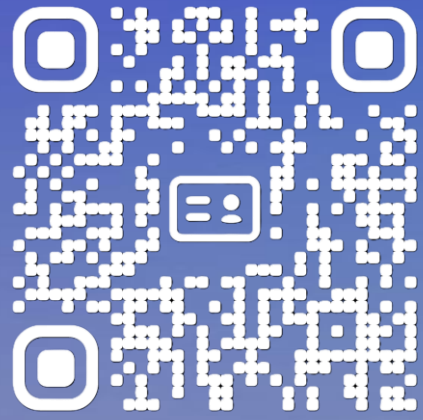


18G Tuohy needles: A review of their introduction to the maternity unit

Harrison J^a and Luther D^b
a ST7 Anaesthetic Resident Trainee, Royal United Hospital
b Consultant Anaesthetist, University Hospitals Bristol and Weston NHS Foundation Trust
Correspondence to Jonathan.Harrison7@nhs.net



Introduction

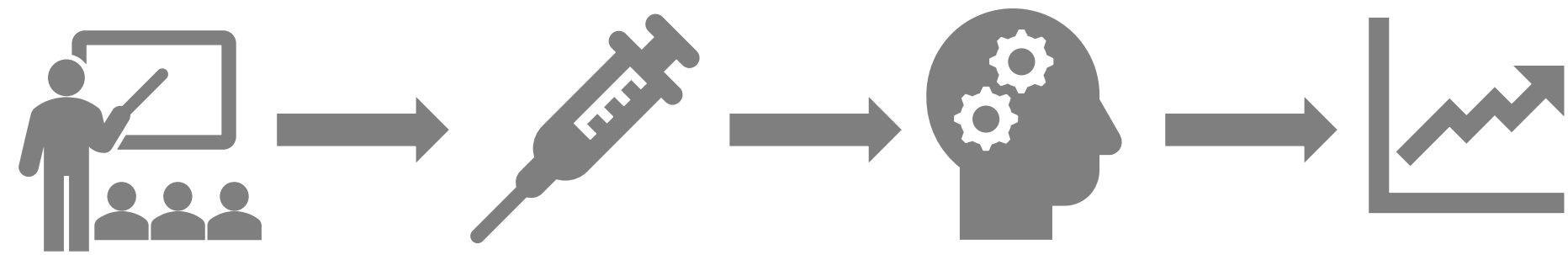
- Tuohy needle
 - Huber point - directional, non-coring tip with a curved, deflected bevel with a lateral opening¹
- In the UK 16 gauge predominates, elsewhere 18 gauge is the default^{2,3}
- Smaller-gauge needles may reduce the risk of post-dural puncture headache (PDPH)⁴.

Aims

- Primary: Describe the implementation of 18G Tuohy needles as the default device for labour epidural analgesia and combined spinal-epidural (CSE).
- Secondary: Assess operator confidence over time to assess perceived mastery using prospective electronic capture.

Methods

- Implementation: Departmental education sessions; 18G needles sourced from same manufacturer as prior 16G devices; 18G stocked on all epidural trolleys; 16G retained for operator choice.
- Data capture: Prospective electronic documentation of needle gauge, procedure type, operator grade, and post-procedure confidence (0–10 Likert).
- Study period: 22 Aug 2025 – 14 Jan 2026.



Why?

Given that 16-gauge needles have been used for decades in the UK then why change now? This primarily relates to two main issues, risk of post dural puncture headache (PDPH) and supply chain..

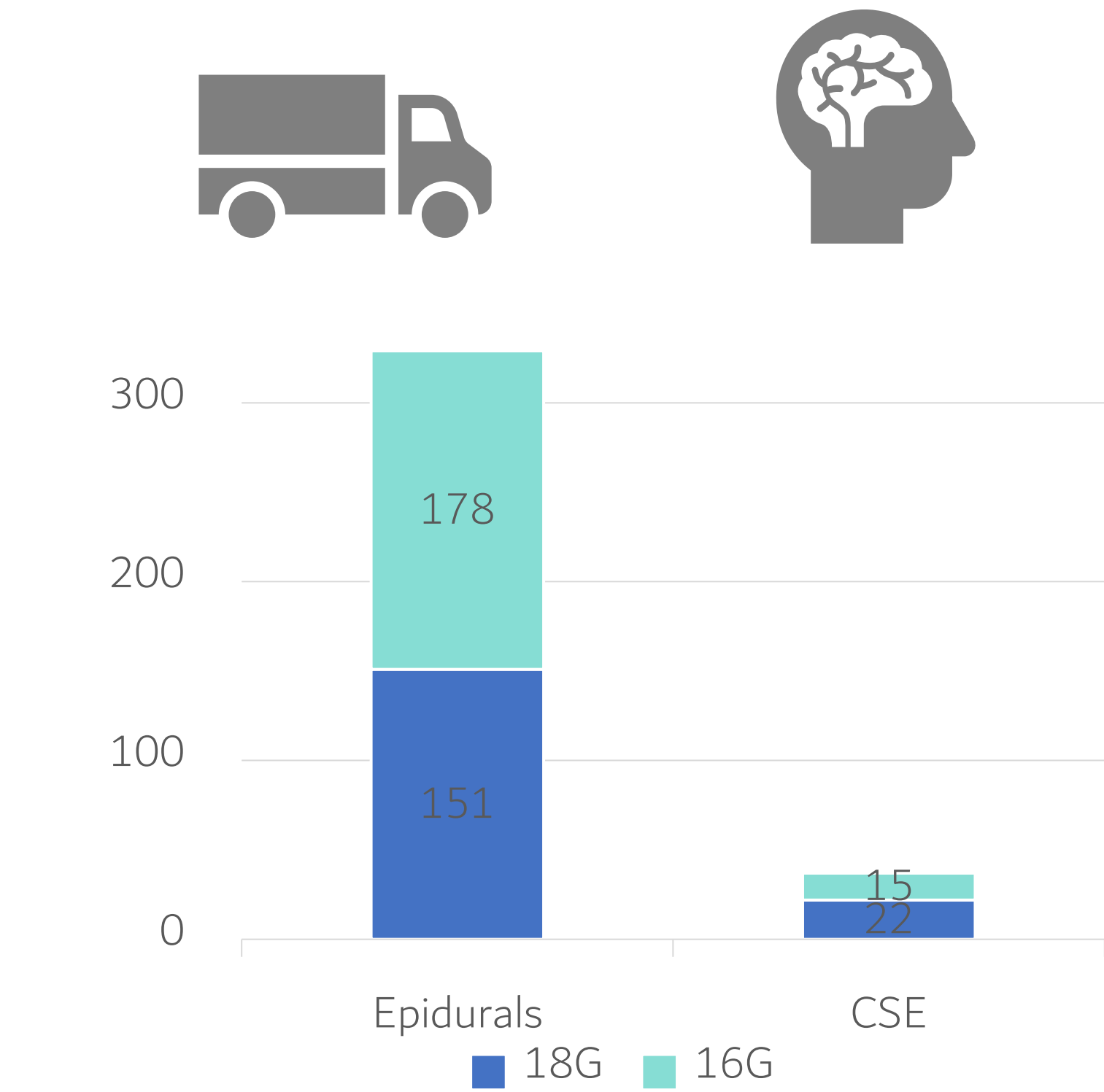


Chart 2 Breakdown of needle use

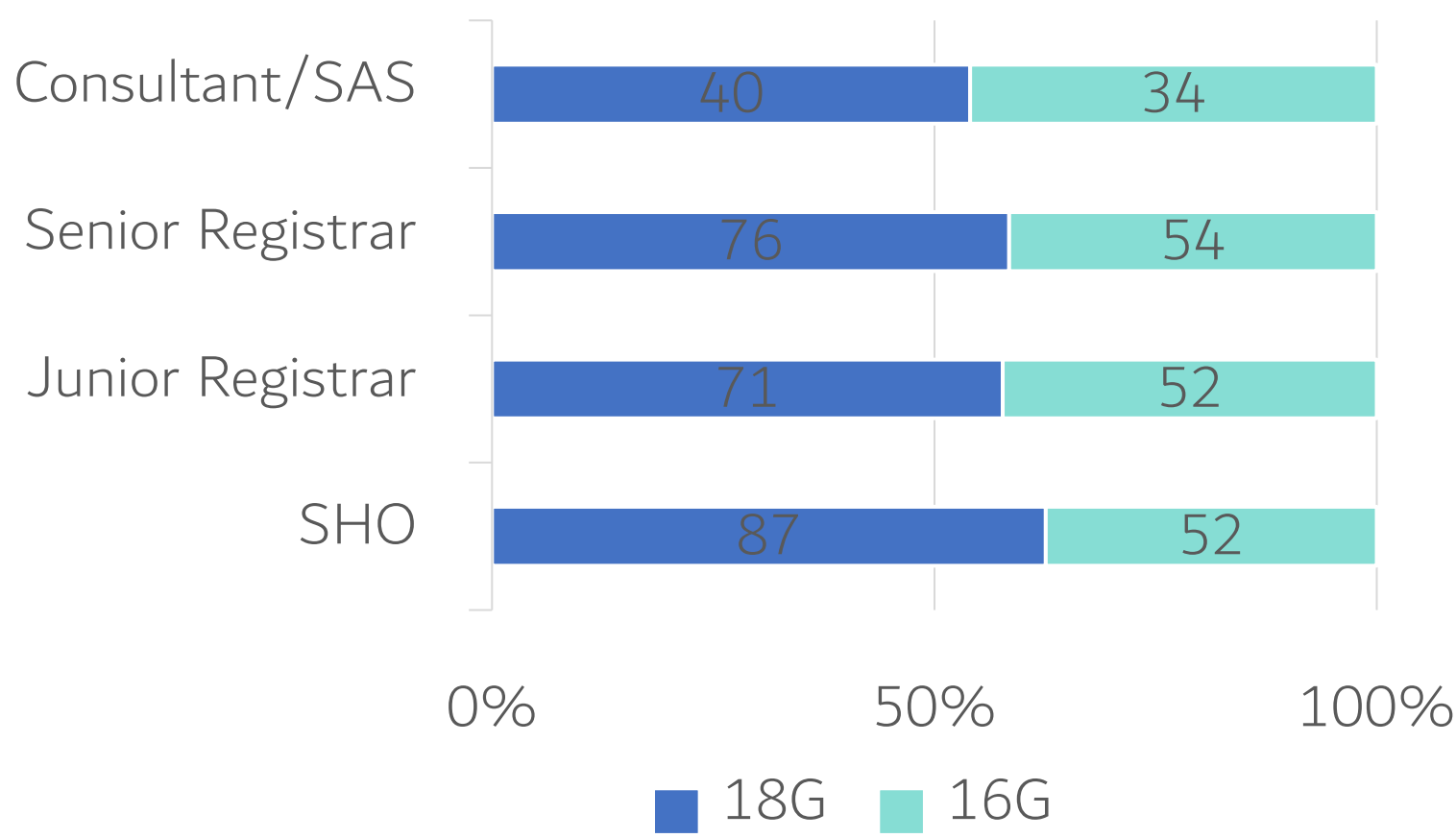


Chart 3 – number of 18 gauge vs 16 gauge needles used by seniority of a 100% scale

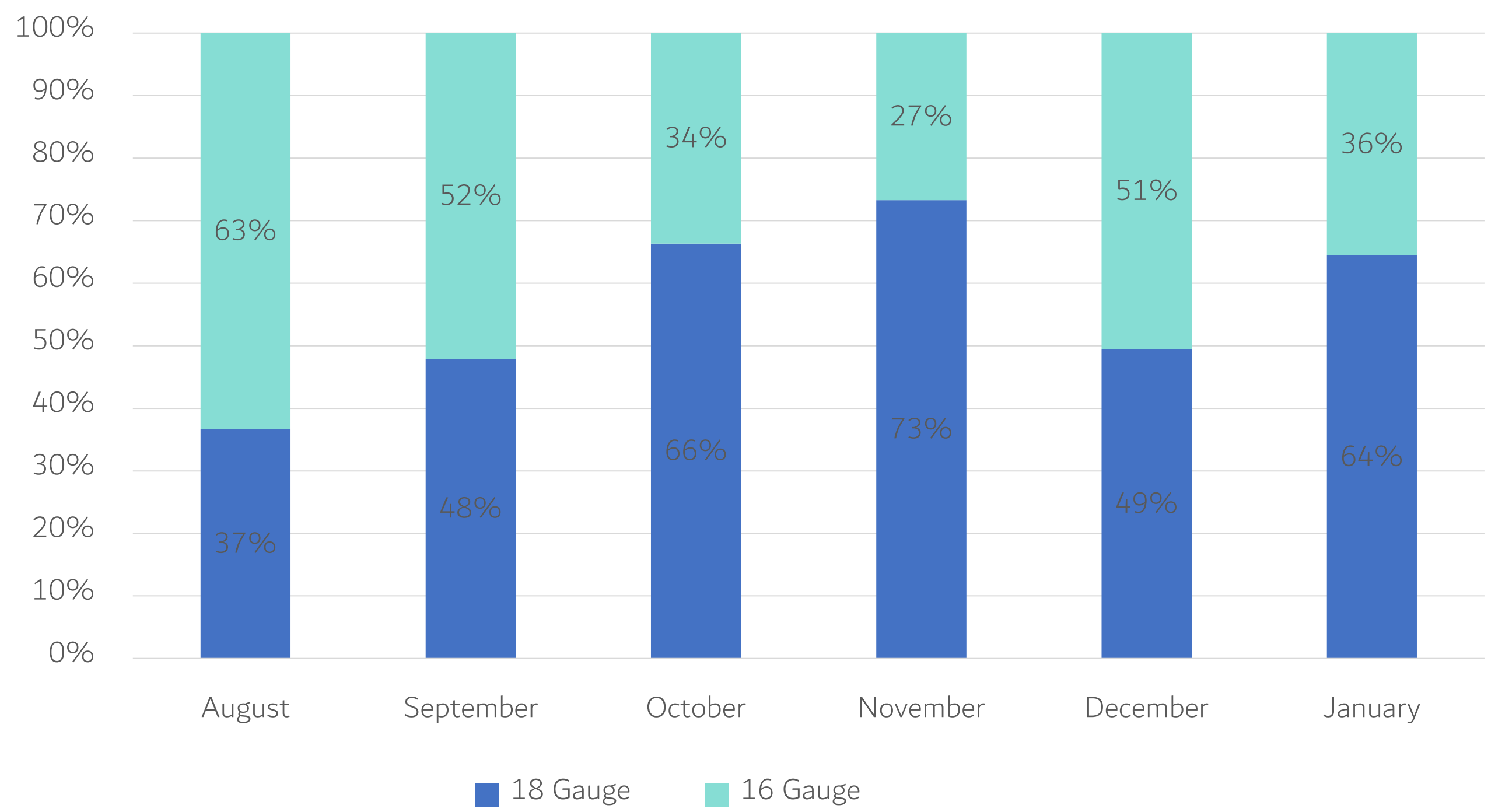


Chart 1. Proportion of 18G vs 16G epidurals and CSEs by month since introduction

Results

Total procedures:

- 466 neuraxial procedures (429 epidurals; 37 CSEs).
- 18G use: 58.5% of epidurals; 59.5% of CSEs used 18G.

Operator mix:

- Consultants 15.9%
- Registrars 54.3%
- SHOs 29.8%

Confidence (mean)

- After 1 procedure: Consultants/SAS 8.9; Registrars 7.9; SHOs 7.4
- After 5 procedures: Consultants/SAS 8.0; Registrars 8.1; SHOs 8.

References

- 1) Frölich MA, Caton D. Pioneers in epidural needle design. *Anesth Analg*. 2001;93(1):215-220.
- 2) Katawala T, Yentis SM. Epidural needle sizes in the UK and rest of the world. *International Journal of Obstetric Anaesthesia* 2008; 17: S26.
- 3) Guathama P, Mushambi M, Francis S. National survey on epidural needle size used in obstetric practice. *International Journal of Obstetric Anaesthesia*. 2011; 20: S19.
- 4) Sadashivaiah J, McLure H. 18-G Tuohy needle can reduce the incidence of severe post dural puncture headache. *Anaesthesia*. 2009;64(12):1379-1380.
- 5) Kyle B. Murray, Gerald Häubl, Explaining Cognitive Lock-In: The Role of Skill-Based Habits of Use in Consumer Choice, *Journal of Consumer Research*, Volume 34, Issue 1, June 2007, Pages 77–88

Discussion

- **Uptake:** 18G adoption rose from 37% of epidurals in August to 73% in November, with a dip during trainee rotations and recovery thereafter.
- **Drive for change:** Rationale combined PDPH risk reduction (smaller dural aperture) and supply-chain pressures prompting gauge/brand reconsideration.
- **Adoption by seniority:** More senior anaesthetists were slower to adopt 18G, this could reflect skill-based automaticity secondary to altered tactile feedback during epidural placement⁵

Limitations

- Short study window and variable exposure across grades.
- Small numbers achieving ≥5 procedures for some grades (limits confidence trajectory interpretation).
- No ADP/PDPH outcome data reported yet — further clinical outcome data are required to confirm anticipated benefits

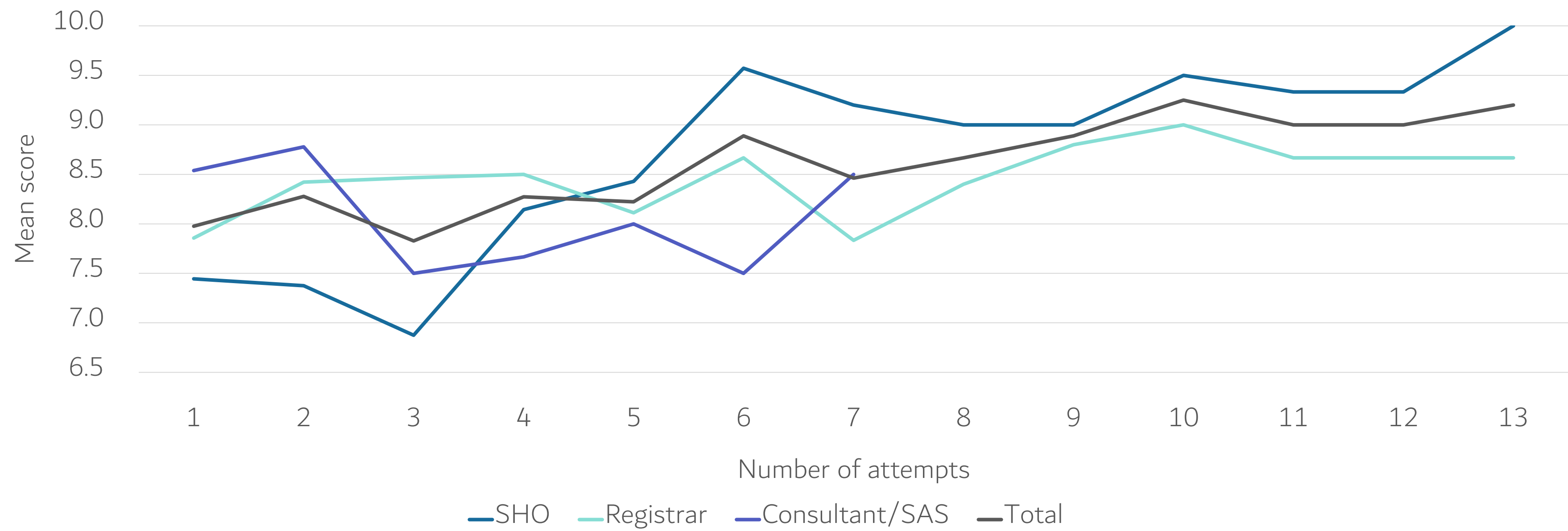


Chart 4 – Mean confidence score after each attempt grouped by seniority

Conclusion

- **Feasible:** Introducing 18G Tuohy needles as the default device is feasible in a UK obstetric anaesthesia unit.
- **Acceptable:** Uptake increased over time with high early subjective confidence across grades.
- **Further Action:** Continue prospective capture of accidental dural puncture (ADP) and PDPH rates; reinforce training at rotation changeovers.