Efficient Management of Equipment in OT
to Minimize Delays and Ensure Patient Safety

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Introduction: Efficient access to anaesthesia equipment is critical for patient safety and smooth workflow in the operating theatre (OT). Delays in locating equipment can prolong procedures, increase stress for staff, and compromise patient care. Despite existing systems, staff frequently struggled to locate essential devices quickly, highlighting a need for a structured improvement initiative.

Identification of the Problem: Anaesthesia equipment, particularly McGrath devices, was stored centrally in the Biomedical Engineering department, and communication relied on paper notes and an overloaded group chat. This informal system led to misplaced equipment, delayed procedures, and workflow inefficiencies, posing potential risks to patient safety.

QI Question/Purpose of the Study: The study aimed to improve the efficiency and reliability of accessing anaesthesia equipment in the OT by increasing first-attempt retrieval rates, reducing search times, and minimizing workflow disruptions, ultimately enhancing patient safety and staff efficiency.

Methods: A PDSA (Plan–Do–Study–Act) cycle was employed. QR codes were placed on nine types of anaesthesia equipment, allowing staff to scan and update locations in real-time via a central link. Data on first-attempt retrieval success, search times, and incidents of misplaced equipment were collected before and after implementation. Staff feedback was also gathered to guide ongoing process adjustments.

Outcomes/Results:

- The first-attempt success rate for locating McGrath devices improved from 30% to 65% after implementing the QR code system.
- Median search time decreased from 5.5 minutes to 3 minutes.
- Staff reported reduced stress and smoother workflow in accessing anaesthesia equipment.

Discussion: The QR code system addressed key inefficiencies identified through root cause analysis, aligning with structured equipment management. Initial staff adaptation challenges were mitigated through training. Limitations included a short follow-up period and focus on a limited range of devices, which may affect generalizability.

Conclusion: The initiative successfully enhanced equipment accessibility, increased retrieval success, and reduced search times. Standardised tracking and ongoing training supported sustained improvements in workflow efficiency and patient safety.

Implications for perianesthesia nurses and future research: Peri-anesthesia nurses benefit from reduced stress and faster equipment access. Future research could expand QR code tracking across additional devices in the theatres, integrate with real time location system (digital devices), and evaluate long-term impacts on workflow, staff satisfaction, and patient outcomes.