Labour epidural conversion to surgical anaesthesia for emergency operative intervention: a re-audit following implementation of recommendations

Yu, Nicholas • Mills, Adam • Horncastle, Elizabeth

NHS Mid Yorkshire Teaching NHS Trust

INTRODUCTION

Labour epidural "top ups" are a fast, efficient and safe way to achieve surgical anaesthesia. The OAA states that less than 5% of labour epidurals will be inadequate for c-sections [1].

2024 data at Mid Yorks showed only 45.5% of labour epidurals in situ were utilised for C-sections, prompting the introduction of the 2024 recommendations.

METHOD

Design: Retrospective audit of maternity records at Mid Yorkshire trust (Jan–Mar 2025).

Inclusion Criteria: Labour epidural in situ and subsequent surgical intervention in theatre.

Data analysed: Epidural topped up for theatre, use of supplementary analgesia, rate of conversion to GA and choice of local anaesthetic.

2024 RECOMMENDATIONS

- **Clinical review:** Review within 60min of insertion; 4hly reviews; shift changes; document each top-up.
- **Rationale:** Clear rationale for using/not using epidural on anaesthetic chart.
- **Support:** Consultant support to increase trainee confidence in topping up and troubleshooting.

RESULTS

NUMBER OF PATIENTS AUDITED

264 with labour epidural reviewed | **145** required surgical intervention

2025 PRIMARY OUTCOME

80%
EPIDURAL TOP UP RATE

EFFICACY OF EPIDURAL TOP UP

89% of topped up epidurals required no supplemental analgesia in theatre.

GENERAL ANAESTHETIC CONVERSION RATE

Category	Incidence Rate (%)
Conversion to General Anaesthesia (GA)	4.1%
GA Offered but Declined	2.1%
Required/Offered Alfentanil Only	4.8%

CHOICE OF LOCAL ANAESTHETIC

Lidocaine 2% + Adrenaline vs. Levobupivicaine 0.5% + Lidocaine 2%.

Result: No significant correlation found between LA choice and supplemental need or GA conversion.

DISCUSSION

Increased epidural top up usage is likely due to:

- improved resident education on technique
- senior support providing mentorship for residents in theatre.

Safety considerations:

The rate of supplemental analgesia remained similar despite increased volume, demonstrating the technique's efficacy.

A **reduction in "high block" incidents** suggests a link between reduced additional spinal anaesthesia when an epidural had been in situ.

CONCLUSION

Implementation of epidural top up recommendations successfully almost doubled the utilisation of epidural top ups to achieve surgical anaesthesia, whilst maintaining good efficacy outcomes.

REFERENCES

1. Obstetric Anaesthetists' Association (OAA). Frequently Asked Questions: Pain Relief During Labour. Accessed: Nov 2025. Accessible at: https://www.labourpains.org/downloads/english-resources/faqs---pain-relief-in-labour---english.pdf