A multidisciplinary safety checklist to facilitate continuous fetal heart monitoring during labour epidural analgesia insertion

Stubbs, Matthew[1]; Hey, Jenny[1]; Fung, Anthony[1]; Maynard, Jack[2]; Parnell, Bethany[3]; Sinha, Aneeta[1]

[1] Portsmouth Hospitals University NHS Trust; [2] Oxford University Hospitals NHS Foundation Trust; [3] Salisbury NHS Foundation Trust

Association of Obstetric Anaesthetists ASM 2022

INTRODUCTION

Disruption to fetal monitoring during epidural insertion has been highlighted as a concern nationally. It has been recommended that fetal monitoring is maintained during the provision of neuraxial anaesthesia, particularly where there are pre-existing concerns about fetal wellbeing [1,2].

Additionally, a Healthcare Safety Investigation Branch review of a case at our institution recommended that staff follow guidance to achieve continuous fetal monitoring during epidural insertion.

Although fetal monitoring is the responsibility of the midwife, it is important for all multidisciplinary team (MDT) members to be aware of and facilitate each other's roles and feel empowered to voice concerns and escalate. MDT checklists such as the theatre WHO checklist and 'Stop Before You Block' encourage effective communication and act as cognitive aids to perform key safety checks. A literature search found no checklists that address continuous fetal monitoring or MDT communication during labour epidural insertion.

AIM

To introduce a MDT safety checklist to be completed prior to labour analgesia epidural insertion, focusing on continuous fetal monitoring, communication and flattening any MDT hierarchy.

METHODS

A MDT consisting of anaesthetists, midwives and obstetricians, devised a 6-point checklist to address critical safety steps before and during epidural insertion (Figure 1). Additional bullet points included suggestions on how to raise concerns and encouraged a low threshold for senior assistance. After ratification at the local perinatal safety forum, the checklist was piloted for 1 month, supported by an education programme.

A laminated copy of the checklist was attached to the epidural trolley. The checklist was read aloud at the bedspace by the operating department practitioner (ODP) after the parturient was positioned and prior to epidural insertion, and actioned upon if necessary. However, it could be read aloud by any MDT member.

All members of the MDT, the parturient and/or their birth partner were asked to complete an anonymous feedback questionnaire to evaluate their experience of the checklist.

RESULTS

68 labour epidurals were sited. Feedback was provided by 56 MDT members with an equal spread of anaesthetists (34%), midwives (32%) and ODPs (34%). There was a broad range of experience within each specialty group.

Overall, 48 (86%) of respondents felt the checklist encouraged MDT communication (Figure 2). Similarly, 48 (86%) of respondents felt that the checklist contributed to parturient and fetal safety (Figure 3).

91% of respondents found the checklist helpful in both ensuring that a fresh eyes review had occurred recently and that it was clinically appropriate to site an epidural. 84% found the checklist helpful in ensuring good quality fetal monitoring. Where problems occurred, 86% of respondents reported that appropriate action was taken.

Multidisciplinary checklist for continuous fetal monitoring during epidural insertion

Please read out each question below in full after parturient is positioned for the epidural and before the epidural procedure is started:

1	Has the 'Fresh eyes' review been completed recently?	YES	NO
2	Is it appropriate for an epidural to be sited on the basis of the clinical picture & CTG recording via abdominal transducer or FSE?	YES	NO
3	Is IV access patent & fluid attached?	YES	NO
4	Is there a good quality, continuous recording of the fetal heart (CTG via abdominal transducer or FSE)?	YES	NO
5	Midwife agrees to advise anaesthetist if good quality continuous fetal monitoring cannot be maintained throughout	YES	NO
6	Anaesthetist agrees to interrupt epidural insertion, when safe, to facilitate good quality continuous fetal monitoring	YES	NO

Please note:

- 'Fresh eyes' review: This should have occurred before the anaesthetist is contacted. If there is a delay in the anaesthetist attending or the clinical situation has changed this may need to be repeated. If the 'fresh eyes' is suspicious or pathological this must be escalated to a senior obstetrician prior to epidural insertion.
- Suggestions of how the midwife may communicate difficulty:
  "Please could you stop as soon as safely possible. I need to re-assess the fetal heart/I am having problems monitoring the fetal heart in this position."
- Anaesthetist may not be able to stop immediately depending on what stage of the procedure they are at. They will stop as soon as it is safe to do so.
- Anaesthetist/midwife to have a low threshold for obtaining senior assistance if having difficulty.

Figure 1: Pilot checklist

Feedback was provided by 10 parturients and 9 birth partners. All parturients found the checklist reassuring and none reported increased anxiety. Birth partners also found the checklist reassuring. One birth partner reported feeling both reassured and anxious. Feedback comments from all groups are illustrated in Table 1.

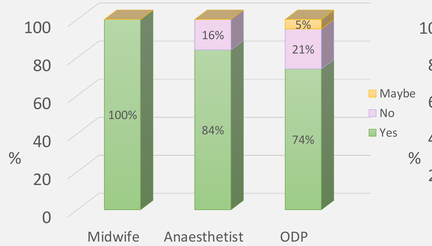


Figure 2: Did the checklist encourage communication between members of the MDT?

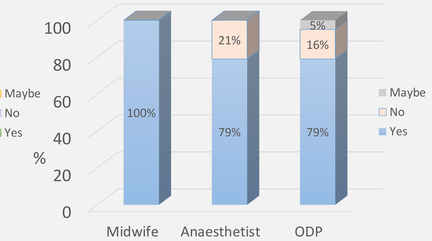


Figure 3: Did the checklist contribute to fetal and maternal safety?

	Positives	Negatives
MDT	"Useful reminder of important safety steps" "Empowers junior members of the team to voice concerns" "Useful to encourage teamwork and communication" "Increases maternal and fetal safety"	"Too cumbersome/wordy" "Communication is/should already be standard practice" "Fetal heart monitoring is only the midwife's responsibility" "May make the woman/partner anxious"
Woman/Partner	"It made me feel safe" "It added to a good experience" "It felt well organised"	

Table 1: Example feedback comments

DISCUSSION

This MDT checklist has been successfully piloted and has achieved it's aims. It was very well received by MDT members, parturients and their birth partners and has the potential to improve outcomes. Fortunately, concerns such as increased parturient and birth partner anxiety were not realised.

In our institution, an ODP has assisted the anaesthetist for all labour epidural analgesia for over a decade to allow the midwife to focus on maternal and fetal care. The ODP was therefore the ideal MDT member to read the checklist out aloud but this could also be done by the midwife or anaesthetist.

The checklist has since been slightly modified after taking feedback into account. Following MDT discussion and review, our institution has decided to embed this checklist into routine practice for the benefit of staff, parturients and babies.

REFERENCES

1. Ockenden Report. Emerging Findings & Recommendations from the Independent Review of Maternity Services at The Shrewsbury & Telford Hospital NHS Trust. Available at https://www.donnaockenden.com/downloads/news/2020/12/ockenden-report.pdf. Accessed 21 April 2022.
2. Obstetric Anaesthetist's Association. OAA response to Ockenden Report. Available at https://www.oaa-anaes.ac.uk/OAA_response_to_Ockenden_Report. Accessed 21 April 2022.