

## **Polysomnography before and after weight loss in obese patients with severe sleep apnea.**

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**OBJECTIVE:** While obstructive sleep apnea (OSA) is strongly related to obesity, few studies have examined polysomnographic (PSG) changes with major weight loss. We examined the effect of weight loss following laparoscopic adjustable gastric banding (LAGB) on the PSG changes in patients with severe OSA. In addition, we studied daytime sleepiness, the metabolic syndrome and quality of life (QOL). **METHODS:** A prospective study was conducted of 25 severely obese patients (17 men, eight women) with paired diagnostic PSG, biochemical and questionnaire studies, the first prior to LAGB and the second at least 1 y later. Subjects with a baseline apnea-hypopnea index (AHI) >25/h were included. **RESULTS:** Subject baseline age was 44.7 y, weight 154 kg and body mass index 52.7 kg/m<sup>2</sup>. The second PSG study was conducted 17.7±10 (range 12-42) months after surgery and mean percentage of excess loss and weight loss were 50.1±15% (range 24-80%) and 44.9±22 kg (range 18-103 kg), respectively. There was a significant fall in AHI from 61.6±34 to 13.4±13, improved sleep architecture with increased REM and stage III and IV sleep, daytime sleepiness, as measured by Epworth Sleepiness Scale, of 13±7.0 to 3.8±3.0, and fewer patients requiring nasal continuous positive airways pressure (CPAP). There were also major improvements in the metabolic syndrome, QOL, body image and fewer symptoms of depression (P<0.05 for all). **CONCLUSION:** Weight loss provides major improvement or resolution of OSA and CPAP requirements. It also reduces daytime sleepiness, and improves the metabolic syndrome and QOL. LAGB placement should be considered a broadly effective therapy for sleep apnea in the severely obese patient.

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