Developing a structured competency framework for nursing staff in a regional anaesthesia block room

Sharon Smith[1], Carole McIntosh[1], Nicola Mackay[1], Lee-Ann Prior[2], Christiana Page[2], Lindsay Hudman[2] and David Macpherson[2]

Abstract

Background: The introduction of regional anaesthesia (RA) block rooms has substantially transformed perioperative care by enabling parallel processing, reducing theatre delays, and improving overall theatre efficiency. Awake day-case surgery using block rooms is a cost-effective means to facilitate increased list turnover and expand surgical options for higher-risk patients who may otherwise require general anaesthesia. Safe, sustainable delivery of RA within a block room requires a skilled nursing workforce with clearly defined competencies.

Methods: A multidisciplinary team developed a competency framework aligned with national guidance and local standard operating procedures. Simulation sessions were delivered to all members of the theatre team. Impact was assessed using pre- and post-teaching questionnaires evaluating nursing confidence and preparedness.

Results: The competency framework was successfully implemented across nursing staff transitioning into the block room role. Following simulation sessions, nurses reported improved confidence in managing block room emergencies. All 26 post-teaching respondents rated the session as 'Very Good' or 'Excellent', and 100% would recommend it to colleagues.

Conclusions: A structured, competency-based training framework appears to be an effective approach to prepare nursing staff for roles within an RA block room. This framework provides a safe, scalable, and reproducible approach to training, and offers a transferable template for centres developing block room services.

Keywords: Regional anaesthesia, Block room, Competency framework, Nursing education, day surgery, Simulation.

Authors' Addresses: [1]New Stobhill Hospital, Glasgow. [2]Glasgow Royal Infirmary, Glasgow

Corresponding Author: David Macpherson *Email:* david.macpherson3@nhs.scot

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Introduction

The introduction of regional anaesthesia (RA) block rooms has significantly transformed perioperative care by enabling parallel processing, reducing theatre delays, and improving overall theatre efficiency [1]. Awake day-case surgery using block rooms is a cost-effective means to facilitate increased list turnover and to provide increased surgical options for higher-risk patients who may otherwise require general anaesthesia. As such, block rooms represent an increasingly important component of modern ambulatory surgical services.

Safe, sustainable delivery of RA within a block room requires a skilled nursing workforce with clearly defined competencies. Under strict criteria as defined in the Regional Anaesthesia UK (RA-UK) supervision guidelines, intraoperative patient monitoring may be delegated to a suitably trained healthcare worker, in accordance with Association of Anaesthetists guidance [1]. RA-UK and the Royal College of Anaesthetists (RCoA) recommend that delegated staff are specifically trained in providing and interpreting monitoring, and in recognising signs and symptoms of local anaesthetic systemic toxicity (LAST) [1,2].

Despite this national guidance, there remains a lack of standardised, reproducible training pathways for nursing staff working in RA block rooms. To address this gap and support the safe implementation of a new local block room service within our institution, a structured competency-based training framework was developed. This paper describes the development, implementation, and evaluation of this framework.

Methods

A multidisciplinary team including consultant anaesthetists, nursing staff, and theatre leads collaboratively developed a competency framework aligned with national guidance and local standard operating procedures. Nursing staff were required to complete all aspects of the framework before being signed off for independent practice in the block room.

Core competencies encompassed:

1. Patient preparation and positioning.
2. Intraoperative monitoring and interpretation.
3. Aseptic technique.
4. Ultrasound safety awareness.
5. Recognition and management of complications, specifically LAST.
6. Escalation of concerns to the supervising anaesthetist.

To support education and development, in situ scenario-based simulation sessions were developed and delivered, encompassing all members of the theatre team. Impact was assessed using pre- and post-teaching questionnaires evaluating nursing confidence and self-reported preparedness for block room emergencies.

Results

The competency framework was successfully developed and implemented across nursing staff transitioning into the block room role. All staff completed the required competency elements prior to commencing independent practice.

Following the simulation sessions, nurses reported improved confidence in managing block room emergencies. All 26 post-teaching respondents rated the session as 'Very Good' or 'Excellent', and all stated that they would recommend the training to colleagues.

Discussion

This study describes the development and successful implementation of a structured, competency-based training framework for nursing staff in a regional anaesthesia block room. The framework was aligned with national RA-UK and RCoA guidance [1,2] and incorporated simulation-based education, resulting in high levels of reported confidence and satisfaction among nursing staff.

Simulation training has an established evidence base in healthcare education and is particularly valuable for preparing staff to manage rare but high-acuity events such as LAST. The unanimously positive rating of sessions in this cohort aligns with wider literature supporting the effectiveness of in situ simulation in perioperative settings.

A key strength of this framework is its standardised, reproducible design. By aligning competencies with national guidelines and local procedures, the framework ensures consistency in practice and supports patient safety. This approach also facilitates governance and audit, allowing leaders to demonstrate compliance with recommended standards.

Limitations of this study include the single-centre design and the reliance on self-reported measures of confidence. Objective assessment of competency attainment and longer-term follow-up of clinical outcomes would further strengthen the evidence base. Future work should seek to evaluate patient safety outcomes and the sustainability of confidence gains over time.

Conclusions

A structured, competency-based training framework is an effective approach to prepare nursing staff for roles within a regional anaesthesia block room. The standardised approach to training ensures consistency in practice, alignment with national standards, and ultimately enhances patient safety for day-case surgery.

Simulation training in particular plays a key role in improving staff confidence and preparedness for complications. This framework provides a safe, scalable, and reproducible approach to nursing staff training in an RA block room, and offers a transferable template for centres developing similar services.

Author contributions

SS: Conceptualisation, coordination and logistics, writing.

CM: Service development and implementation.

NM: Operational planning and coordination.

LAP: Methodology, writing.

CP: Data collection and analysis, writing.

LH: Supervision, critical revision of the manuscript.

DM: Supervision, critical revision of the manuscript.

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Ethics approval and consent to participate

This study describes a service evaluation and quality improvement initiative. As no patient-identifiable data were collected, and no experimental interventions were performed, formal ethical approval was not required in accordance with local institutional policy. Staff participation in questionnaires was voluntary and anonymous.

Disclosures / conflicts of interest statement

None.

References

1. Neilly E, Womack J. Guidelines for supervision of patients during peripheral regional anaesthesia 2023 [Internet]. Regional Anaesthesia UK; 2024 [cited 2026 Jun]. Available from: https://ra-uk.org/media/d0xhhpa4/guidelines_for_supervision_of_patients_during_peripheral_regional_anaesthesia.pdf
2. Guidelines for the Provision of Anaesthesia Services (GPAS). Chapter 8: Guidelines for the provision of regional anaesthesia services [Internet]. London: Royal College of Anaesthetists; 2025 [cited 2026 Jun]. Available from: https://www.rcoa.ac.uk/gpas/chapter-8