

# Medication Safety Today



Medicines  
Governance  
Team

Issue 37

The Northern Ireland Medicines Governance Team Newsletter

November 2011

## Repeat after me

Incidents have occurred where a dose of a medicine has been administered twice within a short space of time because it has been prescribed in two different sections of the medication chart (Kardex) or on two separate pieces of prescription documentation.

For example, enoxaparin prescribed as a STAT dose in one section, and also in the regular section of the Kardex, or paracetamol prescribed in the PRN section of the Kardex, and also in the regular section.

Medications have also been administered twice because they have been prescribed on supplementary prescription documentation such as an Emergency Department 'flimsy' or an anaesthetic record, as well as being prescribed on the main Kardex.



### Safety tips

- ✔ All sections of the Kardex and any supplementary prescription documentation should be checked prior to administration of any medication to ensure administration is due.
- ✔ All additional charts in use should be referenced on the Kardex.
- ✔ Confirm start dates and times of administration before administering medication.
- ✔ Where a STAT dose is required followed by a regular prescription, ensure that the administration record on the regular prescription is annotated to show an intended omission, to avoid a duplicate dose.

If you have any comments on this newsletter, please contact Anna Lappin, Medicines Governance pharmacist on Ext: 4926 at Antrim Area Hospital or by e-mail at [anna.lappin@northerntrust.hscni.net](mailto:anna.lappin@northerntrust.hscni.net) Further copies of this newsletter and past editions can be viewed at [www.medicinesgovernanceteam.hscni.net](http://www.medicinesgovernanceteam.hscni.net) or on your Trust intranet.

## One for the grown-ups



Doses of medicines for children are usually based on the weight of the child. However many doses for adult patients are also based on the weight of the patient.

Examples include:

- Intravenous paracetamol
- Treatment doses of low molecular weight heparin
- Aminoglycosides

Make sure that for medicines such as these, patient weights are measured and recorded accurately in kilograms on the kardex.

## How much and how fast?



1. An infusion of Drug A is required for a 75kg patient at a dose of 40mg/kg, diluted in 500ml of sodium chloride 0.9%, to be given over 8 hours.

Drug A is commercially available as a solution containing 4g/10ml.

- a. What is the dose of Drug A prescribed on the kardex?
- b. What volume of Drug A solution is required to be added to the infusion bag?
- c. What rate should the infusion device be set at?

2. A 65kg patient with COPD requires a continuous infusion of Drug B. The dose of Drug B prescribed is 600micrograms/kg/hr and it is available in 10ml ampoules containing 250mg of Drug B.

If 500mg Drug B (2 vials) is added to 500ml of sodium chloride 0.9%, at what rate in ml/hr should the pump be set to deliver the correct dose?

Answers overleaf.

# A crushing problem



Some patients may have difficulty swallowing tablets or may require medicines to be administered through an enteral feeding tube.

Tablets should not be crushed or capsules contents opened unless advised by Pharmacy or Medicines Information.

An enteral feeding tube can be blocked by capsule contents or by tablets if they have not been crushed well.

There are also other types of tablets which should not be crushed:

- Enteric coated (e/c) tablets – the coating is designed to enable the medicine to be absorbed in the small intestine rather than the stomach. Crushing the tablet destroys this coating and may also lead to clogging of the enteral feeding tube.
- Modified release (MR) and controlled release (CR) tablets (also SR, LA, XL, Retard, Once weekly) – these are designed to release the medicine gradually over time and often have a special coating. Crushing the tablet destroys the ability to release the medicine gradually resulting in a much higher initial level of the medicine in the body with the risk of side effects and then a lower level of the medicine later with lack of effect.
- Cytotoxic tablets – the coating is usually to protect staff and other patients from contact with the medicine. Crushing the tablet risks exposure of others to the medicine.

There may also be similar problems with opening capsules. Management of these patients may require changing to a different formulation such as a liquid or an injection which may also involve a change in dose and frequency, or may require changing to different medicine. Licensed preparations should be used where possible.

Always seek advice from Pharmacy or Medicines Information on how to manage these patients. Do not assume that tablets can simply be crushed or that capsule contents can be opened.

Answers:

1. a. 3g, b. 7.5ml, c. 62.5ml/hr
2. 39ml/hr

# Remember your point.

A previous Medication Safety Today article in November 2007 highlighted the risk of handwritten doses involving an unclear decimal point. An illegible decimal point has the potential for a patient to receive a tenfold overdose. This type of incident can occur when writing dosage instructions in the medical notes, prescribing medicines on an inpatient medication Kardex or in a discharge letter to the patient's GP.

Section 1: - Prescription Details - to be completed by authorised prescriber

Name of drug	Dose	Date commenced:
MORPHINE SULPHATE	10mg	
MIDAZOLAM	2.5mg	Diluent: water
MITOGUPTAMIDE	30mg	Infuse over 24 hours
		Prescriber Signature:

In the example illustrated above, is the patient intended to receive 2.5mg or 25mg midazolam?

## Safety tips

- ✓ Take time to write clearly and legibly.
- ✓ Where doses involve a decimal point make sure that it is clearly visible.
- ✓ When preparing a dose to be administered the 'more than three' rule can be a useful, practical approach for adult dosing to help detect decimal point errors.  
For example if you need **more than three** tablets, capsules, ampoules etc. of any one medicine to prepare a single dose, stop and check:
  - Have I read the prescription correctly? Is it actually 2.5mg but I read 25mg?
  - Is the prescription correct? Does it state 25mg when it should be 2.5mg?

If unsure, always check with the prescriber.

## Buccal midazolam

Be aware that there are two preparations of buccal midazolam, which are different strengths and different salts.

- Epistatus<sup>®</sup> is 10mg/ml midazolam maleate.
- Buccolam<sup>®</sup> is 5mg/ml midazolam hydrochloride.

Make sure you check carefully which preparation a patient is on and the dose and volume. Ensure patients and carers are aware of these details.

Further information is available at:

<http://www.mhra.gov.uk/Safetyinformation/DrugSafetyUpdate/CON131931>