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# Auditory Processing Assessment

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*This document outlines procedures to assess the status of the auditory system beyond the periphery.*

## **Expected Outcomes**

An auditory processing assessment is conducted to diagnose an auditory processing disorder and to quantify auditory processing abilities on the basis of behavioural or electrophysiological responses to test stimuli.

The assessment may result in recommendation for further assessments to be performed by other professionals from the fields of medicine, education, speech and language therapy, psychology or developmental paediatrics. Recommendations may be made for remediation to be carried out by the care giver or habilitationist or use of an assistive device such as an FM system.

## **Clinical Indications**

Before an assessment takes place the referral needs to be screened for its appropriateness (cognitive function, age and peripheral hearing status) in order to ensure any diagnosis that is made is valid.

## **Clinical Process**

The assessment may include:

- Dichotic Speech Tests
- Temporal Patterning Tests
- Monaural Low-Redundancy Speech Tests
- Speech-in-Noise Tests
- Short Term Auditory Memory Tests
- Masking Level Difference Test
- Auditory Evoked Potentials
- Suppression of Evoked Otoacoustic Emissions (OAEs)
- Other recently documented measurement procedures.

Outcomes of APD testing are sensitive to the motivation of the client. Because of the complex nature of some of test instructions, it is imperative that the tester is confident the client fully understands the assessment procedure. Failure to do so can make assessment results invalid. Examples of client groups with co-morbid conditions who may be tested for auditory processing disorders include those with brain injuries, Attention Deficit/Hyperactivity Disorder or Autism Spectrum disorders. These clients may experience on-going fatigue or attention difficulties which could impact on test results and validity. These factors must be accounted for in test administration and interpretation.



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In preparation for an APD assessment it is assumed that a full diagnostic audiological assessment has taken place. At a minimum this would include a complete audiogram, immittance results including all ipsilateral and contralateral acoustic reflexes, a performance intensity function for monosyllabic words. It is highly desirable that otoacoustic emissions are also recorded. A full history, documenting difficulties in auditory processing should be taken. For school aged children it is advantageous to have questionnaires filled out by the child's teacher. There is a range of questionnaires that can be used for this purpose.

### Documentation

Reports should include an interpretation of assessment results and the nature and severity of the auditory processing difficulties and any recommendations for referral to other health and education professionals. Performance should be compared to age appropriate normative data and this information should be made available in the report. In order for the comparison with normative data to be valid, recorded materials, equipment, presentation levels, instructions and other test conditions must closely match those used when obtaining the normative data. Normative data for the New Zealand population is available for most tests used clinically and should be used. For some assessments, there may be limited normative data (for example suppression of otoacoustic emissions); in this case results should be interpreted cautiously.

Recommendations may address the need for further assessment to monitor progress. Interpretation of results and recommendations should be made in consultation with other professionals involved in the case.

When remediation is recommended, information is provided concerning the estimated duration, cost and type of services required. Because of the complexity of APD diagnosis and possible remediation programmes, the client, family members and significant others should be included in all treatment decisions.

### Settings and Equipment

Testing should be performed in a sound proof room that complies with the relevant standard. A two channel audiometer is required for dichotic tests. Suppression of OAEs can be performed with an audiometer providing broad band masking noise as the suppressing noise. Test results should be compared to the appropriate normative data for that test and the client being tested.

### Related References

American Speech-Language-Hearing Association. (2005). (Central) Auditory Processing Disorders [Technical report]. Available at <http://www.asha.org/members/deskref-journals/deskref/default>



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