story. In investigating the possible reasons behind people who report tinnitus but have normal audiograms, Dr. Paul touches on the limited frequency resolution of a typical clinical audiogram, arguing that octave or ½ octave analysis can be problematic. He also touches on post-cochlear issues such as synatopathy and other forms of neural dysfunction that may best be assessed with supra-threshold tests.

Our clinical test battery is one partial solution to this problem as is our use of a case history, but ultimately even if we had days to perform every conceivable test, we would still fall short — our auditory function still remains one of the most veiled systems in our body. All we can hope for is to develop a cursory but "ballpark" assessment of our clients' auditory ability.

When I first started in this field, I clearly recall cringing at an older, more experienced colleague’s comment that they have had a “good experience” with such and such a technology or clinical approach. It seemed so unscientific and crystal ball-like. And indeed, I did have a crystal ball on my desk for the first 4 or 5 years of clinical practice; partly as a joke, but partly true. But after 40 years in the field, I still cringe, but not nearly as much. Audiologists have such a wealth of knowledge and experience that I consistently find a new level of respect for them that I may not have had as a new inexperienced audiologist.

I attend audiology meetings around Canada and internationally to “soak in” the experience of our colleagues. Learning new material is important, but really is only secondary to observing and experiencing how our colleagues arrived at a novel treatment plan given that we only get to assess the bare minimum of auditory dysfunction.

As always, I hope everyone is staying healthy and safe, and I wish everyone a pleasant holiday season.