Introduction:
The safety and efficacy of intrathecal morphine for postoperative analgesia in adults is well established. However, there is a scarcity of data for pediatric practice. Early pediatric literature is concentrated on spinal (1) and cardiac (2) surgery, typically at relatively large doses (up to 30 mcg/kg of morphine) and with a high incidence of side-effects. Lower doses (4-5 mcg/kg) of morphine have fewer side-effects. Ganesh et al (3) found that low dose intrathecal morphine provided effective analgesia in children for a range of general, orthopedic, thoracic and urological procedures. The need for supplemental opioid in the first 24 hours after surgery was rare and there was no incidence of significant respiratory depression. It is not known how widely intrathecal morphine is used in children. There is no consensus on dosing or on postoperative monitoring. The addition of bupivacaine as a carrier fluid may reduce the stress response to surgery and offset anesthetic requirement, but it is not known whether it is commonly used. This survey aimed to answer these questions.

Methods:
After approval from the IRB and SPA research committee and waiver of informed consent, an anonymous online survey was sent by email to members of the Society for Pediatric Anesthesia, using the University of Michigan Qualtrics survey system.

Results:
There were 227 responses. 167 (74%) worked in a tertiary teaching institution and 152 (67%) reported an exclusively pediatric practice. 106 (47%) used intrathecal morphine for the control of postoperative pain, of whom 52% used the technique for spinal surgery, 45% for orthopedic surgery, 36% for urology and 11% for cardiac surgery. The most common procedures were spinal fusion (42%), lower limb osteotomy (14%), open ureteral reimplant (14%) and open pyeloplasty (14%). 55% used a dose of 4-5 mcg/kg. The remainder used higher doses and 16% used ≥10 mcg/kg. 38% sometimes or always co-administered local anaesthetic, the remainder rarely (15%) or never (46%) did so. 93% considered continuous oxygen saturation monitoring to be mandatory postoperatively. 68% admitted patients to a high dependency or intensive care unit. 67% felt comfortable using intravenous opioids at any time after surgery based on clinical need and with appropriate monitoring. 33% routinely waited ≥12 hours.

Conclusions:
Intrathecal morphine is frequently used in children. There is a significant variation in practice, which is a reflection of the lack of both available data and published guidelines.

References: