# Improving Staff Confidence in the Management of Thoracic Fascial Plane Catheters for Rib Fracture Analgesia

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## INTRODUCTION

- Critical care staff—including foundation year doctors, internal medicine trainees, clinical fellows, and trainee nurses—frequently encounter continuous regional anaesthetic blocks delivered via indwelling catheters.
- This project focuses on the Serratus Anterior Plane (SAP) and Erector Spinae Plane (ESP) catheters.
- Many of the aforementioned staff lack prior experience and report low confidence in managing these devices.

#### **METHODS**

- An educational leaflet was developed to address this knowledge gap. It includes condensed guideline summaries presented in an easily digestible format, with associated links.
- The content of the leaflet is summarised in the flow chart to the right. Importantly, the leaflet does not authorise independent troubleshooting, pump adjustments, or catheter removal without senior anaesthetic input.
- ❖ Pre- and post-intervention surveys were conducted to assess subjective confidence levels across various staff groups. Data were collected over one month and analysed by staff role and catheter type encountered.

### RESULTS

Survey comparisons demonstrated an overall increase in staff-reported confidence and perceived competence in managing patients with continuous regional anaesthetic blocks. Gains were observed across all staff groups and catheter types.

# CONCLUSIONS

A targeted, educational intervention effectively improved staff confidence in managing continuous anaesthetic catheters in critical care. This highlights the value of structured training resources in bridging knowledge gaps and enhancing patient safety. We will aim to expand on the resources available.

References

References: May L, Hillermann C and Patil S. Rib fracture management. BJA Education 2016, 16(1):26-32. Williams A, Bigham C and Marchbank A. Anaesthetic and surgical management of rib fractures. BJA Education 2020, 20(10):332-340.

Identify/CI

- Introduces scoring systems such as the Prince Henry Pain Score.
- Key indications, as well as relative and absolute contraindications.

Additional Support

- Outlines therapies, medications & exercises used in conjunction.
- •Guidance on oxygen delivery and analgesia to support deep breathing and effective coughing.

Referral Process

- •Ensure the appropriate team is notified for timely catheter insertion.
- Provides direct links & instructions for completing an online referral.

Complication

- •Outlines red flag signs of local anaesthetic systemic toxicity (LAST).
- •Guidance on safe bolus & 24-hour dosage limits for Levobupivacaine.

Duration & Removal

- •Guidance on the recommended duration for catheter placement.
- Identify signs & symptoms that may indicate the need for removal.

Local Anaesthetic Systemic Toxicity (LAST)

Inadvertent IV injection. STOP INFUSION.Rapidly absorbed into the blood stream

Call For Help

Life Support

**Lipid Emulsion** 

**CVS Stability** 

Mild SymptomsModerate SymptomsSevere Red FlagsRestlessnessLimb HeavinessSevere Agitation / Altered GCSNumbness/Tingling to MouthMuscle TwitchingConvulsionsRinging in the EarTachy/BradyarrhythmiaBlurred/Double VisionHypotensionMetallic Taste in MouthRespiratory/Cardiac Arrest

Figure 1 – Excerpt from the educational leaflet: Management of Local Anaesthetic Systemic

Toxicity (LAST)