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## **Which memory processes are affected in patients with obstructive sleep apnea? An evaluation of 3 types of memory.**

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**STUDY OBJECTIVE:** To investigate which memory processes are affected by obstructive sleep apnea (OSA). **DESIGN:** Three separate memory systems were investigated in patients with OSA and normal subjects. Verbal episodic memory was tested after forced encoding, in order to control the level of attention during item presentation; procedural memory was tested using a simplified version of a standard test with an interfering task; lastly, working memory was examined with validated paradigms based on a theoretical model. **SETTING:** Sleep laboratory and outpatient sleep clinic in a French tertiary-care university hospital. **PARTICIPANTS:** Ninety-five patients with OSA and 95 control subjects matched for age and level of education. Group 1 (54 patients, 54 controls) underwent an extensive battery of tasks evaluating verbal episodic, procedural, and working memory. Group 2 (16 patients, 16 controls) underwent procedural memory tests only, and group 3 (25 patients, 25 controls) working memory tests only. **INTERVENTIONS:** N/A. **MEASUREMENTS AND RESULTS:** Compared with matched controls, patients with OSA exhibited a retrieval deficit of episodic memory but intact maintenance, recognition, and forgetfulness; decreased overall performance in procedural memory, although pattern learning did occur; and impairment of specific working memory capabilities despite normal short-term memory. No consistent correlation was found between OSA severity and memory deficit. The long duration of the test session did not negatively impact the patients' performance. **CONCLUSIONS:** Memory impairment in OSA is mild and does not affect all memory processes but, rather, specific aspects, underscoring the need for extensive and specific memory testing in clinical and research settings.

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