

Administering Patient Reported Outcomes Measurement Information System (PROMIS) Tools via Tablet Computer and E-mail to Assess Health Measures in Pediatric Adenotonsillectomy Patients at Ambulatory Surgery Centers

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Background: The Patient Reported Outcomes Measurement Information System (PROMIS) is an NIH- funded system of highly reliable, precise question-and-answer measures of patient-reported physical, social, and mental well being that can be administered via paper-based or electronic means. Adenotonsillectomy (T&A) procedures are one of the most common procedures performed at our institution, yet systematic measurement of patient-reported health status was not routinely performed. We initiated the pre- and post-surgery administration of PROMIS tools using tablet computers and e-mail to T&A patients at our ambulatory surgery centers.

Methods: A research assistant enrolled patients of ages 5-17 years old on the day of surgery who were scheduled for an T&A or adenoidectomy at an ambulatory surgery center. The PROMIS tools (measuring anxiety, depression, fatigue, physical function and peer relations) were administered to the patients in the preoperative waiting area prior to the procedure using a PROMIS-enabled tablet computer. Patients of ages 5-8 years were encouraged to complete the electronic questionnaires with a parent or guardian proxy. At one week post-procedure, a link to the PROMIS tools was sent via e-mail to the patient's caregiver; if necessary, a research assistant reminded the caregiver to complete the PROMIS assessment via a telephone call.

The PROMIS tools results generated both raw and scaled PROMIS scores. The raw PROMIS scores (z- scores) were converted to the scaled PROMIS scores. The scaled scores are based on standard curves in healthy patients, with each curve having a mean of 50 (no units) and standard deviation of 10. We analyzed the PROMIS results were analyzed and generated descriptive statistics following ten months of data collection.

Results: Fifty-six patients completed the pre-procedure and one-week follow-up PROMIS assessments during February 1, 2014 to November 7, 2014. Eighteen patients were in the 9-17 years old age group and completed the PROMIS tools themselves; 38 patients were in the 5-8 year old age group that consisted of caregiver proxy scores. Table 1 summarizes our scaled PROMIS score results.

Conclusions: The PROMIS tools allowed for convenient measurement of patient-reported outcomes in pediatric T&A patients. Upon initial review, no dramatic changes in the six measured outcomes were noted in the 9-17 years age group. There was a 10-point (1 SD) increase in fatigue scores (and a similar decrease in mobility scores) at the

1 week follow up point in patients of ages 5-8 years, and an increase in pain interference scores, suggesting that children in this age group continue to be affected by pain and fatigue one week after surgery. Future plans include continued patient recruitment and administration of the PROMIS tools, more rigorous statistical analysis, and investigation of the causes of the score changes to determine possible options for amelioration of pain and fatigue symptoms post-procedure.