

Paediatric Pain Management

Dr Jane Thomas

Department of Anaesthesia, Starship Children's Hospital and The Auckland Regional Pain Service
Auckland, New Zealand

Pain is a common symptom in both hospitalised children and children in the community. An estimated 40% of infants, children and adolescents experience pain at least once a week and 15-20% suffer from chronic pain (1). Pain is often under-recognised and undertreated in children due to inadequate pain assessment and a paucity of paediatric-focused pain services.

Studies in animals and neonates have demonstrated the adverse short and long-term consequences of poorly managed pain in early life (2). Recognition of the psychosocial impact of poorly managed pain in childhood and adolescence is also important. Psychosocial factors also influence pain reporting and a child's ability to cope with their pain (4). Parental factors also influence their child's pain experience and pain-related behaviour.

Pain management should follow a biopsychosocial model that appreciates the distress and suffering associated with pain. Pharmacological management must take into account paediatric pharmacokinetic and pharmacodynamic differences that determine analgesic efficacy. The use of opioids in children requires careful titration and appreciation of pharmacogenomic factors that influence opioid metabolism. The FDA have issued strong recommendations regarding the specific use of codeine and tramadol in children. However, all opioids are potentially dangerous when administered to children at greater risk of respiratory depression in the wrong setting e.g. children with OSA, underlying respiratory or neuromuscular disease (4). High-risk children having day-stay surgery should be admitted to hospital overnight for monitoring and to assess opioid response and sensitivity prior to discharge. Psychological support and specific interventions are useful to address pain-related anxiety, catastrophising, and fear-avoidance that may hinder postoperative recovery, mobilisation, and discharge from hospital.

References

1. Stevens BJ, Zempsky WT. Prevalence and distribution of pain in children. In: McGrath PJ, Stevens BJ, Walker SM, Zempsky WT, editors. *Oxford textbook of paediatric pain*. Oxford: Oxford University Press, 2013: 12-9.
2. Walker SM. Translational studies identify long-term impact or prior neonatal pain experience. *PAIN*. 2017 Apr;158 Suppl 1:S29-S42.
3. Page GM, Stinson J et al. Pain-related psychological correlates of pediatric acute post-surgical pain. *J Pain Research*. 2012;5:547-558.
4. Anderson BJ, Thomas J et al. Tramadol: keep calm and carry on. *Pediatric Anesthesia*. 2017;27:785-788.