

Rey Auditory Verbal Learning Test

Rey Auditory Verbal Learning Test (RAVLT) (20) is a well-recognized measure of a person's ability to encode, combine, store and recover verbal information in different stages of immediate memory. Therefore, the effect of interference stimulus, delayed memory and recognition are evaluated with this assessment tool.

The adapted Rey Auditory Verbal Learning Test paradigm fMRI might support verbal memory lateralization. Temporal lobe epilepsy laterality influences hippocampal memory laterality indexes. Left temporal lobe epilepsy has shown a higher proportion of atypical verbal memory compared with language, potentially to memory functional reorganization ¹⁾.

A study aimed to validate this new [memory](#) component against the [Rey Auditory Verbal Learning Test](#) (RAVLT) as the validated standard. This prospective, observational study, carried out within The Royal Children's Hospital Emergency Department, [Melbourne](#), Australia, recruited 198 participants: 91 with concussion and 107 upper limb injury or healthy sibling controls. Partial Pearson correlations showed that memory acquisition and recall on delay aspects of the SCAT5 were significantly correlated with the RAVLT equivalents when controlling for age ($p < 0.001$, $r = 0.565$ and $p < 0.001$, $r = 0.341$, respectively). Factor analysis showed that all RAVLT and SCAT5 memory components load on to the same factor, accounting for 59.13% of variance. Logistic regression models for both the RAVLT and SCAT5, however, did not predict group membership ($p > 0.05$). Receiver operating curve analysis found that the area under the curve for all variables and models was below the recommended 0.7 threshold. This study demonstrated that the SCAT5 and Child SCAT5 memory paradigm is a valid measure of memory in concussed children ²⁾.

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Conde-Blanco E, Pariente JC, Carreño M, Boget T, Pascual-Díaz S, Centeno M, Manzanares I, Donaire A, Pintor L, Rumià J, Roldán P, Setoain X, Bargalló N. Testing an Adapted Auditory Verbal Learning Test Paradigm for fMRI to Lateralize Verbal Memory in Patients with Epilepsy. *AJNR Am J Neuroradiol*. 2022 Sep 22. doi: 10.3174/ajnr.A7622. Epub ahead of print. PMID: 36137657.

²⁾

Shapiro JS, Hearps S, Rausa VC, Anderson V, Anderson N, Pugh R, Chau T, Clarke C, Davis GA, Fabiano F, Fan F, Parkin GM, Takagi M, Babl FE. Validation of the SCAT5 and Child SCAT5 Word-List Memory Task. *J Neurotrauma*. 2021 May 10. doi: 10.1089/neu.2020.7414. Epub ahead of print. PMID: 33765839.

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