NSW Health

# Safe management of look-alike, sound-alike medicines in NSW Health facilities

## SAFETY INFORMATION 006/24

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| Issue date: | 14 October 2024 |
| Content reviewed by: | Medication Safety Expert Advisory Committee |
| Distributed to: | Chief Executives, Directors of Clinical Governance |
| KEY MESSAGE: | Inform clinicians of the risks associated with look-alike, sound-alike (LASA) medicines and provide guidance to support NSW Health facilities to implement strategies that reduce the risks associated with the selection and storage of LASA medicines. |
| ACTION REQUIRED BY: | Chief Executives, Directors of Clinical Governance |
| REQUIRED ACTION: | 1. Distribute this Safety Information to all relevant clinicians and clinical departments where medicines are dispensed, prescribed, stored or administered.<br>2. Continue to report any incidents associated with look-alike, sound-alike medicines into the local incident management system (e.g., ims⁺), to CEC-MedicationSafety@health.nsw.gov.au and the TGA. |
| DEADLINE: | N/A |
| We recommend you also inform: | Directors, Managers and Staff of:<br>• All clinical areas<br>• Medical Services<br>• Pharmacy Departments<br>• Nursing/Midwifery Services<br>Drug and Therapeutics Committees<br>All other relevant clinicians, departments and committees. |
| Website: | https://www.health.nsw.gov.au/sabs/Pages/default.aspx<br>http://internal.health.nsw.gov.au/quality/sabs/index.html |
| Review date: | October 2025 |

Contact: Clinical Excellence Commission
02 9269 5500
CEC-MedicationSafety@health.nsw.gov.au

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## Note

Previously issued safety advisories SI:002/23, SI:004/23 and SN:005/23 regarding specific look-alike medicines have now been **rescinded**. Please refer to this Safety Information for broad advice relating to the management of look-alike, sound-alike medicines.

## Situation

Look-alike, sound-alike (LASA) medicines are a well-recognised cause of medication errors (both nationally and internationally) that have the potential to cause significant patient harm. NSW Health has previously developed a number of safety advisories related to LASA medicines.

The purpose of this Safety Information is to inform clinicians of the risks associated with LASA medicines and provide guidance to support NSW Health facilities in implementing strategies that reduce the risks associated with the selection and storage of LASA medicines.

## Background

Look-alike medicines are those with visual similarities including packaging, labels, colour, size and/or form. Sound-alike medicines are those with phonetically similar names, doses and/or strengths that increase the risk of selection errors. Confusion can occur between brand names, generic names, or a combination of both.

Selection errors involving LASA medicines can occur at any stage in the medication management process, including prescribing, dispensing and administration. Sound-alike errors may occur when taking a patient history or when receiving a verbal order. Look-alike selection errors may occur when medicines are in their original packaging or during the preparation process. For example, when tablets are placed into medicine cups or intravenous medicines are drawn up into syringes prior to administration.

Refer to **Appendix A** for a list of example look-alike medicines with product images, and **Appendix B** and **Appendix C** for examples of look-alike, sound-alike medicine names.

## Assessment

The availability of LASA medicines increases the risk of significant medication errors and the potential for serious patient harm. With the increasing availability of generic medicines and similarities in medicine labelling and packaging, it is important for clinicians to be able to identify LASA medicines and implement strategies to reduce the risk of selection errors.

A multi-faceted approach that incorporates a number of strategies in addition to the general principles of medication safety (for example, adhering to the '6 Rights' and avoiding the use of unapproved abbreviations in prescriptions) should be used to reduce the risk of selection errors related to LASA medicines.

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## Recommendations

It is important that clinicians involved in the prescribing, dispensing and administration of LASA medicines are aware of the risk of selection error, and that local risk mitigation strategies are employed to minimise the risk of selection errors. Recommended strategies include:

- Ensuring clinicians adhere to local policy regarding safe and accurate medication administration, including the 6 Rights (right patient, right drug, right dose, right time, right route and right documentation) and independent second person checks where applicable. These checks should include (but are not limited to) carefully reading the medication label to verify the name, strength, form and route of administration against the medication order, rather than relying on packaging or label recognition. Refer to Sections 6.6 to 6.8 of NSW Health *Medication Handling* Policy Directive (PD2022_032) for more information.
- Due to the high risk of misinterpretation, verbal orders should be avoided where possible. In emergency situations when a verbal order is given, the prescribing and administering clinicians must use a 'closed-loop' communication technique to verify all relevant patient and medicine information prior to administration.
- When preparing injectable medicines, clinicians should ensure that each medicine is prepared and labelled separately, using one ampoule/vial and one syringe/bag at a time. Injectable medicines should be labelled in accordance with the Australian Commission on Safety and Quality in Health Care's *National Standard for User-applied Labelling of Injectable Medicines Fluids and Lines*. The label on the ampoule/vial should be checked and matched to that on the syringe/bag.
- Considering the use of Mixed-case lettering (formerly known as Tall Man lettering), colour, font, bolding or highlighting on dispensing labels, shelving and stock containers to differentiate medicine names or draw attention to differentiating information.
- Considering the use of additional warning labels on shelving, medicine packaging or within drug registers (where paper-based registers are in use) to alert to the potential risk of selection error involving LASA products (e.g., 'PLEASE CHECK CAREFULLY – medicine with a similar name or appearance').
- Regularly reviewing medication storage equipment (e.g., trolleys) and areas (e.g., imprest cupboards, dispensary shelves) to ensure medicines are in their correct locations and that any look-alike medicines are appropriately flagged and physically separated.
- Physically separating different medicines and strengths in storage areas by using shelf dividers or positioning in separate drawers or shelves. Storage of look-alike medicines within the same multiple compartment drawer should be avoided (including within automated dispensing cabinets).
- Storing of medicines in their original packaging until immediately prior to being drawn up/administered where possible.
- Utilising barcode scanning to conduct checks when restocking automated storage systems, and during the dispensing process in Pharmacy Departments.
- Rationalising the range of look-alike products kept as imprest stock in clinical areas based on clinical need within the particular area. This should include restricting the availability of multiple concentrations, strengths or forms of the same medicine where feasible.
- Providing ongoing education to clinicians about the risks of selection errors involving LASA medicines, drawing special attention to specific problematic LASA medicine examples.
- Considering and implementing these strategies in conjunction with the requirements of the NSW Health *Medication Handling* Policy Directive (PD2022_032), and the NSW Health *High Risk Medicines Management* Policy Directive (PD2024_006) and related standards.

# Safe management of look-alike, sound-alike medicines in NSW Health facilities

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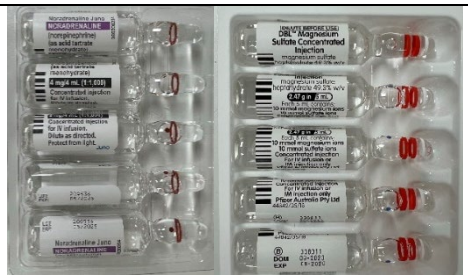
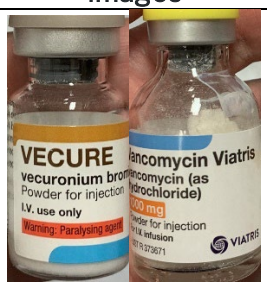
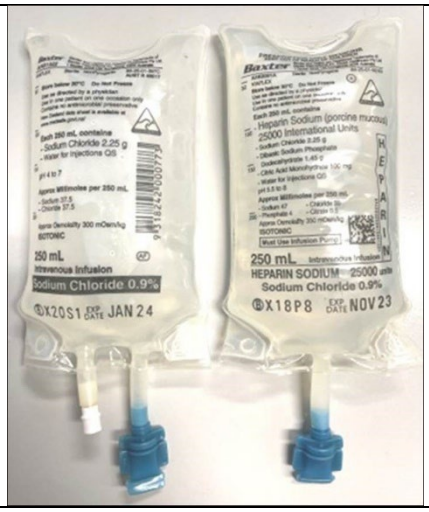
Appendix A. Examples of look-alike medicines.

| Medicines | Description | Images |
|---|---|---|
| Glucose (Baxter) 10% and Compound sodium lactate (Hartmann's) IV infusion bags | Both products are available in 500 mL **clear** bags with **black font** and **white** and **blue** ports attached. |  |
| Noradrenaline (Juno) 4 mg/4 mL and magnesium sulfate 49.3% (DBL) 2.74 mg/ 5 mL ampoules | Both products are presented in a **clear** glass ampoule of similar shape and volume featuring **black font** and a **red** ring at the top of the ampoule. |  |
| Heparinised saline (Pfizer) 50 IU in 5 mL and lidocaine (lignocaine) 1% 50 mg in 5 mL ampoules | Both products are presented in a similar sized **LDPE ampoule** with **black** font. |  |
| Medicines presented in blue bottles (sponsored by Viatris®) | Various Viatris branded medicines are packaged in similarly sized **blue** coloured medicine bottles with **blue** lids with the colour differentiation limited to the label and tablet inside (previously included in Safety Notice 005/23). |  |

| Medicines | Description | Images |
|---|---|---|
| Vancomycin (Viatris) 1000 mg and vecuronium (Viatris) 10 mg vials | Both products are presented in **clear glass** vials containing **white powder for injection**.<br><br>Similar **orange** and **blue** colour schemes are used on the outer packaging and labelling of both vials. |  |
| Sodium chloride 0.9% (Baxter) 250 mL and heparin sodium 25,000 units in sodium chloride 0.9% (Baxter) 250 mL bags | Both products are available in **250 mL clear bags** with **black font** and **blue ports** attached.<br><br>The heparin product comes in a blue outer pouch however, when this is removed the products are difficult to distinguish. |  |

**Note**: This non-exhaustive list of LASA medicines is for example purposes only. The medicines available in each facility may differ, and changes to the availability/supply of products may result in new LASA medicines being identified.

Appendix B. Example look-alike, sound-alike medicine name pairs.

| Medicine/brand name | LASA medicine/brand name(s) |
|---|---|
| amiODAROne | amLODIPine |
| azATHIOPRINE | aziTHROMYCIN |
| CARBAMazepine | OXCARBazepine |
| cLARITHROMYcin | ciPROFLOXAcin |
| flucLOXACILLIN | fluCONAZOLE |
| myLOTARG | myTOLAC |
| novoMIX | novoRAPID |
| rifaMPICin | rifaXIMin |
| siTagliptin | sAXagliptin |
| valAciclovir | valGANciclovir |
| xalaTAN | xalaCOM |

**Note:** For an extensive list of LASA medicine names, refer to the Australian Commission on Safety and Quality in Health Care's *National Mixed-Case Lettering List*.

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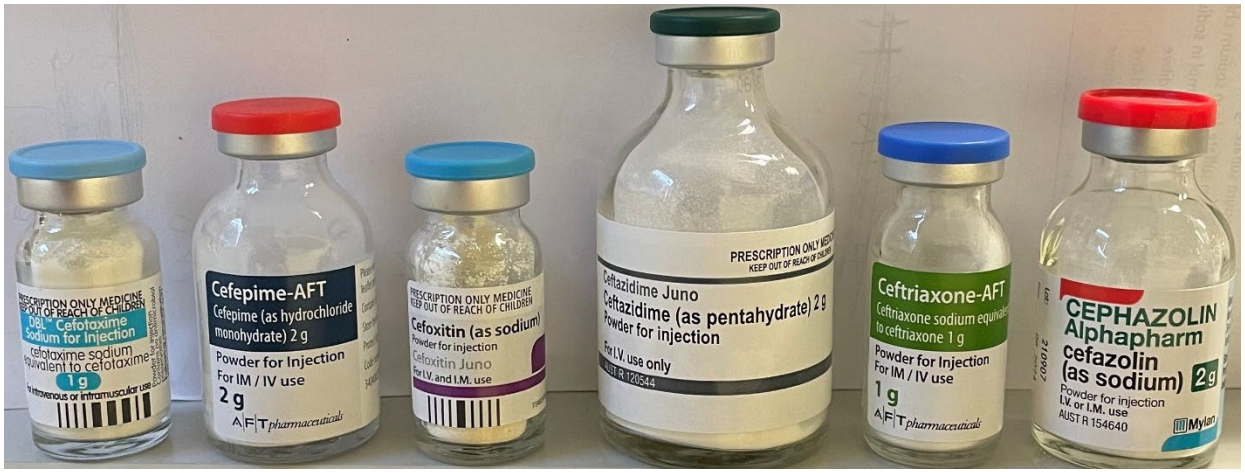
Appendix C. Example of several antibiotics with look-alike, sound-alike names including cefOTAXIME, cefEPIME, cefOXITIN, cefTAZIDIME, cefTRIAXONE and cefaZOLin.




For more information

- Australian and New Zealand College of Anaesthetists (2021). *Guideline for the safe management and use of medications in anaesthesia.*
- Australian Commission on Safety and Quality in Health Care (ACSQHC) (2024). *National Mixed-Case Lettering List.*
- ACSQHC (2015). *National Standard for User-applied Labelling of Injectable Medicines Fluids and Lines*
- ACSQHC (2020). *Principles for safe selection and storage of medicines.*
- NSW Health (2024). *High Risk Medicines Management* Policy Directive (PD2024_006) and related standards.
- NSW Health (2022). *Medication Handling* Policy Directive (PD2022_032).
- Therapeutic Goods Administration (2023). *Look-alike, sound-alike errors.*
- World Health Organisation (2023). *Medication safety for look-alike, sound-alike medicines.*

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