

A survey of pain practices in the surgical neonate: An Australasian perspective



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Background

Advances in neonatal surgery have improved the short-term management and survivability of neonates, with both congenital anomalies or acquired neonatal illness requiring surgical intervention.¹ Though surgical management has become a critical component of care, the assessment and management of pain is also a priority for the multi-disciplinary neonatal team due to the sequelae of undertreated or poorly managed pain.²

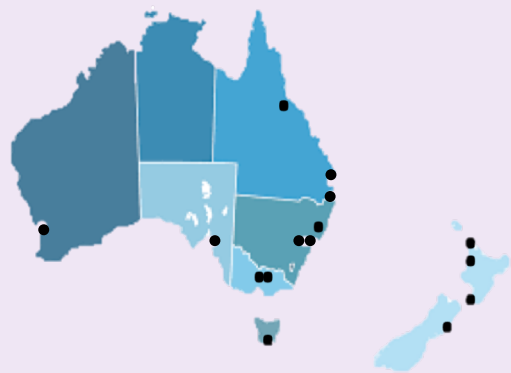
There is no gold standard for how to manage neonatal pain in a comprehensive and consistent manner that avoids excessive use of analgesics. The exploration and development of future models of analgesia that provide safe, individualised and responsive pain relief must be considered. To aid in the development of potentially new modalities of neonatal pain management and ensure relevance to the Australasian context, the identification of current neonatal surgical pain assessment and management practices is essential.

Research Question

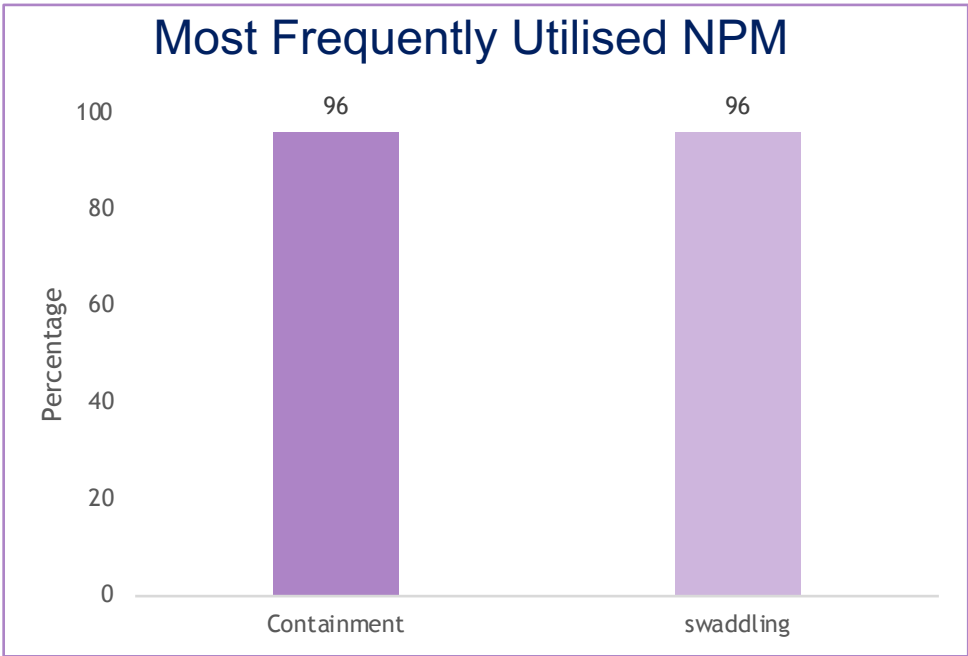
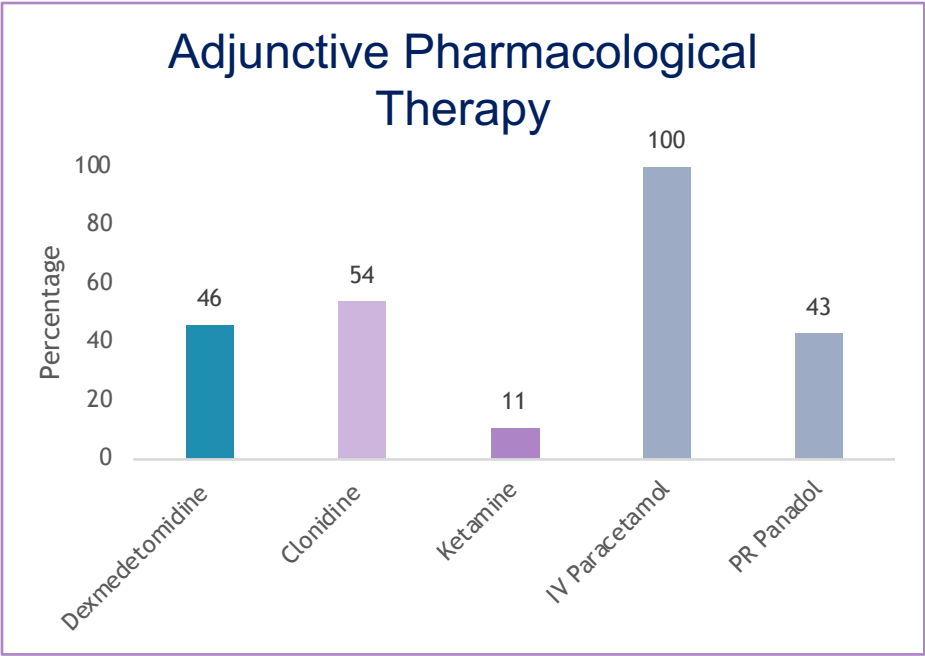
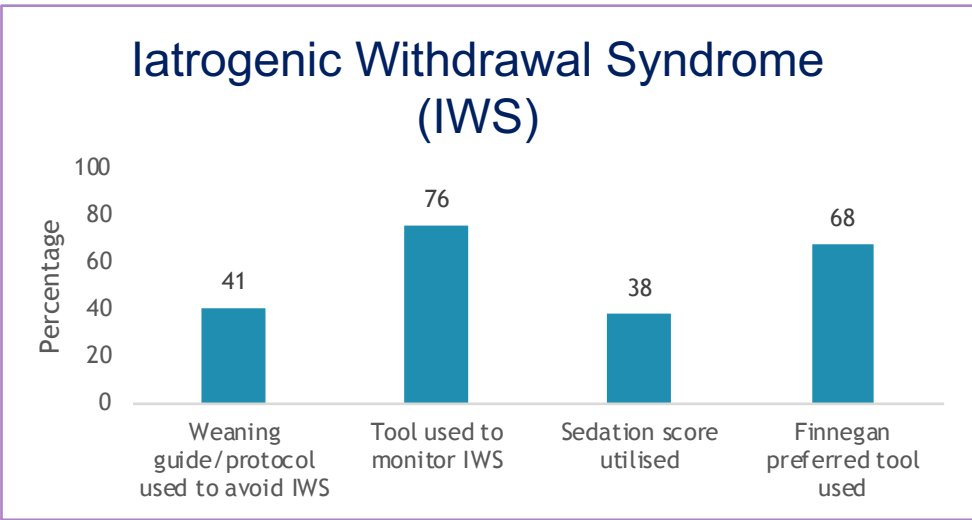
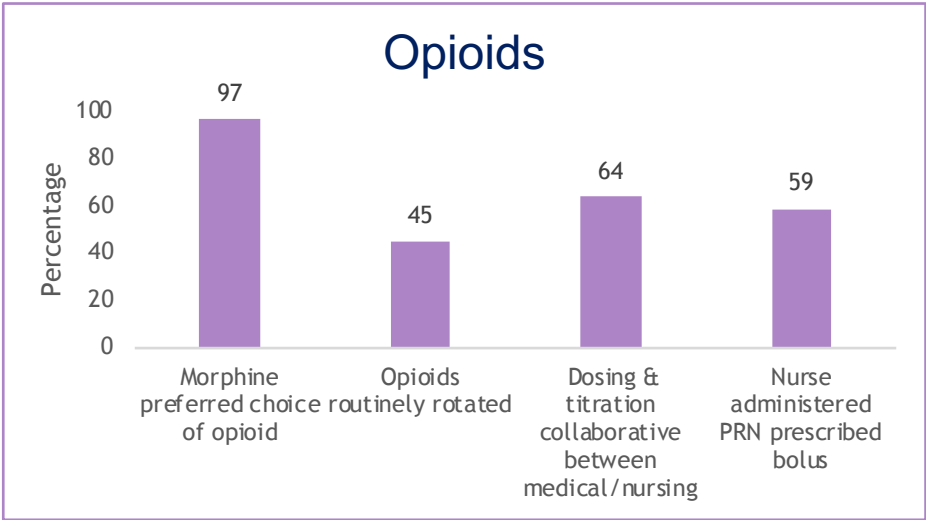
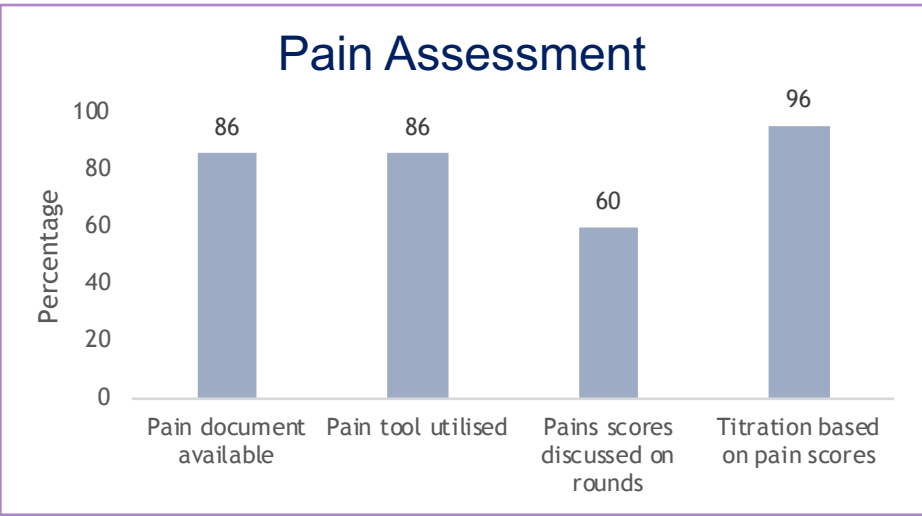
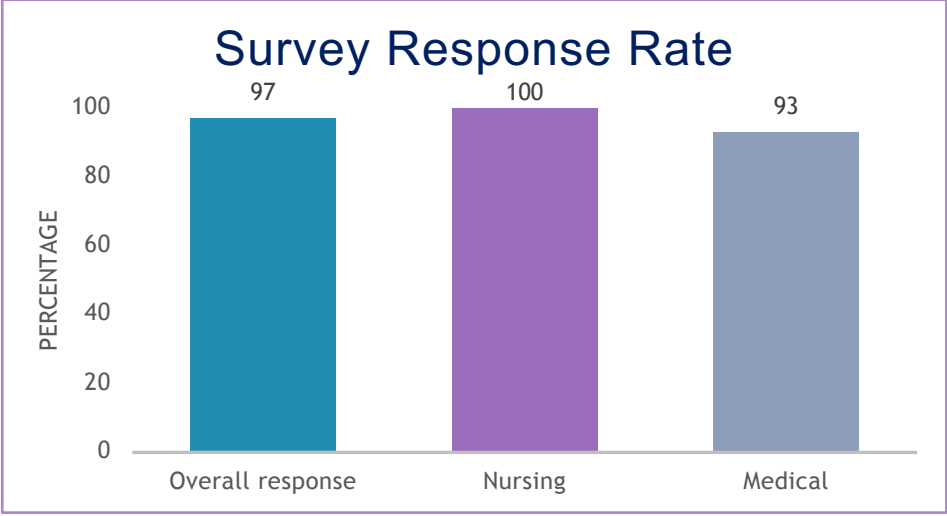
How is analgesia assessed and managed in the surgical neonate within surgical neonatal units across Australasia?

Method

A prospective electronic survey was administered by email to one nursing and one medical representative in all 15 units that provide neonatal surgical care across Australia and New Zealand. Data was collected in September and October 2021. The survey was formulated using six themes of surgical neonatal pain management; assessment of neonatal pain, analgesic titration and weaning practices, use of protocols to manage pain assessment, management of any adverse events associated with opioid use and management practices associated with post-operative care. Pilot testing of the survey was undertaken with methodological experts in survey design, neonatal nurses, and neonatologists. The survey was then further refined following feedback from all experts.



Results



* The results displayed in these graphs are a percentage of the overall response rate from both the medical and nursing representative to each question.

** NPM: Non-Pharmacological Measures

Results

Respondents were either the Nurse Unit Manager, the Neonatal Medical Director or their designated nominees. Total respondents N= 97%. Oral morphine was reported as the primary choice to manage IWS symptoms overall (93%). The Neonatal Pain, Agitation & Sedation Scale (NPASS) was the preferred choice of pain tool compared to other neonatal pain scores (36%) and continuous background infusions (62%) were used more commonly than either intermittent opioid dosing (0%) or a combination of continuous/bolus dosing (38%) post-operatively. For those neonatal surgical units that had a default rate for the commencement of opioids (58.6%), the most common rates utilised were Morphine 10microgs/kg/hr (53%) & Fentanyl 1-2microgskg/hr (24%). Most frequently reported dosing used for neonates receiving opioids are Morphine 15-20microgs/kg/hr (45%) & Fentanyl 1-2microgs/kg/hr (38%).

Conclusion

Though the survey highlighted some variation in practice, overall there was considerable consistency in pain assessment and management practices across Australian and New Zealand hospitals. The inclusion of all surgical neonatal units in the data set provides a comprehensive baseline of analgesic therapy for the Australasian context. Not only can this data be used by clinicians to benchmark pain management practices to optimise clinical care, but will aid in the development of a future model of analgesia that may deliver more consistent, responsive and effective pain relief in the surgical neonate.

References

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2. Walker. (2014). Neonatal pain. *Paediatr Anaesth*, 24(1), 39-48. doi:10.1111/pan.12293