

**Sigma's VIRTUAL 31st International Nursing Research Congress (Wednesday, 22 July - Friday, 24 July)**

## **Incorporating the Use of Transversus Abdominis Plane Blocks Following Cesarean Sections to Decrease Opioid Consumption**

**Devin Blakely Burroughs, BSN, RN**

*School of Nursing, Louisiana State University Health Science Center, New Orleans, LA, USA*

**Purpose:** Cesarean sections are one of the most common surgical procedures performed in the United States, accounting for more than 30% of all births and 1 million procedures each year. Even though cesarean sections have become increasingly safer and more common, patients undergoing these procedures typically receive opioids for control of postoperative pain. These patients also require longer length of hospital stay when compared to parturient patients who deliver vaginally. There are also many side effects that can impact the mother and newborn that accompanies the use of opioids for pain control. In the postoperative setting, patients tend to have a higher incidence of nausea and vomiting along with increased sedation scores when opioids are administered. This places a limit on important initial mother-baby bonding time and decreases lactation periods for the neonate. To make matters worse, when the mother is lactating, the neonate is possibly exposed to more active metabolites from the opioids causing increased sedation scores in the neonate as well. Opioid usage and its effects on the body are a major problem in the United States. It is estimated that 2.1 Million people have had an opioid use disorder at some time in their life. With the national opioid crisis occurring, it is up to providers to find treatment modalities that can lessen the usage of these narcotics and its associated side effects on patients.

**Methods:** At the conclusion of each cesarean section, a transversus abdominis plane (TAP) block was offered to each patient. Eligible patients that received the TAP block were monitored in relation to their first call for analgesic relief for postoperative pain. The project was implemented over a three-month period.

**Results:** The project results indicated that patients who received a TAP block had an average time of 19.38 hours before they requested an opioid analgesic for pain relief compared to the pre-implementation average time of 11.36 hours for the patients who did not receive a TAP block.

**Conclusion:** Results of this DNP project indicate that the use of a TAP block following a cesarean section prolonged the request for opioid analgesia by an average of 8 hours. This ultimately led to a decrease in opioid consumption for the first 24 hours within this population.

---

**Title:**

Incorporating the Use of Transversus Abdominis Plane Blocks Following Cesarean Sections to Decrease Opioid Consumption

**Keywords:**

Cesarean section, Opioids and Tap Block

### **Abstract Summary:**

C-sections are one of the most common surgical procedures performed in the United States. Patients undergoing these procedures typically receive opioids for control of postoperative pain. Considering the national opioid crisis, our project team utilized TAP blocks post c-section to decrease opioid intake and provide improved outcomes for our patients.

### **References:**

- Abdallah, F., Halpern, S., & Margarido, C. (2012). Transversus abdominis plane block for postoperative analgesia after Caesarean delivery performed under spinal anaesthesia? A systematic review and meta-analysis. *British Journal of Anaesthesia*, 109(5), 679-687. doi:10.1093/bja/aes279
- Mankikar, M., Sardesai, S., & Ghodki, P. (2016). Ultrasound-guided transversus abdominis plane block for post-operative analgesia in patients undergoing caesarean section. *Indian Journal of Anaesthesia*, 60(4), 253. doi:10.4103/0019-5049.179451
- Srivastava, U., Verma, S., Singh, T. K., Gupta, A., Saxsena, A., Jagar, K. D., & Gupta, M. (2015). Efficacy of trans abdominis plane block for post cesarean delivery analgesia: A double-blind, randomized trial. *Saudi Journal of Anesthesia*, 9(3), 298–302. <http://doi.org/10.4103/1658-354X.154732>
- Champaneria, R., Shah, L., Wilson, M., & Daniels, J. (2016). Clinical effectiveness of transversus abdominis plane (TAP) blocks for pain relief after caesarean section: A meta- analysis. *International Journal of Obstetric Anesthesia*, 28, 45-60. doi:10.1016/j.ijoa.2016.07.009
- Fusco, P., MD, Marinangeli, F., MD, Borghi, B., MD, Necozone, S., MD, Carta, G., MD, Paladini, G., MD, . . . Cofini, V., MD. (2016). Transversus Abdominis Plane Block in the Management of Acute Postoperative Pain Syndrome after Caesarean Section: A Randomized Controlled Clinical Trial. *Pain Physician*, 19, 583-591. Retrieved October 28, 2018.
- Mishriky, B. M., George, R. B., & Habib, A. S. (2012). Transversus abdominis plane block for analgesia after Cesarean delivery: A systematic review and meta-analysis. *Canadian Journal of Anesthesia/Journal Canadien Danesthésie*, 59(8), 766-778. doi:10.1007/s12630-012-9729-1
- Lee, A., Palte, H., Chehade, J., Arheart, K., Ranasinghe, J., & Penning, D. (2014). Ultrasound- guided Bilateral Transversus Abdominis Plane Blocks in Conjunction With Intrathecal Morphine for Postcesarean Analgesia. *Obstetric Anesthesia Digest*, 34(4), 243-244. doi:10.1097/01.aoa.0000455616.01802.10
- Jadon, A., Jain, P., Chakraborty, S., Motaka, M., Parida, S. S., Sinha, N., . . . Pati, A. K. (2018). Role of ultrasound guided transversus abdominis plane block as a component of multimodal analgesic regimen for lower segment caesarean section: A randomized double blind clinical study. *BMC Anesthesiology*, 18(1). doi:10.1186/s12871-018-0512-x

First Primary Presenting Author

**Primary Presenting Author**

Devin Blakely Burroughs, BSN, RN

Louisiana State University Health Science Center

School of Nursing  
Student Registered Nurse Anesthetist  
New Orleans, Louisiana  
USA

**Author Summary:** Devin Burroughs is a Louisiana State University Health Science Center CRNA graduate from Georgia. During his time in CRNA school he developed an interest in regional anesthesia and obstetrical anesthesia. With the guidance from his project team (Dr. Raymond Devlin, and Dr. Jennifer Badeaux) he was able to channel his passion in these topics into providing improved anesthetic plans by decreasing narcotic intake for expected mothers to be.