

# Prescribing Trends of Opioids in Children Post-Tonsillectomy: The Unwarranted Use of Opioids?

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## Background

- It is challenging to safely and effectively control oropharyngeal pain post-tonsillectomy.<sup>1</sup>
- There are variable practices with regards to the analgesics and in particular opioids being prescribed post-tonsillectomy.<sup>2</sup>
- Choice of analgesia can influence postoperative issues such as pain, dysphagia, dehydration, nausea, respiratory issues, and bleeding.<sup>3</sup>
- Opioid use for pain management in children presents clinical challenges due to varying metabolism and concerns with serious adverse effects including sedation and respiratory depression.<sup>4</sup>
- Paracetamol and nonsteroidal anti-inflammatory drugs (NSAIDs), mainly ibuprofen, have been shown to be as effective in providing relief of pain compared with opioids post-tonsillectomy in children.<sup>3</sup>

## Aim

To audit the management of oropharyngeal pain in children post-tonsillectomy within The Children's Hospital at Westmead (CHW) and to determine opioid prescribing trends to help improve safe and effective prescribing.

## Method

A literature review of analgesia used in the paediatric population post-tonsillectomy was completed. Practices at other paediatric hospitals were also surveyed.

Medication charts and dispensing histories of patients post-tonsillectomy were reviewed from January 2014 to December 2017.

Reports of tonsillectomies performed were obtained from the CHW Analysis Unit. This was matched with discharge opioid dispensing reports obtained from iPharmacy based on patient's medical record number and tonsillectomy date.

The following parameters were reviewed; opioid analgesics, non-opioid analgesics, non-pharmacological interventions, adverse events, and readmission.

Educational pamphlets were developed for parents and clinical staff to assist in management of pain post-tonsillectomy.

Information from this project will be incorporated into the hospital's Kids' Health Buddy, mobile app and online resource, for use by parents/carers and health professionals.

## Results and Discussion

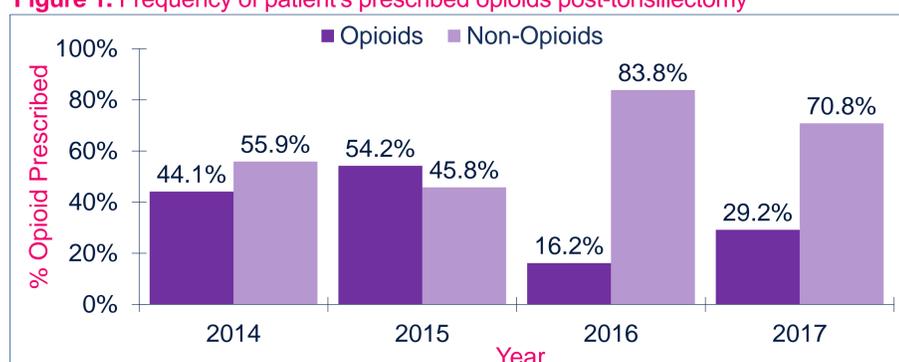
### Systematic Literature Review and Survey of Hospitals

- The systematic literature review indicated there are variable practices and recommendations with regards to pharmacological and non-pharmacological management of oropharyngeal pain in children post-tonsillectomy.
- Surveyed paediatric hospitals within Australia highlighted further variance or absence of Hospital policies or guidelines relating to post-tonsillectomy management.
- Of the 9 paediatric hospitals contacted, only 2 had guidelines for treating post-tonsillectomy pain.

### Audit of Post-tonsillectomy Patients

- A total of 1106 patients age range 1–18 years (median age = 6.5 years) underwent a tonsillectomy (with or without adenoidectomy) for the study period.
- Patients were routinely recommended regular paracetamol and/or ibuprofen when required with non-pharmacological advice as per discharge summaries.
- Of the 1106 tonsillectomy patients, 393 patients were discharged on opioids.
- Oxycodone given when required was the main opioid analgesic prescribed at discharge.

Figure 1. Frequency of patient's prescribed opioids post-tonsillectomy



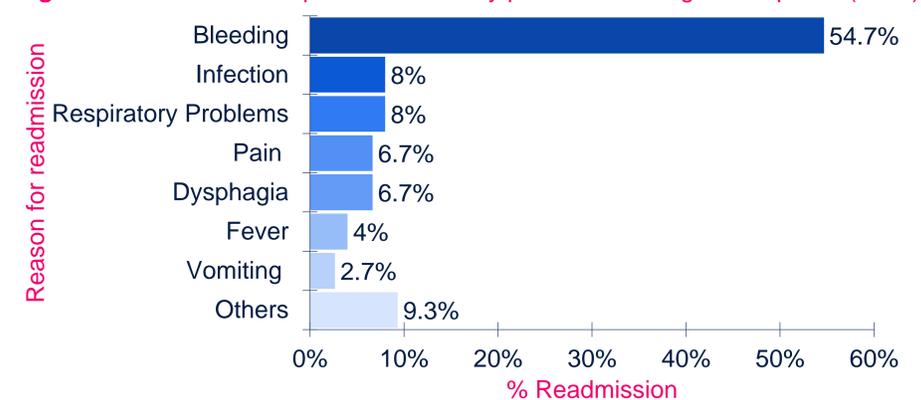
- Figure 1 demonstrates a downtrend of oxycodone prescribing; 44.1% (n=290) in 2014, 54% (n=262) in 2015, 16.2% (n=297) in 2016 and most recently 29.2% (n=257) in 2017.
- Education and regulation of opioids are likely to influence prescribing trends. Decreased prescribing of opioids in children post-tonsillectomy in 2016 (Figure 1) may coincide with changes in perception of opioids, newly registered prescribers on rotations, and clinician preferences.
- In May 2015, the Therapeutic Goods Administration (TGA) Opioid Roundtable brought together key stakeholders to discuss the best clinical practice and the quality use of medicines in regards to the regulation of opioids.<sup>5</sup>

Table 1. Comorbidities recorded of Tonsillectomy patients discharged on Opioids

Comorbidities	Number (n = 393)	Percentage (%)
Constipation	1	0.3
Dysphagia	2	0.5
Bradycardia	3	0.8
Mouth breathing	9	2.3
Respiratory problems	17	4.3
Obstructive sleep apnoea	289	73.5

- Few of the patients at CHW fulfil the criteria for discharge following a tonsillectomy which are weight  $\geq 20$  kg,  $\geq 5$  years of age and no-comorbidities, requiring most child to stay overnight for observations such as respiratory problems.<sup>3</sup>
- Thus adverse effects such as constipation and bradycardia may be under reported as patients are discharged after a short stay.
- Patients with obstructive sleep apnoea and respiratory problems prescribed opioids are at risk due to respiratory depressive effects of opioids.
- Of the 393 patients discharged on opioids, the most frequently reported comorbidities documented prior to discharge on opioids was obstructive sleep apnoea (73.5%), followed by respiratory issues (such as asthma and bronchiectasis) (4.3%) (Table 1).
- In practice we observe patients discharged on opioids following surgery despite having not used any as an inpatient. This highlights the need to be judicious when managing pain.<sup>3</sup>

Figure 2. Readmission of post-tonsillectomy patients discharged on opioids (n=75)



- Of the 75 patients prescribed opioids readmitted, bleeding accounted for the majority of readmission to hospital (54.7%, Figure 2).
- Respiratory issues were responsible for 8% of readmission to hospital which may be exacerbated by opioids upon discharge.
- Despite being prescribed opioids, 6.7% patients were readmitted for pain and another 6.7% for dysphagia where poor oral intake can coincide with inappropriate pain management.
- Opioids have a role in the management of pain, however it is important to note the importance of non-pharmacological and non-opioids analgesics as neglecting them may lead to poorer health outcomes in our children.

## Conclusion

- There are variable practices regarding the prescribing of opioids post-tonsillectomy, with safety concerns of unwarranted use due to increased sensitivity and varying metabolism of opiates.
- Clearer guidelines are necessary to recommend non-pharmacological management when treating oropharyngeal pain and reserving opioid analgesic when unresponsive to other measures.



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