

# STRONG CHILDREN'S RESEARCH CENTER

## Summer 2013 Research Scholar

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### ABSTRACT

**Title: Treatment of Obstructive Sleep Apnea with Adenotonsillectomy Compared to CPAP Results in Better Quality of Life in Overweight/Obese Children & Adolescents**

**Objective:** Obstructive Sleep Apnea (OSA) is associated with cognitive deficits, behavioral abnormalities, cardiovascular problems, reduced growth, and inflammation in pediatrics. Both Adenotonsillectomy (T&A) and Continuous Positive Airway Pressure (CPAP) are effective treatments modalities. Quality of life (QOL) is poor in children with obesity and OSA yet, there is scant literature comparing QOL based on treatment method. We examined changes in QOL in overweight/obese children and adolescents who underwent either T&A or began CPAP as a treatment for OSA.

**Methods:** Children (N= 50; M=38; BMIz 2.3±0.5; aged 13-18 years; 31 treated with T&A; AHI 17.7±26.2), and their parents were enrolled in this prospective study if the child presented with habitual snoring (i.e. at least 3 nights/week) and was overweight (85%ile≤BMI≤95%ile) or obese (BMI >95%ile). Participants and their parents filled out the Pediatric Quality of Life Inventory 4.0™ (PedsQL 4.0™) at baseline and after the respective treatment. ANCOVA was used to analyze the data. Significance was set at p<0.05. All results are reported as mean ± SD.

**Results:** Baseline QOL was low in subjects with OSA by both self (69.9±14.9) and parental (51.8±15.7) report. Self-reported QOL was significantly higher in those participants who were treated with T&A (77.7±12.6) compared to those treated with CPAP (68.8±15.8, p<0.05). Self-reports showed higher QOL in all subscales including physical (82.9±14.5 vs. 72.9±16.0), emotional (75.2±19.5 vs. 65.3±21.6), social (82.6±15.7 vs. 73.3±34.6), and school functioning (66.5±19.8 vs. 63.3±13.7) (p<0.05). Parental reports displayed significantly greater QOL in their children treated with T&A (65.0±18.1) compared to those treated with CPAP (61.7±16.8, p<0.05). Parental reports also showed higher quality of life in terms of physical (67.1±22.5 vs. 64.2±23.3), emotional (65.0±21.6 vs. 58.2±21.0), and social functioning (70.7±22.8 vs. 61.4±23.2) subscales (p<0.05), but not in school functioning (58.6±22.0 vs. 62.6±16.9; p=ns). Child self-report overall QOL was no different than the normal cutoff at baseline and after treatment, whereas parental reports of their child's QOL normalized in both treatment conditions.

**Conclusion:** Both T&A and CPAP result in significant improvements in overweight/obese children and adolescents with OSA such that parental reports of QOL fell into the normal range for both groups. Ultimately, when compared to treatment with CPAP, treatment with T&A resulted in significantly more improvement in QOL. Further study is needed to assess factors that influence QOL for both treatments.