

# The Role of Surgeon Administered Peri-Operative Analgesic Blocks in Bariatric Surgery

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# The Ongoing Challenges of Pain Control

The Management of pain is a challenge both in the community as well as in the In Hospital Setting



# Pain Management

Sometimes we go too far.....

## The Deadly Toll of America's Opioid Crisis

Countries with the highest estimated number of drug-related deaths per million persons aged 15-64



Source: UNODC



statista



NAPOLI  
2023

# Pain

.....But then, some of us seem to be going down the right path..>>>

>>> ERAS > Multimodal Opioid free / Opioid sparing Analgesia



# Post Operative Pain

Control of Intra and Post Operative Pain is a major component of the ERAS Pathways  
with Multimodal Analgesia being a key component of the protocol



## Multimodal Analgesia

Multimodal analgesia is defined as the use of more than one pharmacological class of analgesic medication targeting different receptors along the pain pathway, with the goal of improving analgesia while reducing individual class-related side effects.

Multimodal analgesia uses the synergistic effects of several agents

- a) to dampen inflammatory response which sensitizes the pain receptors peripherally
- b) to block the pain perception at the brain

# Multimodal Analgesia

Elements of this protocol may include

- a) opioids in smaller doses or eliminate them altogether
- b) non-opioid systemic analgesics like acetaminophen, non-steroidal anti-inflammatory drugs,
- c) Centrally acting gabapentinoids, ketamine, and
- d) local anesthetics administered by infiltration, **regional block**, or the intravenous route

However, some of these agents may not be applicable universally due to Patient Intolerance or contraindications, and adverse effects on Renal, Gastrointestinal, Neurological and Cardiovascular Systems



# Local Anesthetic Blocks

For decades, anesthesiologists and surgeons have been using local infiltrations and blocks such as the inguinal and digital blocks with great effect to perform procedures with a short acting LA agent

Long acting Local Anesthetics like Bupivocaine and Levo Bupivocaine and Liposomal bupivocaine have changed the perspective in recent times.

Effective control of pain in a longer post operative phase to cover the acute phase reaction and the inflammatory response when the pain tends to be at its worst **in the first 24 hours,**

Abdominal Blocks are particularly helpful in.....

- enabling early ambulation
- effective breathing with minimizing pulmonary complications
- countering the nausea and vomiting and drowsiness that comes with increasing doses of opioids



# Abdominal Blocks

Several Blocks are in practice for the post op management of pain in Abdominal Surgery

Rectus Abdominis Block

Transverse Abdominis Plane Block

Erector Spinae Plane Block

Quadratus Lumborum Block

Inguinal Block



# Surgeon Administered Abdominal Blocks

For Abdominal Surgeries with anterior access by the General and Bariatric Surgeons.

Rectus Abdominis Block\*

Transverse Abdominis Plane Block\*

seem to be most suitable.



# TAP in Bariatric Surgery

Pain Physician 2021; 24:345-358 • ISSN 1533-3159

**Systematic Review**

## **Benefits of Transversus Abdominis Plane Block on Postoperative Analgesia after Bariatric Surgery: A Systematic Review and Meta-Analysis**

Chenchen Tian, MD<sup>1</sup>, Yung Lee, MD<sup>2</sup>, Yvgeniy Oparin, MD<sup>3</sup>, Dennis Hong, MD<sup>2</sup>, and Harsha Shanthanna, MD, PhD<sup>3</sup>

Twenty-one studies (15 RCTs [n = 1410] and 6 nonrandomized studies [n = 1959]) were included.

Results:

- The TAP block group required fewer opioid rescues
- No difference was observed for nausea and vomiting, or hospital length of stay.
- Meta-analyzed outcomes from observational studies supported these results, suggesting decreased postoperative pain and opioid consumption.



# Surgeon Administered Abdominal Wall Blocks For Laparoscopic and Bariatric Surgeons

## Why Surgeons:

- The laparoscopic route offers Direct Vision, thus minimizing the failure rate ( upto 30%)
- No additional equipment ( Ultrasound guided)
- In situations when there is no appropriately trained personnel ( or is not interested)
- Reducing additional anesthetic time\* and potentially the cost of an additional billable procedure



# UTAP vs LTAP

*Surg Endosc.* 2020 July ; 34(7): 3011–3019. doi:10.1007/s00464-019-07097-y.

## **Surgeon Delivered Laparoscopic Transversus Abdominis Plane Blocks are Non-Inferior to Anesthesia Delivered Ultrasound Guided Transversus Abdominis Plane Blocks: A Blinded, Randomized Non-Inferiority Trial**

**Daniel J Wong, MD<sup>1</sup>, Thomas Curran, MD MPH<sup>1</sup>, Vitaliy Y Poylin, MD<sup>1</sup>, Thomas E Cataldo, MD<sup>1</sup>**

<sup>1</sup>Division of Colon & Rectum Surgery, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA 02215

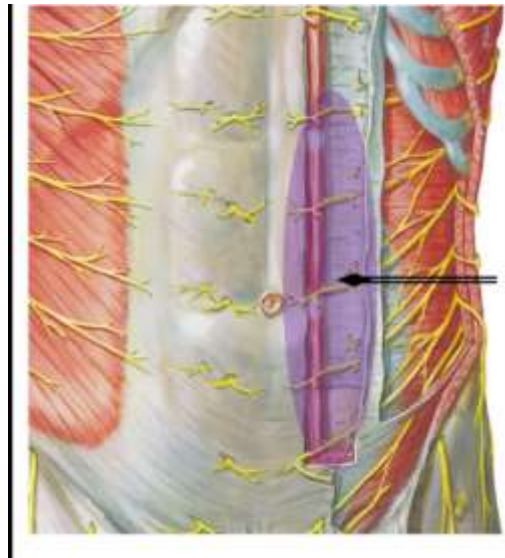
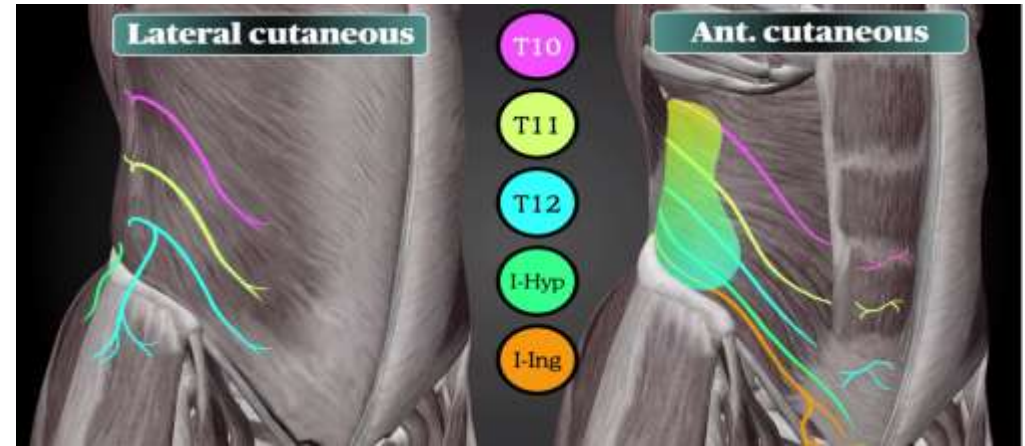
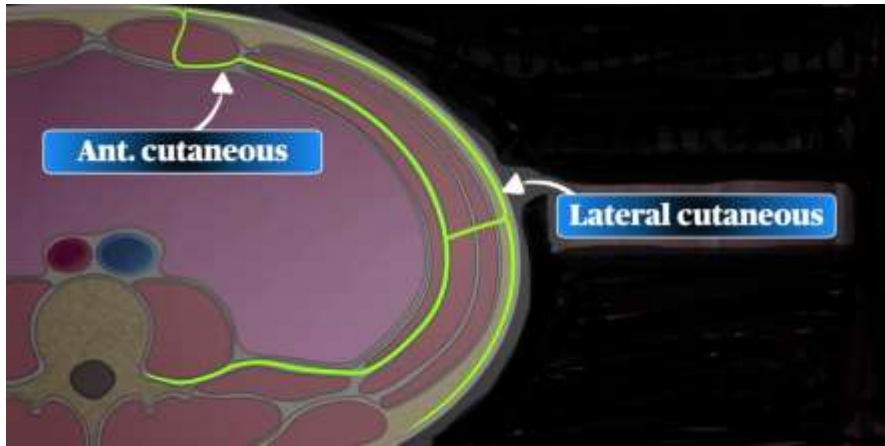
**A prospective, randomized, patient and observer blinded parallel-arm non- inferiority trial. 60 patients completed the trial (31 UTAP, 29 LTAP)**

There was no significant difference in post-operative narcotic consumption between UTAP and LTAP at the time of PACU discharge (median [IQR] milligrams of morphine, 1.8 [0–4.5] UTAP vs 0 [0–8.7] LTAP P=.32), 6 hours post-operatively (5.4 [1.8– 17.1] UTAP vs 3.6 [0–12.6] LTAP P=.28) at 12 hours post-operatively (9.0 [3.6–29.4] UTAP vs 7.2 [0.9–22.5] LTAP P=.51) at 24 hours post-operatively (9.0 [3.6–29.4] UTAP vs 7.2 [0.9–22.5] LTAP P=.63) and 48 hours post-operatively 39.9 [7.5–70.2] UTAP vs 22.2 [7.5–63.8] LTAP P=.41).

**Conclusions**—Surgeon delivered LTAPs are safe, effective and non-inferior to anesthesia administered UTAPs in the immediate post-operative period.

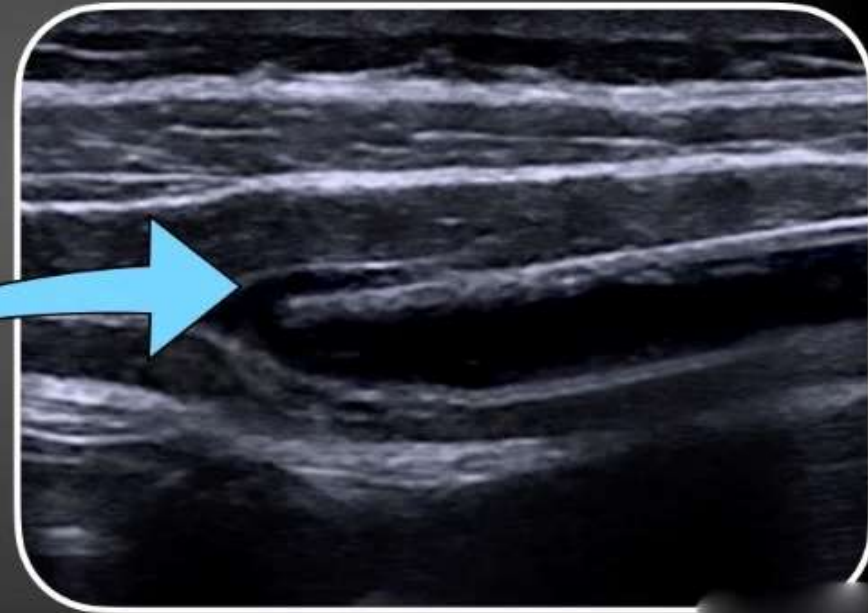


# Anatomy



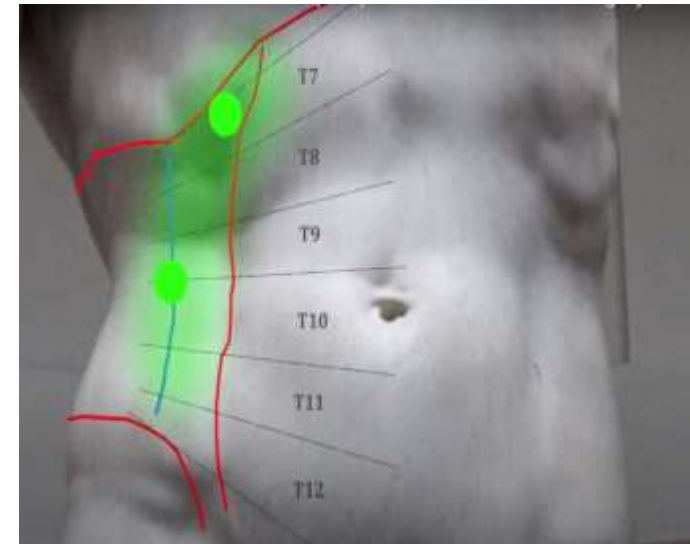
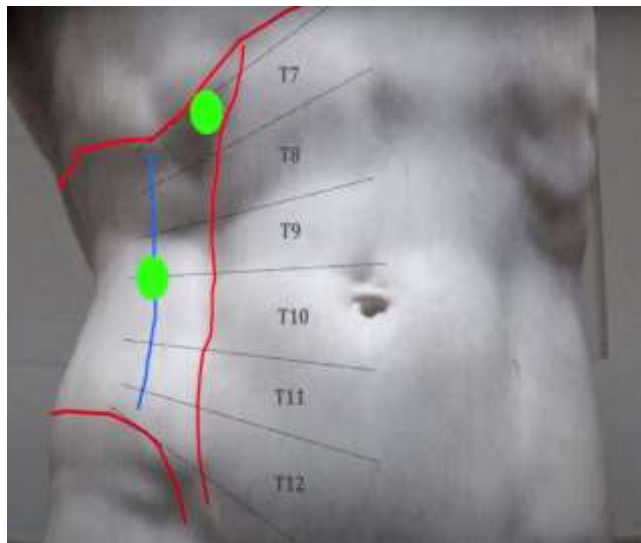
# TAP block

(Transversus abdominis plane block)





# TAP Block Anatomy for Upper GI / Bariatric Surgery



We would probably need a Second Higher Infiltration in the subcostal anteriorly to achieve the blockage of T7 and T8

## Surgeon Administered TAP Block



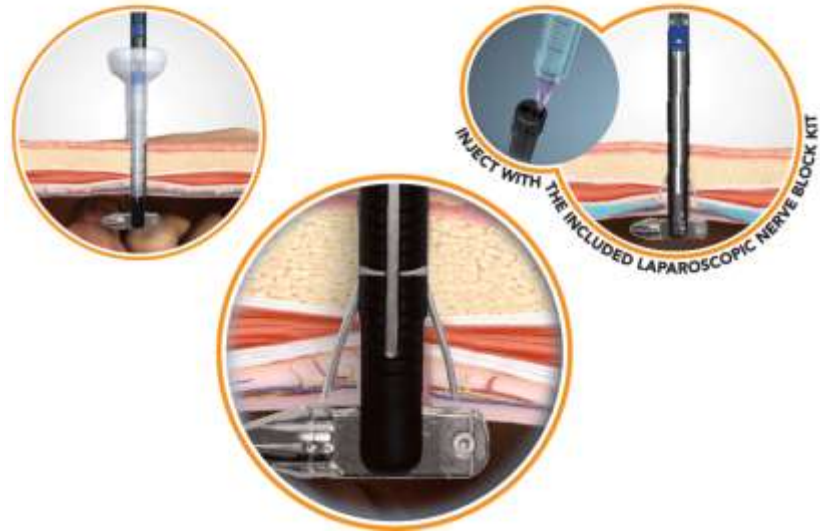
# Adjuncts



TAP Continuous Infusion with Bupivacaine or Ropivacaine For 24-48 hrs

# Newer Device ?

*M-CLOSE uses a **patented reference plane system**, which positions the Nerve Block Needle relative to the peritoneum, not the skin surface.*



# Some Conclusions

Surgeon Administered Laparoscopic TAP and Rectus Sheath Blocks are a relatively easy procedure that can be performed after a short learning curve.

Compared to the US Guided TAP there may be logistic advantages and potentially a reduction in failure rates

The results of LTAP are not inferior to the ones that have been achieved by UTAP in terms of reduction in the Opioid requirement.

**May require a Four quadrant Block for Upper abdominal /Bariatric Surgery, while the original may hold good for Lower Abdominal Surgery**

