

Regional Anaesthesia Alert Bracelets (RA:AB): Our experience at a tertiary centre

Dr Rachel Butterworth¹, Dr Rebecca Parker²

¹ Anaesthetic Registrar, FRCA, South Tees Hospitals NHS Foundation Trust

² Consultant Anaesthetist, FRCA, South Tees Hospitals NHS Foundation Trust

Introduction

An epidural haematoma is a rare, but catastrophic complication of a neuraxial procedure.[1] If not detected early and managed rapidly, it can lead to permanent nerve damage. National guidance recommends that patients who undergo an obstetric neuraxial procedure should be informed of their 4-hour straight leg raise (SLR) time, to allow early detection of delayed neurological recovery.[1]

The James Cook University Hospital (JCUH), had no formal escalation pathway in place for patients with delayed neurological recovery and the 4-hour SLR time was not widely known by the multidisciplinary team. The ‘Regional Anaesthesia Alert Bracelet’ (RA:AB) initiative was developed at Southern Health and Social Care Trust and recommended wristbands documenting a 4-hour SLR time, to aid earlier identification of delayed neurological recovery.[2]

Guidance on how to escalate and investigate these patients was formalised in a pathway at JCUH. We assessed the effect of implementing RA:AB at JCUH.

Methods

Anaesthetists, midwives and the wider multidisciplinary team on delivery suite were educated regarding the RA:AB initiative. Guidance on how to assess and escalate a patient with delayed neurological recovery was reviewed and implemented to support the RA:AB initiative (Figure 1).

The wristbands were implemented on 31/10/22 for all obstetric patients undergoing neuraxial procedures in both an elective and emergency setting. Pre- and post-implementation surveys were sent to the midwives assessing their knowledge and awareness of how to escalate patients with delayed neurological recovery.

References

- Yentis S M, Lucas D N, Brigante L et al. Safety guideline: neurological monitoring associated with obstetric neuraxial block, Association of Anaesthetists and Obstetric Anaesthetists' Association.2020. <https://anaesthetists.org/Portals/0/PDFs/Guidelines%20PDFs/Safety%20guideline%20neurological%20monitoring%20associated%20with%20obstetric%20neuraxial%20block%202020%20-%20Copy.pdf?ver=2020-03-31-135403-463&stamp=1585729294816>
- Mathers R, McCague M, Shield K. Regional anaesthetic alert bracelet project toolkit. Accessed 27/01/23. <https://hcsnisoutherntrust.pagetiger.com/regional-anaesthetic-alert-bracelet/toolkit>

Methods

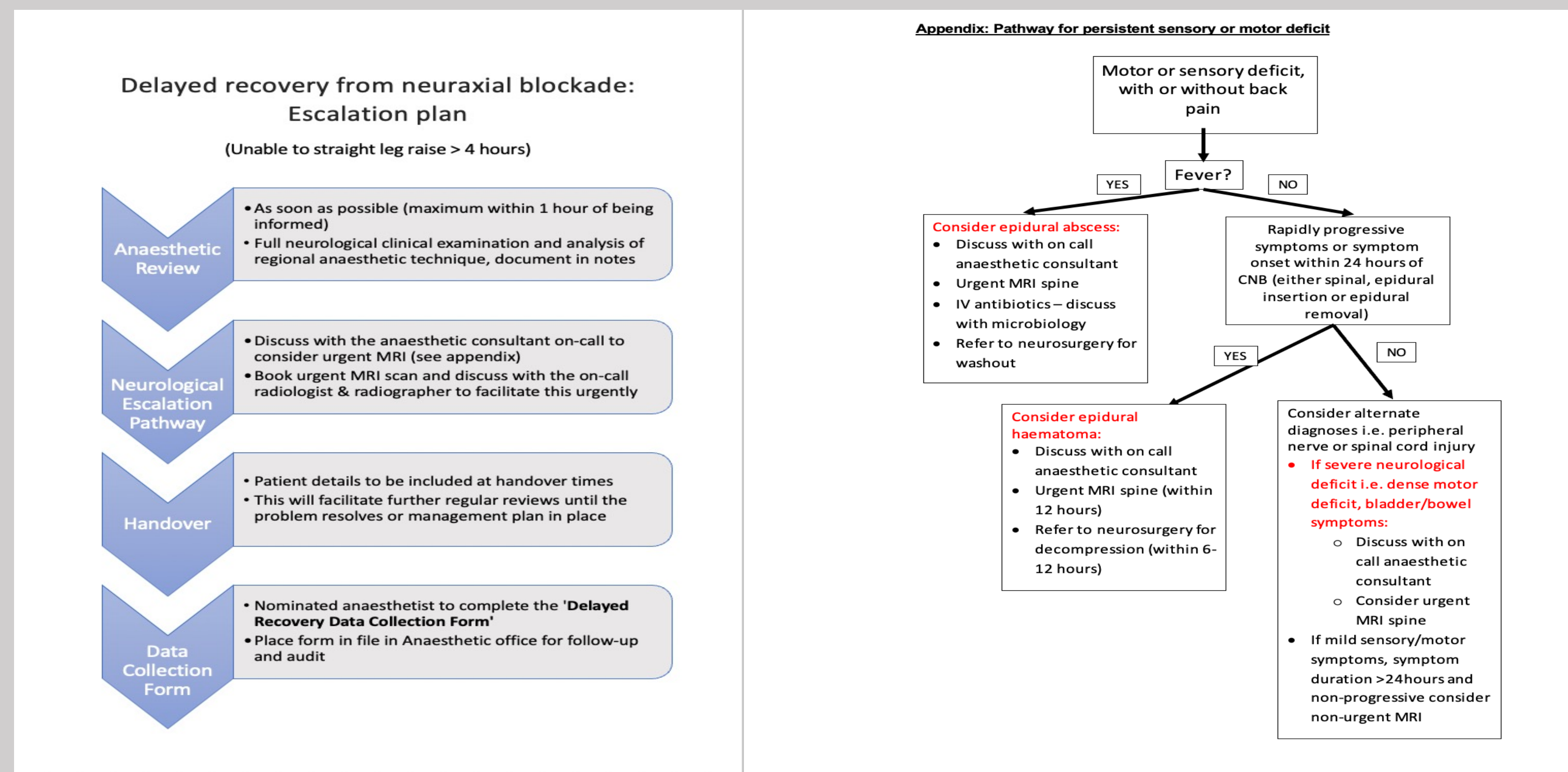
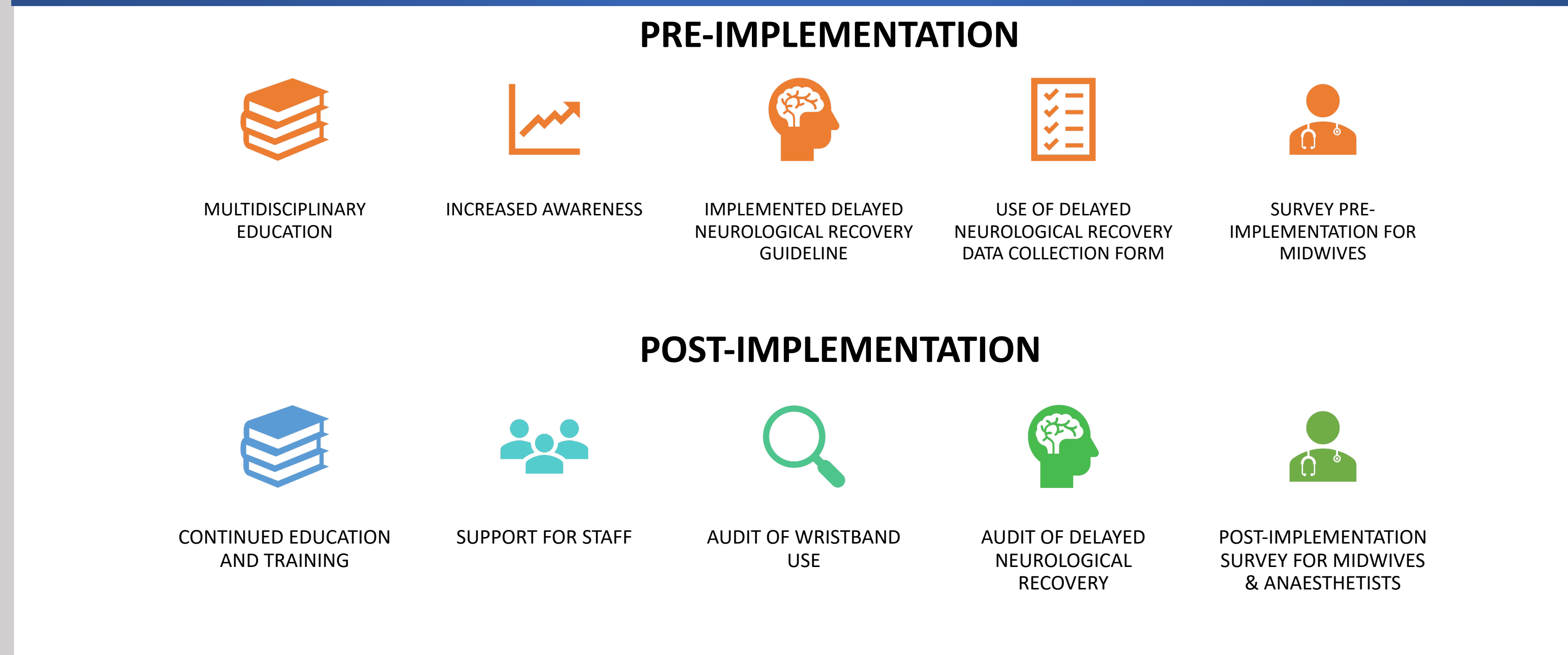


Figure 1: Guideline used at JCUH for assessing and investigating delayed neurological recovery

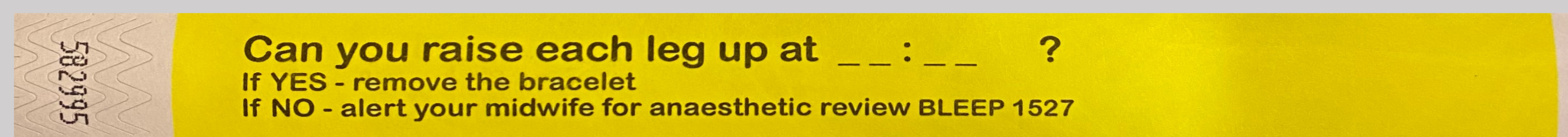


Figure 2: Regional Anaesthesia Alert Bracelet used at JCUH

Acknowledgements: Thanks to Dr Rachel Mathers for her work on the RA:AB tool kit.

Results

The results of the midwifery survey post-implementation of RA:AB demonstrated an increase in knowledge of neurological complications (Figure 3). Good, very good or excellent knowledge on the survey increased from 67% of responses to 100% of responses post-implementation. There was also increased knowledge of the escalation process (89% pre-implementation to 100% post-implementation) and increased knowledge of the usual SLR time (80% pre-implementation to 100% post-implementation). 50% of midwives found that RA:AB made identification of delayed neurological recovery easier. Since implementation of the RA:AB there have been 3 referrals with delayed neurological recovery and 1 required an MRI which was normal.

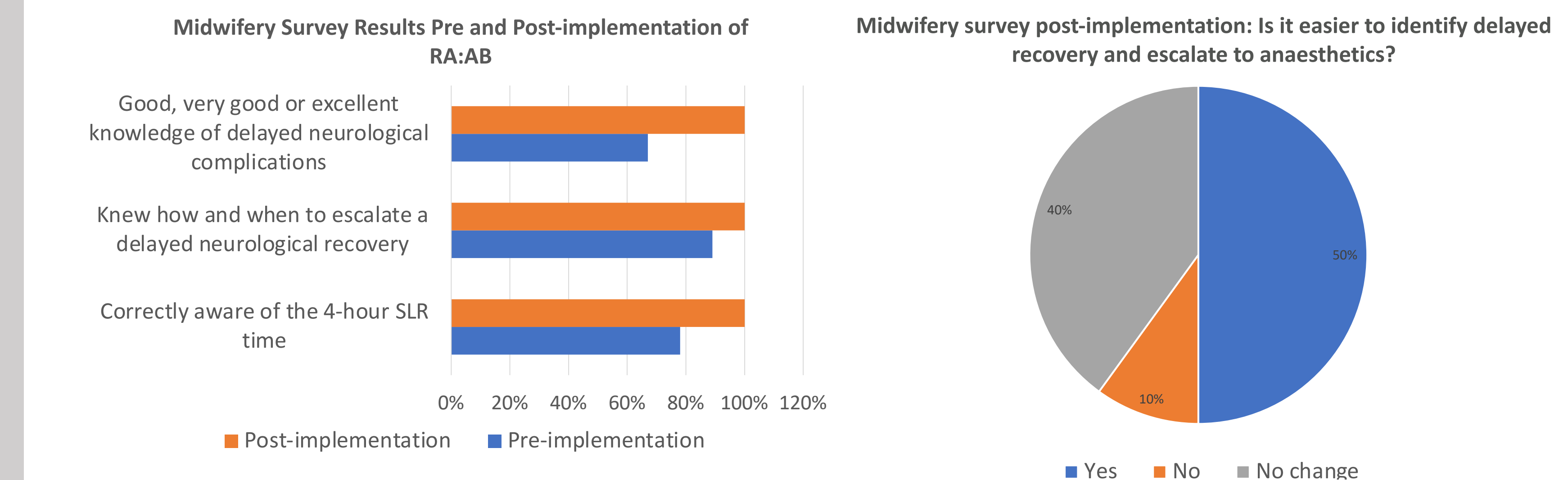


Figure 3: Graphs demonstrating the results of the survey sent to midwives pre- and post-implementation

Discussion

Formalising the referral process and ensuring an auditable trail for patients with delayed neurological recovery has been a positive patient safety initiative. Survey results from the midwives has highlighted their increased understanding of the complications from neuraxial blocks and how and when to escalate to anaesthetics.

Survey comments from midwives stated that patients like having an active role in their care and feedback from anaesthetists and midwives has been extremely positive. The RA:AB initiative has allowed a clearer identification process of delayed neurological recovery and has raised awareness of the importance of this national guidance at JCUH. Going forward, we plan to audit RA:AB use and referrals with delayed neurological recovery at JCUH.