

[PR1-113] Post-operative pain scores and analgesia requirements in children undergoing palatoplasty: A retrospective chart review

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**Introduction:** Pediatric patients undergoing palatoplasty may experience significant pain postoperatively. Under-treatment of acute postoperative pain may result in poor oral intake, delayed post-operative recovery, and psychological issues. Various means to preempt and manage postoperative pain are used both intraoperatively and postoperatively in this group of patients. The primary objective of this study was to evaluate pain scores and postoperative analgesia requirement in the post anesthesia care unit (PACU) and on the postoperative ward within the first 24 hours following palatoplasty.

**Methods:** Following IRB approval (deemed IRB exempt), we retrospectively reviewed 51 children scheduled for palatoplasty performed at Penn State Hershey Medical Center from 1 Jan 2012 through 31 December 2012. Data collected included demographics, analgesic requirements, and pain scores. Pain scores assessed in this study were based on the Wong Baker, FLACC, NRS pain scales (scale 0-10).

**Results:** The general and demographic data are as shown in table 1. Data on the postoperative pain scores are as shown in table 2. Overall, intraoperatively, 100% of the children received fentanyl intravenously, 19% received morphine intravenously and 41% received acetaminophen (rectal or intravenous). All patients received local anesthetic infiltration by the surgeon at the surgical site. In the PACU, 23.5% received intravenous fentanyl, 47% received intravenous morphine and 43% received a combination of acetaminophen with codeine orally. In the postoperative ward, 76% of the children received acetaminophen-codeine combination, 11.7% received ibuprofen orally, 2% received acetaminophen-hydromorphone combination and 6% received intravenous morphine.

**Conclusion:** The results of our study indicate that, overall, the infant/toddler group experienced higher pain scores throughout the first 24 hours following surgery; although this was statistically significant only in the early postoperative period following surgery. Perhaps, this may also be a contributory factor in the longer time to discharge from the hospital observed in the infant/toddler age group. More frequent pain assessments and better pain control are warranted in this vulnerable group.

**References:**

1. Fenlon S, Somerville N. Comparison of codeine phosphate and morphine sulfate in infants undergoing cleft palate repair. *Cleft Palate Craniofac J.* 2007;44(5):528-31.
2. Augsornwan D et al. Postoperative pain in patients with cleft lip and palate in Srinagarind Hospital. *J Med Assoc Thai* 2011;94(6)S118-23

Table 1: Patient demographics and general information \*p<0.001, Mann Whitney Rank sum test

		Overall (n=51)	Infants/Toddlers (n=31)	Preschool/School (n=20)
Age (months)		50.69	16.84	103.15
Sex	Male	27 (52.94%)	15 (48.39%)	12 (60.00%)
	Female	24 (47.06%)	16 (51.61%)	8 (40.00%)
Weight (kg), mean ± sd		17.31 ± 11.86	10.21 ± 1.83	28.31 ± 12.46
ASA status, median		2	2	2
Duration of Surgery (min), mean ± sd		133.2 ± 62.52	127.87 ± 44.97	141.45 ± 83.51
Duration of time in PACU (min), mean ± sd		110.92 ± 84.28	107.9 ± 85.85	115.60 ± 83.77
Hospital discharge time (min), mean ± sd		1109.57 ± 762.96	1442.23 ± 720.23*	593.95 ± 502.39

Table 2: Highest reported postoperative pain scores at different time points,  
 \*p<0.05, Mann-Whitney rank sum test, IQR=inter quartile range

Time after surgery	Overall	Infants/Toddlers Median (IQR)	Preschool/School Median (IQR)
<1 hour after surgery Median (IQR)	5 (4-6)	5 (4-6)	5 (3-5)
1-6 hours after surgery Median (IQR)	4 (2-5.5)	5 (3-6)*	3 (1.75-4)
6-12 hours after surgery Median (IQR)	3 (4-5)	4 (2.5-5)	3 (0.75-3.75)
12-18 hours after surgery Median (IQR)	3.5 (4-5)	4 (2-5)	3 (2-4)
12-24 hours after surgery Median (IQR)	3 (4-6)	5 (1.5-6)	2 (0.75-4)