

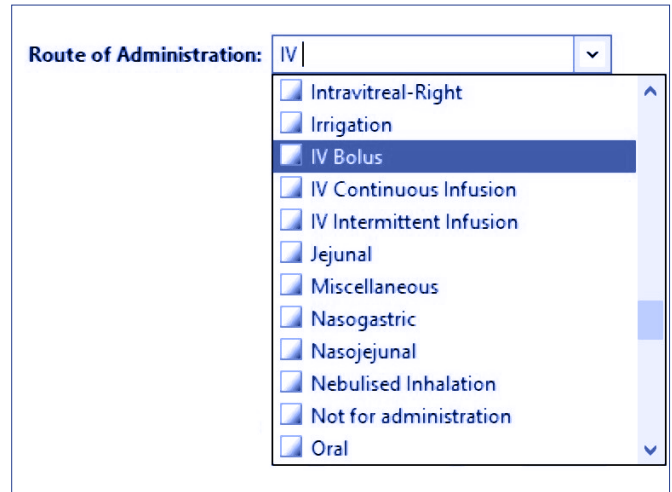
HEALTH INNOVATION SERIES

Evidence based recommendations to improve care delivery and outcomes

Prescribing an IV in an electronic medication system – What could possibly go wrong?

Electronic medication systems (EMS) may offer a range of options for the intravenous (IV) route, including IV bolus (i.e. rapid IV injection). However, IV bolus may be contraindicated for some medication, or is used only in specialised settings. Giving a prescriber IV bolus as a route option in the EMS can lead to selection of IV bolus when it is contraindicated.

Digital systems can be optimised to reduce this risk.



SYSTEM OPTIMISATION TIP#1

Remove IV bolus route option for medication where IV bolus is not recommended or contraindicated (see Tables 1 and 2).



SYSTEM OPTIMISATION TIP#2

For medication where IV bolus is only used in specialised settings or at specific doses: drop-down menus for route selection should not default to IV bolus; and IV bolus should not be the first option on the drop-down menu (see Table 3).



USER TIP

Consider the medication and context, and check local practice before selecting an IV route.

Table 1. Examples of medication not recommended or contraindicated for IV bolus administration

MEDICATION	ISSUES WITH IV BOLUS ROUTE
Aciclovir	May cause renal tubular damage.
Ciprofloxacin	Rapid administration may increase risk of local reactions (e.g. thrombophlebitis, burning, pain, pruritus, paresthesia, erythema, swelling).
Clindamycin	May cause hypotension and cardiac arrest.
Infliximab	Slower rates needed due to risk of anaphylaxis and infusion reactions.
Metronidazole	Limited data - not recommended for rapid IV.
Paracetamol	Only available in volumes suitable for infusion.
Vedolizumab	Slower rates needed due to risk of infusion reactions.
Vancomycin	Increased risk of red man syndrome.

Table 2. Examples of medication not recommended or contraindicated for IV bolus administration in paediatric patients

MEDICATION	ISSUES WITH IV BOLUS ROUTE IN PAEDIATRIC PATIENTS
Phenobarbital (phenobarbitone)	Rapid administration may cause respiratory depression, apnoea, laryngospasm, or hypotension.
Piperacillin + tazobactam	May cause hypotension and thrombophlebitis.

Table 3. Examples of medication for which IV bolus injection is only recommended in specialised settings or at specific doses

MEDICATION
Gentamicin, Levetiracetam, Phenytoin, Tobramycin, Sodium Chloride 3% and other Hypertonic Salines

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Suggested citation: Raban MZ, Merchant A, Westbrook JI. Prescribing an IV in an electronic medication system. What could possibly go wrong? Health Innovation Series e-Medication Safety Issue 1 2022. Sydney: Macquarie University; 2022. <https://doi.org/10.25949/N04Z-4Y85>

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