

CURRENT COCHLEAR DEAD REGION (CDR) TESTS: A SCOPING REVIEW

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ABSTRACT

Introduction: Cochlear dead region (CDR) is a region where there is a complete loss of inner hair cells. Diagnosis of cochlear dead region in hearing loss patient is important as it will affect the amplification strategies provided to the patient. The aim of this study is to conduct a scoping review to explore different type of tests that are currently available for CDR diagnosis and to explore the existing evidences with respect to the CDR diagnosis.

Methods: Systematic search using keywords 'dead cochlear region' OR 'cochlear dead region' AND 'testing', via five databases (Scopus, Cinahl, ProQuest, Science Direct and PubMed) resulted in total of 1215 hits. The title and abstract of these 1215 papers were reviewed leaving the final number of 24 papers. The 24 articles that met the inclusion criteria were then reviewed for thematic narrative analysis.

Results: From the 24 studies, 83% used Threshold Equalizing Noise (TEN), 21% used Psychophysical Tuning Curve (PTC) and 0.04% used Auditory Steady State Response (ASSR) for CDR testing. Content analysis resulted to 5 themes; testing population, procedure, testing time and the advantages and disadvantages of each of the test.

Conclusion: Majority of the studies used subjective tests (TEN and PTC) for detecting CDR. Based on this scoping review, it can be concluded that only ASSR test can be used to test younger children (<7 years old) as they may not be able to understand the required task in the behavioural testing. However, up to date of the review search, there is no publication concerning ASSR in young children for cochlear dead region testing.

KEYWORDS: Scoping review, Cochlear dead region, diagnosis, Psychophysical Tuning Curve, Threshold Equalizing Noise, Auditory Steady State Response

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