

Establishment of multidisciplinary remifentanil patient controlled analgesia training on delivery suite

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Introduction

Remifentanil patient controlled analgesia (RPCA) is an established alternative to epidural analgesia in labour with high maternal satisfaction.

Multiple studies comparing RPCA to other labour analgesics have found the following:

- Superior analgesia to pethidine but inferior to epidural
- Reduced rates of conversion to epidural compared to pethidine
- Better neonatal outcomes than pethidine and similar Apgar scores to epidural
- Lower rates of instrumental deliveries compared to pethidine and similar modes of delivery compared to epidural
- **Higher rates of maternal sedation and respiratory compromise with remifentanil** ¹



Given the seriousness of the risk of respiratory arrest, the following requirements must be met when using RPCAs:

- 1:1 midwifery care
- Provision for monitoring and treatment of respiratory depression including staff training, availability of oxygen, airway equipment & naloxone, anaesthetic support and neonatologist support

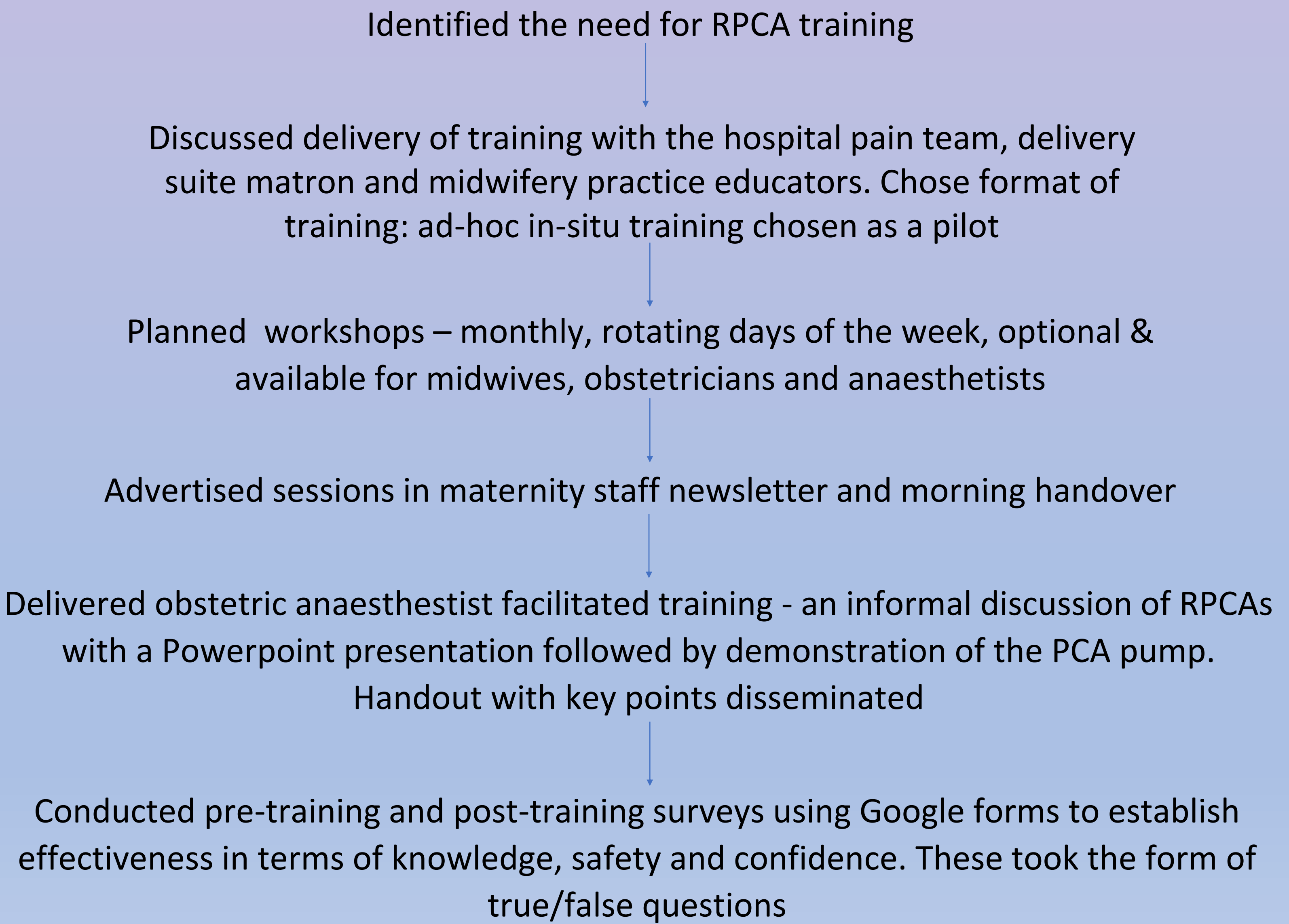
The Royal College of Anaesthetists and Anaesthesia Clinical Accreditation Services require that **‘midwives caring for women receiving remifentanil PCA should be trained specifically in the use of the technique’** ²

The delivery suite at St George’s Hospital uses RPCAs infrequently, (approximately 15-20 per year), primarily for labourers in whom an epidural is contraindicated or has failed. However, there is currently no training for the staff on delivery suite on the technique

NICE have recently suggested that RPCAs be offered as a primary alternative to epidural analgesia ³

With the increasing use of RPCAs, we sought to establish multidisciplinary training for delivery suite staff to improve patient safety

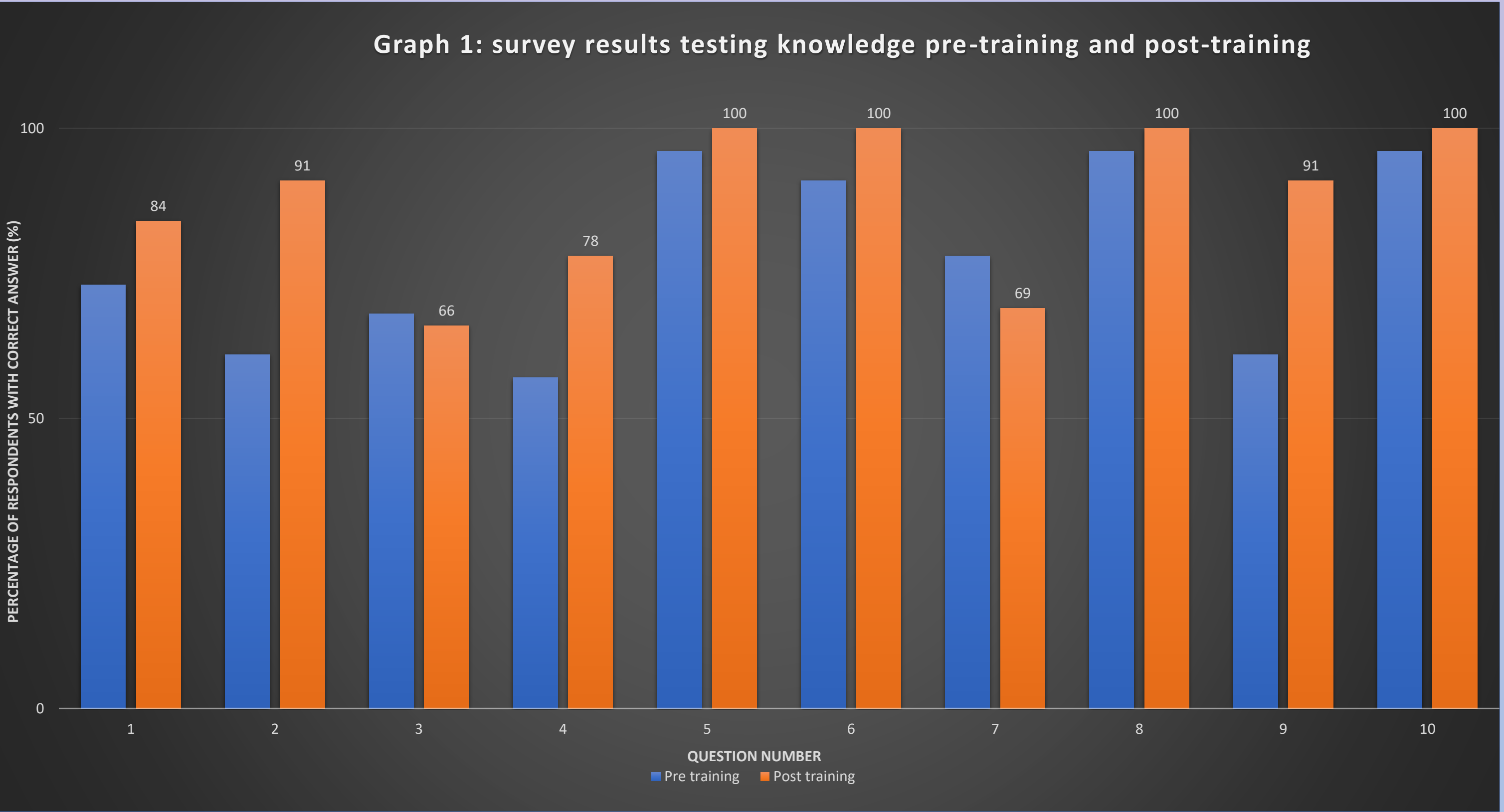
Methods



Ethical approval was not required. Participants consented to publication of the data

Results

- 32 staff members underwent RPCA training over six months
- Each workshop had between three and eight attendees
- 94% of attendees were midwives
- 23 pre-training and 32 post-training surveys were completed
- 35% of staff had prior RPCA training
- Overall, **clinical knowledge** improved from **78% to 88%**
- **Safety-specific knowledge** improved from **88% to 98%**
- **Mean confidence** levels on a scale of 1-5 improved from **2.6 to 3.6** (5 being most confident)
- **Mean usefulness** on a scale of 1-5 was **4.75** (5 being most useful)



Discussion

Overall, the surveys demonstrated improvement across all domains with safety-specific questions showing good knowledge post-training, this being our primary aim. Qualitative feedback was also supportive and the training has continued.

Difficulties encountered included clinical pressures to provide in-situ training and encouraging obstetrician and anaesthetist attendance. A solution may be to develop a mandatory online training package (such as the two yearly mandatory training for staff using morphine PCAs) or to incorporate RPCA training into the mandatory Practical Obstetric Multi-Professional Training (PROMPT) course.

Further work includes simplifying the local RPCA guidelines.

References

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2. Guidelines for the Provision of Anaesthesia Services. Chapter 9 Guidelines for the Provision of Anaesthesia Services for an Obstetric Population 2020. Accessed 22 January 2022 GPAS-2020-09-OBSTETRICS.pdf (rcoa.ac.uk)
3. Maternity care: Remifentanil is recommended as alternative to epidural in draft guidance *BMJ* 2023; 381 doi: <https://doi.org/10.1136/bmj.p946>