

## Introduction

- Laparoscopic guided TAP blocks (LTAP) have emerged as an alternative to U/S guided TAP blocks.
- LTAPs rely on a needle pop sensation through the internal oblique muscle into the TAP along with Doyle's internal bulge sign (Figure 1) on the laparoscope camera as a marker for correct placement.
- We investigated LA spread with LTAP using pre/post ultrasound (U/S) images and correlating them with pain scores and time to first pain medication.

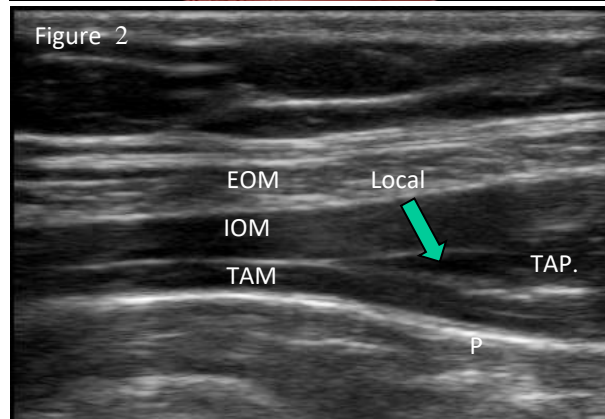
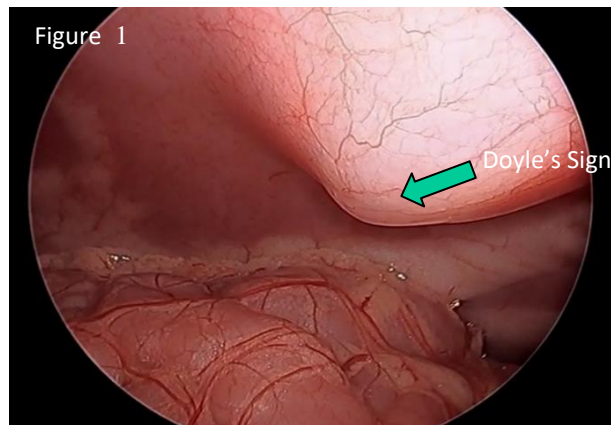
## Methods

- After pneumoperitoneum, a pre-TAP block U/S image followed by the surgeon performing LTAPs with a 25-gauge 50mm Pajunk needle with 0.5ml/kg of 0.25% bupivacaine per side (max 10mls). Immediately after, post LTAP U/S image captured (Figure 2).
- 24-hour pain scores and time to first pain medication were recorded. U/S spread of LA was interpreted as being present completely, partially or absent from the TAP by a blinded Pediatric Anesthesiologist.

## Results

- 5 patients were approached and 4 were recruited with 8 LTAPs.
- Partial or complete injection in the TAP in 50% of cases.
- In cases where LA was absent from the TAP, high pain scores and need for rescue post-operative pain medication was seen (Table 1).

## Example LTAP Patient



## Table 1

Patient (weight)	Procedure	U/S verification of LA in TAP	Highest Pain Scores	Pain Med	Time to Pain Med
1(3.71kg)	Lap Hernia	L = complete R = partial	3	None	None
2(21.5kg)	Lap Appy + LN biopsy	L = none (mostly in IOM) R = none (mostly above IOM)	6	Oxycodone PO 0.1mg/kg	6hr2min
3(37.6kg)	Lap Appy	L = partial R = partial	0	None	None
4(62.8kg)	Lap Appy	L = none (mostly in IOM) R = none (mostly below TAM)	6	Ketorolac IV 0.25mg/kg	6hr38min

## Discussion

- In our 4 patients studied, we successfully demonstrated that post LTAP images can be acquired with good visualization of LA spread. The potential benefit of having this information is the hope that it may better predict post-operative pain control.

## Conclusion

- U/S can be used to verify LA spread of LTAP block, but its correlation with clinical efficacy needs further investigation.

## References

- Ravichandran NT, Sistla SC, Kundra P, et al. Laparoscopic-assisted Transverse Abdominis Plane block versus Ultrasonography guided TAP block in Postlaparoscopic Cholecystectomy Pain Relief: A Randomized Control Trial. Surg Laparosc Endosc Percutan Tech. 2017 Aug;27(4):228-232.