Royal College of Anaesthetists

Association of Anaesthetists
Great Britain & Ireland

ROYAL PHARMACEUTICAL SOCIETY

CODP
College of Operating Department Practitioners

Safe drug management in anaesthetic practice

January 2026

Overview

In 2016, the Royal College of Anaesthetists (RCoA) and the Association of Anaesthetists jointly published guidance entitled Storage of drugs in anaesthetic rooms. It was developed in response to concerns that changes to drug handling and storage practices were compromising patient safety, with immediate access to emergency drugs becoming increasingly restricted. Despite its publication, anaesthetists continued to highlight that regulations not designed with anaesthetic emergencies in mind could still impede rapid access to critical medicines. The scope of the guidance has subsequently broadened to include all hospital areas where anaesthesia is delivered. A 2020 update responded to additional concerns about the safety and wellbeing of healthcare professionals, following investigations into deaths involving drugs obtained in the workplace. This led to a stronger focus on diversion-prone medicines, emphasising staff protection, safer systems, and a supportive organisational culture.

The 2025 update builds on earlier editions while strengthening and expanding several areas of guidance. It introduces clearer general principles informed by human-factors design, new recommendations on the safe handling of volatile agents, and explicit segregation of local anaesthetics to reduce wrong-route and wrong-drug errors. Dedicated sections now address labelling and mitigation of Look-alike Sound-alike (LASA) medicines risks, and the use of pre-filled syringes, recognising their value in supporting safer, lower-cognitive-load practice.

Scope

This guidance applies to the safe management of drugs and fluids used in anaesthetic practice, from their point of entry into clinical areas through to administration or disposal. The content is intended to support anaesthetists and their teams across all clinical areas where anaesthesia is delivered. These locations include (but are not limited to): operating theatres, intensive care units, the emergency department, maternity units, radiology, and other remote sites such as endoscopy and cardiac catheterisation laboratories.

This guidance does not address areas governed by Controlled Drugs legislation. It is compliant with standards issued by the National Institute for Health and Care Excellence (NICE)[1] and the Royal Pharmaceutical Society (RPS).[2] It also aligns with the RCoA Anaesthesia Clinical Services Accreditation (ACSA) standards and corresponding sections of the Guidelines for the Provision of Anaesthetic Services (GPAS) framework.

Purpose

This guidance has been produced with three principles in mind.

1 Holding patient safety as paramount, ensuring timely access to the drugs required in the management of clinical emergencies.

2 Raising awareness of the risks associated with drugs used in anaesthetic practice, and supporting the development of a vigilant, supportive and caring culture that protects both healthcare workers and the patients they serve.

3 Providing clear, practical guidance that can inform local policies as well as standards on safe drug management in anaesthetic practice, against which regulators can inspect, for the protection of patients, members of staff and the public.

Recommendations

1 General principles

- Human factors and ergonomic principles should underpin the design of storage, layouts, and workflows to minimise cognitive load and reduce the risk of selection errors.
- Secure storage should be consistently maintained, with controlled access systems that provide accountability and visibility.
- Reconciliation processes should occur regularly and involve all relevant theatre staff, with clear leadership and appropriate pharmacy support.
- Controlled drugs (schedule 2–4) must be disposed of in line with national policy, including RPS Safe and secure handling of medicines guidance, with appropriate witnessing and documentation.
- Medication-safety systems should incorporate multiple complementary safeguards and avoid reliance on any single measure.
- Structured handover of drug-related information should be used to support continuity, situational awareness and safe ongoing management of medicines.
- Digital and electronic systems, where used (for anaesthesia records, prescribing and dispensing), should be implemented with governance, training and downtime procedures.

2 Local Standard Operating Procedures (SOPs)

- Local SOPs should be developed for the safe storage and management of drugs used in anaesthetic practice, supporting the three core priorities of patient safety, staff safety and public safety.
- SOPs should be risk-assessed and agreed by a multidisciplinary group with appropriate medical, nursing, operating department practitioner, pharmacy and managerial input.
- SOPs should be ratified by the organisation's medicines management committee or equivalent.
- The organisation's Accountable Officer for Medicines should endorse the SOPs.
- SOPs may include organisation-wide principles but should also address location-specific requirements.

3 Timely access to emergency and resuscitation drugs

- Anaesthetic departments should produce a list of Immediately Available Drugs (IADs), typically including induction agents, neuromuscular blockers, and vasopressors/inotropes.
- In areas where grab bags or sealed containers are used to store IADs, these should be accessible without additional steps (such as keys, badges or codes) and open without the need for specialised equipment; cutting tamper-evident tags using scissors is acceptable.
- SOPs should describe the storage, replenishment and checking of IADs, with arrangements tailored to specific locations.
- Ready access to essential antidotes (such as naloxone and flumazenil) should be ensured wherever their corresponding high-risk drugs are used.

4 Diversion-prone drugs

- Some anaesthetic medicines carry a heightened risk of diversion, eg propofol, midazolam, ketamine, volatile agents, nitrous oxide and entonox; organisations should make proportionate provision for their secure storage and handling.
- In some organisations, these medicines are managed using safeguards similar to those applied to Schedule 2 controlled drugs; the Working Party supports this risk-based approach, where it enhances the protection of patients and healthcare staff.
- Storage and management arrangements should not impede prompt access to medicines required in clinical emergencies.
- The use and wastage of diversion-prone injectable drugs should be documented clearly and contemporaneously, with witnessed disposal where practicable.
- Reconciliation should occur at defined intervals, such as the end of a list or shift, in line with local governance requirements.
- Policies for diversion-prone medicines should include proactive support for staff wellbeing, recognising that stress, fatigue and personal vulnerability can increase the risk of unsafe behaviours.

5 Volatile anaesthetic agents

- Departments should ensure that the handling of volatile agents, eg isoflurane, sevoflurane and desflurane, which are highly potent and potentially lethal in liquid form follows clear, practical and secure procedures.
- Bottles containing volatile agents should be stored securely, including new and partially used bottles, in controlled-access areas when not in use.
- Opened bottles should be labelled with the date they were first accessed to support traceability and safe stock rotation.
- Empty bottles should be disposed of safely, with caps removed to prevent re-use or inadvertent refilling.
- Waste-gas scavenging systems should be operational to minimise occupational exposure.[3]

6 Segregation of local anaesthetics and intravenous drugs

- Local anaesthetics (LA) should be kept in a dedicated cupboard or container, segregated from all other medicines (particularly intravenous [IV] preparations), including fluids.
- If LA is required after induction of GA, it should be drawn up immediately before use.
- NRFit systems should be used for neuraxial and regional local anaesthetic injections to reduce wrong-route and selection errors.
- At the drawing-up stage, the local anaesthetic should be checked (particularly drug, concentration and confirmation of safe dosage), with a two-person check if practicable.

7 Practical considerations for pre-filled syringes (PFS)

- PFS should always be used when available.
- Use of PFS may extend beyond emergency drugs to include other drugs that are high-risk and used routinely, aligned with the Safe Anaesthesia Liaison Group 2024 statement.
- Storage of PFS should comply with relevant UK national guidance, such as NHS England HBN 14-02,[4] NHS Scotland HBN 14-02 (as adopted for Scottish policy),[5] Welsh WHBN 14-02[6] and manufacturers' recommendations, eg temperature, light.
- PFS should be segregated from vials and ampoules, with consistent placement in cupboards or automated dispensing cabinets.
- Clinical teams should ensure sufficient space in cupboards, trolleys, and grab bags. Local SOPs should be updated where practice changes result from PFS adoption.
- Where PFS are unavailable due to supply issues, departments should have a contingency plan in place in liaison with pharmacy (to ensure safe reversion to manual preparation).

8 Labelling, Presentation and Drug Identification

- Drug labelling must comply with BS ISO 26825,[7] including the use of standardised colour coding, consistent label size, and clear text to support rapid and accurate identification.
- Labels should have sufficient adhesive to ensure they remain securely attached to the syringe during handling and administration.
- Syringes should be labelled immediately after a drug is drawn up and before they leave the operator's hand.
- Pre-labelling empty syringes should be avoided, as it introduces an avoidable risk of drug misidentification and administration error.
- Pharmacy and anaesthetic teams should collaborate routinely to identify and mitigate LASA risks, including packaging, presentation, and nomenclature issues.
- Mitigation strategies for LASA errors should include proactive review of all newly introduced medicines or presentations, standardisation where possible, and removal or substitution of high-risk or error-prone presentations.

9 Culture, Governance and Learning

- Organisations should foster open, non-punitive communication, ensuring staff can speak up about drug-safety concerns, errors, near-misses or system weaknesses without fear of blame.
- Incident reporting and review should follow principles focused on emphasising system factors, human-factors insights and timely feedback rather than individual fault, such as PSIRF principles (NHS England), the National Policy on Patient Safety Incident Reporting (NHS Wales), Health Improvement Scotland adverse event framework (NHS Scotland), and the draft regional learning framework in Northern Ireland.
- Data from local reporting systems, the MHRA Yellow Card scheme and LFPSE should be reviewed regularly and linked to quality-improvement activity.
- Learning and changes to practice should be shared widely, with updates made to local procedures as required.

References

1 Medicines optimisation: the safe and effective use of medicines to enable the best possible outcomes (NG5). *NICE*, 2021.

2 Professional guidance on the safe and secure handling of medicines. *RPS*, 2018.

3 EH40/2005 Workplace Exposure Limits (WELs). 2nd edition. *HSE*, 2023.

4 Health Building Note 14-02: Medicines storage in clinical areas. *NHS England*, 2013.

5 Health Building Note 14-02: Medicines storage in clinical areas. *NHS Scotland*, 2021.

6 Welsh Health Building Note 14-02: Medicines Storage in Clinical areas. *NHS Wales*, 2012.

7 BS ISO 26825:2008 Anaesthetic and respiratory equipment – User-applied labels for syringes containing drugs used during anaesthesia – Colours, design and performance. *BSI*, 2008.

Further reading

The Working Party supports the statements made by the following organisations:

- Statement on security of medications in the operating room. *American Society of Anesthesiologists*, 2023.
- Guideline for the safe management and use of medications in anaesthesia. *Australian and New Zealand College of Anaesthetists*, 2021.
- Statement on keeping resuscitation drugs locked away. *Resuscitation Council UK*, 2016.
- Handling injectable medications in anaesthesia. *Association of Anaesthetists*, 2023.

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Design and layout by the Royal College of Anaesthetists.

Registered Charity No: 1013887
Registered Charity in Scotland No: SCO37737
VAT Registration No: GB 927 2364 18

Information correct as at January 2026.