

24. TODDLER-PRESCHOOLER POSTOPERATIVE PAIN SCALE: RELIABILITY AS A CATEGORICAL ASSESSMENT TOOL IN POSTOPERATIVE PAIN INTERVENTION FOLLOWING OUTPATIENT OTOLARYNGOLOGY PROCEDURES

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Introduction: The 5th Vital Sign Initiative requires user-friendly pain assessment tools for all age groups. Patients aged 1-5 years may be too old for infant behavioral assessment scales (e.g. NIPS) and are too young for self-report (e.g. faces) scales. The Toddler-Preschooler Postoperative Pain Scale (TPPS) is a simple 0-7 scale that, while primarily relying upon behavioral observation, does include an age appropriate self-report verbal element. Interrater reliability and efficacy in the assessment of changes in acute pain following intervention were evaluated.

Methods: 20 patients aged 1.1-4.6 years undergoing myringotomy, adenoidectomy, or tonsillectomy under general anesthesia with inhalation induction were observed by independent raters not involved in the patient care. The nurses caring for these patients were unaware of the evaluations being performed and did not communicate with the observers. Postoperative pain was treated with iv meperidine in phase I PACU and with PO codeine and/or acetaminophen in phase II recovery on clinical grounds as per existing protocol without regard for any objective pain score. TPPS ratings were assessed at 5 min. intervals from emergence of general anesthesia to discharge home. Preoperative anxiety levels were assessed on a 3-point categorical scale. Follow-up via telephone at 24 hours included categorical measures for parental satisfaction, satisfaction with in hospital analgesic administration specifically, presence of nausea, and a modified postoperative pain measure for parents.

Results: TPPS scores predictably and significantly decreased following analgesic administration ($p < 0.001$; paired, two-tailed t-test). Interrater reliability was good for both the TPPS ($r = 0.84$) and the anxiety scale ($r = 1$). Neither preoperative anxiety levels nor preoperative anxiety (PO midazolam) correlated with postoperative pain levels or recovery times. Parental recollection for satisfaction with analgesia in hospital was not associated with their assessment of pain on the first postoperative day. Time to discharge from hospital did correlate with the type of procedure ($r = 0.81$) and opioid requirement ($r = 0.83$). All patients exhibited low pain scores on discharge that did not vary significantly with surgical procedure.

Discussion: While it is presumed that myringotomy is associated with less pain quantitatively than adenoidectomy, initial TPPS scores were similar. Further, pain following myringotomy was generally well controlled with acetaminophen and non-pharmacologic measures. The responses to these interventions as well as opioid treatment were, however, reliably reflected in lowered TPPS in all subjects.

Conclusion: TPPS is a useful tool for monitoring analgesic administration in children aged 1-5, but should not be considered a ratio measure of pain intensity.

1. Tarbell SE, Cohen IT, Marsh JL: *The Toddler-Preschooler Postoperative Pain Scale: an observational scale for measuring postoperative pain in children aged 1-5. Preliminary report. Pain* 1992; 50: 273-280.

2. Chambers CT, Reid GJ, McGrath PJ, Finley GA: *Development and preliminary validation of a postoperative pain measure for parents. Pain* 1996; 68: 307-313.

	myringotomy	adenoidectomy	tonsillectomy
TPPS on emergence	3.5 (0-6)	3.44 (0-5)	4.2 (3-5)
TPPS at discharge	0.25 (0-2)	0.3 (0-1)	0
total opioid (mg/kg iv meperidine equiv.)	0.12 (0-0.5)	0.94 (0.46-1.67)	1.52 (0.62-2.35)
Time to discharge (min)	49.2 (20-98)	102.1 (51-185)	146.9 (125-170)