



# Quality of life after adenotonsillectomy for children with sleep-disordered breathing: a linear mixed model analysis.

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### Abstract

**OBJECTIVE:** To study changes in quality of life (QoL) after adenotonsillectomy (T&A) in children with sleep-disordered breathing (SDB), and to elucidate discrepancies in QoL improvements after T&A in children of different gender, age, adiposity status, and disease severity.

**MATERIALS AND METHODS:** Children aged 2-18 years were recruited. All children had SDB-related symptoms and underwent preoperative full-night polysomnography (PSG). Caregivers completed the first obstructive sleep apnea 18-items questionnaire (OSA-18) prior to T&A and the second OSA-18 survey within 3 months after surgery. Disease severity was defined as primary snoring (apnea/hypopnea index, AHI < 1), mild obstructive sleep apnea (OSA) ( $5 > AHI \geq 1$ ), and moderate-to-severe OSA ( $AHI \geq 5$ ). Discrepancies in OSA-18 score changes after T&A for different groups were assessed using the linear mixed model.

**RESULTS:** In total, 144 children were enrolled (mean age,  $7.0 \pm 3.6$  years; 76% boy). The OSA-18 total score changes after surgery were not significantly different by gender (boys vs. girls), age group ( $\geq 6$  years vs.  $< 6$  years), or adiposity (obese vs. non-obese). The OSA-18 total score changes after surgery differed by disease severity (primary snoring vs. moderate-to-severe OSA,  $P = 0.004$ ; mild OSA vs. moderate-to-severe OSA,  $P = 0.003$ ). Children with moderate-to-severe OSA had greater improvement in OSA-18 total score after surgery than those with mild OSA or primary snoring.

**CONCLUSIONS:** Children with SDB had QoL improvement after T&A, as documented by OSA-18 score changes. The QoL improvement after T&A for SDB children increased as disease severity increased, and the improvement was not affected by gender, age, or adiposity.

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**KEYWORDS:** Adenoidectomy; Child; Polysomnography; Quality of life; Sleep apnea syndromes; Tonsillectomy

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