On the Horizon .......(for CAPD and related issues)

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Assessment:

Recent test procedures such as the GIN (gaps in noise), LISN-S and cABR have or are beginning to make their mark in regard to the evaluation of CAPD. These tests are or will likely provide additional insight into problems of central auditory processing.

There does seem to be future movement towards evaluating the auditory system by using psychoacoustic tests in an evoked potential paradigm. An example of this is measuring gap detection using the late evoked potentials. Also new on the horizon, is the acoustic change complex (ACC). As Martin and Boothroyd relate: The Acoustic Change Complex (ACC) is a compulsory cortical response elicited by changes in a long-durational, steady state sound recorded via electrodes on the scalp. The simplest explanation of this response is that it results from an activation/deactivation relationship of neural components as the change in stimulus is detected. Studies have found that a continuous alternating stimulus is more efficient than an interrupting stimulus in eliciting the ACC and that it can be elicited by changes in intensity, phase, and frequency. The ACC is mostly dependent on an acoustic change in the signal, and not highly influenced by the individual’s attention. This, and it’s good agreement with both behavioral testing of intensity and frequency discrimination tasks, as well as it’s retest reliability in adults, means it is a valuable objective measure of discrimination abilities. More studies need to be done, but the ACC may be promising.

Populations

Perhaps one of the most interesting populations to embrace CAPD evaluation is schizophrenia—but maybe more specifically auditory hallucinations. Most individuals with schizophrenia experience auditory hallucinations and, as has been recently shown, those with schizophrenia perform poorly on some central auditory tests. Tied in with this is new anatomical evidence that hallucinations may be linked to degeneration or at least changes in neural volume of the auditory cortex.

Dyslexia also appears to be gaining interest in terms of discussions on APD. Studies have shown an auditory link—especially in temporal processing. More work is being focused on the auditory system by many different clinicians and scientists.
Rehabilitation

In the neuroscience world, auditory training, experience and stimulation studies are becoming commonplace. Much can be learned from the research our colleagues in neuroscience are conducting. Several studies on the DIID are underway in various places across the country to pull in more documentation. The therapy for the LISN has also witnessed a major step forward and seems to be showing positive results. Of interest, is the benefit some audiologists are witnessing with the use of very mild gain, high fidelity hearing aids in helping those (especially adults) with CAPD. The informal reports seem positive and this topic certainly deserves some research consideration.