

Medication Safety Watch



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Medication Safety Watch

A bulletin for all health professionals and health care managers working with medicines or patient safety.

Key messages

- Safe medicine administration through enteral feeding tubes
- Metoprolol alert
- *Open for better care* campaign focus on medication safety, collaborative and forum
- Incidents and cautions

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Medication alerts and safety signals

These alerts and safety signals provide information and actions about high-risk medicines and situations. They are issued to health care staff, managers and organisations. For more information, contact Beth Loe at beth.loe@hqsc.govt.nz.

UPCOMING: The Health Quality & Safety Commission's *Open for better care* campaign focus on medication safety will launch at a forum on 16 October. See <http://bit.ly/medsafetyforum> for more information.

The campaign focus will run for six months with an emphasis on reducing harm from high-risk medicines. There will be five featured topics with webinars, fact sheets around each topic and a series of one-step interventions for high-risk medicines.

The safe use of opioids national collaborative also starts in October and will run for 18 months. The Commission's medication safety team has held regional teleconferences with district health board (DHB) staff to prepare for the collaborative learning session zeroes in October. An expert faculty has been appointed to guide the development of interventions that DHBs can choose to work on during the collaborative.

Safe medicine administration through enteral feeding tubes

Continuing the featured article in the last *Medication Safety Watch*, this edition provides information on practical aspects of medicine administration down enteral feeding tubes, and drug–drug and drug–food interactions.

Historical survey results suggested that medicine administration down enteral feeding tubes does not always follow recommended best practice.^{1–6}

A more recent 2013 survey of 283 nurses working in a mixture of hospitals, long-term care and home health care in the United States reported similar results.⁷

- 21 percent occasionally or frequently added medicine directly to the enteral feed formula
- 89 percent flushed with liquid (not always water) before administering medicine down the tube
- 98 percent flushed with liquid (not always water) after administering medicine down the tube
- 38 percent always administered each medicine separately rather than mixing two or more together when two or more medicines were being administered
- 21 percent reported crushing extended/sustained release tablets
- 25 percent reported opening extended/sustained release hard gelatin capsules and crushing the contents
- 4 percent did not dilute crushed medicines and powders with liquid prior to administration
- 52 percent did not dilute liquid medicines prior to administration.

Administration of medicines

Follow usual procedures for enteral feeding tube handling. The recommended practice for administering medicines down an enteral feeding tube follows.

1. Use equipment specifically designed for enteral administration to avoid the risk of inadvertent intravenous administration.
2. Stop the feed and flush the tube with at least 20–30mL* of water.
3. Each medicine should be given in a separate enteral syringe and diluted appropriately before administration.
4. Prepare and administer one medicine before drawing up the next medicine so there is no more than one unlabelled syringe handled at a time.
5. Flush the tube with 10mL of water between each medicine administered to prevent the medicines interacting in the tube.
6. Flush the tube with at least 30mL of water following administration of the last medicine.
7. Re-start the feed if appropriate. For some medicines, where absorption is affected by food, a longer time may be needed before re-starting the feed. Consult a dietician/pharmacist for advice.

*Note: Paediatric or fluid-restricted patients may need reduced flush volumes and further advice should be sought, for example, from a dietician.

Deciding which water to use for flushing relates to the exit site of the tube and the area of care, and should be designated in the local policy.

Drug–drug and drug–food interactions

The risk of drug–drug interactions is minimised if the recommended administration steps are followed and each medicine is administered separately and the tube is flushed between each administration.

Check before administering any medicine down a feeding tube because interactions between feeds and medicines can be important. Generally if absorption of a medicine is affected by food or antacids it is also likely to be affected by enteral feeds.

Specific medicines likely to be affected (this is not an exhaustive list) are:

- phenytoin, digoxin and carbamazepine: check blood levels regularly as they may be affected by the feed or by the position of the tube
- antacids: consider using an alternative medicine because of the risk of tube blockage if the metal ions in the antacid combine with the protein in the feed

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- antibiotics: the absorption of some antibiotics, such as penicillins, ciprofloxacin, tetracyclines and rifampicin can be significantly reduced by the feed. Consider prescribing an alternative antibiotic, increasing the dose or stopping the feed before and after administration (discuss with a dietician or pharmacist).

Enteral tube blockage

Inadequate flushing with water and medicine administration are the two most common reasons for feeding tube blockage. Prevention is better than cure but if a blockage occurs flush the tube with warm water. Do not apply excessive pressure to the tube because it can fracture. Consult local policy or ask for specialist advice if the tube remains blocked after flushing with warm water.

Discharge planning for patients with an enteral feeding tube requiring medicines

1. Check if the feed and medicine regimen is practical in the community setting.
2. Provide carers with the information required to safely administer enteral medicines.
3. Provide information to the GP and community pharmacist in advance to ensure the community pharmacist can supply the required medicines in the formulation needed.
4. Provide contact details for advice in the event of tube blockage or other issues arising.

References

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4. Seifert CF, Johnston BA, Rojas-Fernandez C. Drug administration through enteral feeding catheters. *Am J Health Syst Pharm*. 2002; 59(4):378-379.
5. Seifert CF, Johnston BA. A nationwide survey of long-term facilities to determine the characteristics of medication administration through enteral feeding catheters. *Nutr Clin Pract*. 2005; 20(3): 354-362.
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Incidents and cautions

Clonazepam oral drops

Do you prescribe or dispense clonazepam drops for palliative care patients? Several incidents have been reported in the community where dosing directions led to:

- excessive patient sedation from the prescribed dose
- difficulty for the patient to determine the dose in drops
- difficulty in measuring the large number of drops prescribed.

When prescribing or dispensing for palliative care patients:

- consider the quantity being prescribed, taking into account the prognosis and location of the dispensing pharmacy. Put repeats on the prescription, especially if it is a new patient. This prevents a large number of bottles being dispensed and possibly not being required
- check the dose range for this indication and provide carers with education about clonazepam's effects and how to use when required. Clonazepam is very sedating and has a long duration of action. If the dose used is too high or administered too often, at best the patient will sleep for a long time and at worst they may go into respiratory depression
- show the dose on all labelling as the number of drops (not mL) to prevent any misinterpretation
- advise patients and carers never to administer drops directly into the mouth from the bottle but to measure the drops into a teaspoon first.

Terlipressin (Glypressin®) solution for injection

Have you reviewed your practice, policies and/or guidelines to reflect the new labelling on terlipressin injection? The Glypressin® brand of terlipressin has recently changed the way the terlipressin content of each ampoule is expressed. The product is now a solution rather than a dry powder for dilution. The label shows the main strength as 'terlipressin 0.85mg in 8.5mL' and the subsidiary strength as 'terlipressin acetate 1mg in 8.5mL'. This was an Australian regulatory authority requirement. The risk is that prescribers will continue prescribing in terms of the acetate, which they are familiar with and uses whole numbers, while nurses, seeing a prescription for 1mg of terlipressin and an ampoule labelled as 0.85mg in 8.5mL, may calculate and administer 10mL to administer a 1mg dose.

What's new

Metoprolol alert

The Commission issued an alert in 2014 recommending that no adult patient is prescribed metoprolol 11.875mg. This will reduce the risk of inadvertent administration of a potentially fatal 118.75mg dose.

See www.hqsc.govt.nz/publications-and-resources/publication/1711/

Transdermal patches alert

Concerns were raised around the patch disposal method so an updated alert has been issued highlighting that 'disposal' refers to disposing of used patches, and that used patches should be disposed of in a secure way to prevent others using the discarded patch.

See www.hqsc.govt.nz/our-programmes/medication-safety/publications-and-resources/publication/1303/

Allergy/Adverse reactions:
Is the patient's history clearly documented in the clinical record and on the medication chart or in the electronic prescribing and administration system? Do you check if there is a history of allergy/adverse reaction before prescribing, dispensing or administering a medicine? Failing to do so can result in a patient suffering a severe anaphylactic reaction if they are given a medicine they are allergic to.

Contribute to Medication Safety Watch
Are you or your organisation working on a new medication safety initiative? Has there been a medicine-related incident or error that you would like to warn others about? If so, contact Beth Loe at beth.loe@hqsc.govt.nz.