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Improvement in neuropsychological performance following surgical treatment for obstructive sleep apnea syndrome.

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Obstructive sleep apnea syndrome (OSAS) is characterized by snoring and apnea during sleep leading to decreased oxygen saturation and disturbed sleep, excessive daytime sleepiness and neuropsychological disturbances. This study investigates cognitive neuropsychological abilities in a group of 53 OSAS patients before and after treatment with uvulopalatopharyngoplasty. General intellectual ability, verbal learning and memory as well as executive functioning were measured at baseline and 6 months postoperatively. After surgery there were significant improvements in verbal learning and memory (mean change -39, SD 57.3, $p < 0.001$), recall (mean change -24.3, SD 39.3, $p < 0.001$) and executive functioning (as assessed by percentage of errors on the Wisconsin Card Sorting Test; mean change -9.1, SD 15.7, $p < 0.001$). These improvements were in accordance with improvements in the degree of sleep apnea, the oxygen desaturation index (mean change -9.7, SD 15.9, $p < 0.001$) and arterial minimum oxygen saturation (mean change 4.5%, SD 10.2%, $p < 0.01$). Surgical treatment seems to improve verbal learning, memory and recall and executive functions in parallel with better oxygenation in OSAS.

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