

# [NM-159] Comparison of the Analgesic Efficacy of Transversus Abdominis Plane Block Versus Iliohypogastric/Ilioinguinal Blockade Following Unilateral Inguinal Hernia Repair in Pediatric Patients

Furstein J, Samol N, Prim J, Sadhasivam S

Cincinnati Children's Hospital Medical Center , Cincinnati , Ohio, USA

---

## Introduction:

Unilateral inguinal herniorrhaphy is a commonly performed surgical procedure in pediatric patients. Multimodal anesthesia consisting of systemic opioids, surgical wound infiltration with local anesthetic and ilioinguinal/iliohypogastric (II) nerve blockade has traditionally been employed to achieve acceptable analgesia. Recently, ultrasound-based studies have demonstrated that blind abdominal wall injections are inaccurate and ineffective.[1] Ultrasound-guided alternatives, such as the transversus abdominis plane (TAP) block, may improve analgesic efficacy and patient comfort in the postoperative period when compared to blind landmark-based nerve blockade. There has been increased utilization of the TAP block in the adult population due the improved ability to effectively block the thoracolumbar spinal nerves innervating the abdominal wall with ultrasound-guidance.[1] We report our experience from a randomized prospective study evaluating the analgesic efficacy of surgeon-performed II block versus ultrasound-guided TAP block in healthy children undergoing unilateral herniorrhaphy on an outpatient basis.

## Methods:

After obtaining IRB approval, healthy children (age 1-10 years), ASA I-II physical status, scheduled to undergo unilateral inguinal herniorrhaphy on an outpatient basis were recruited, randomized and stratified by age into one of two study groups. Those in the TAP group received a TAP block following the induction of anesthesia and prior to the start of surgery, while those randomized to the II block group received an II block upon the conclusion of the surgery. Block protocols were standardized, while clinical recommendations were made to keep the anesthetics similar. The primary outcome measured was the worst FLACC score observed in the PACU by a research coordinator blinded to block technique. Secondary outcome measures included: opioid analgesic use in PACU, and time required for the patient to meet discharge criteria. Use of surgical cautery, length of surgical procedure, length of time required to perform TAP and II blocks, incidence of postoperative complications and number of telephone calls from parents with post-discharge pain and research related concerns were also collected.

## Results:

All children recruited thus far in this ongoing study have tolerated the study procedure without incident. Initial results indicate that utilizing a TAP block allows for improved postoperative pain control in terms of lower FLACC pain scores and less opioid use in PACU compared to the II block group.

## Conclusion:

Our ongoing randomized control trial demonstrates a favorable trend of better pain control in pediatric patients following unilateral inguinal herniorrhaphy with preemptive TAP blockade rather than traditional post-surgical II blockade. As this is an ongoing study, we will report complete outcomes from a larger sample at the annual meeting.

## References:

1. Niraj G, et al. Br J Anaesth. 2009 Oct;103(4):601-5.
-