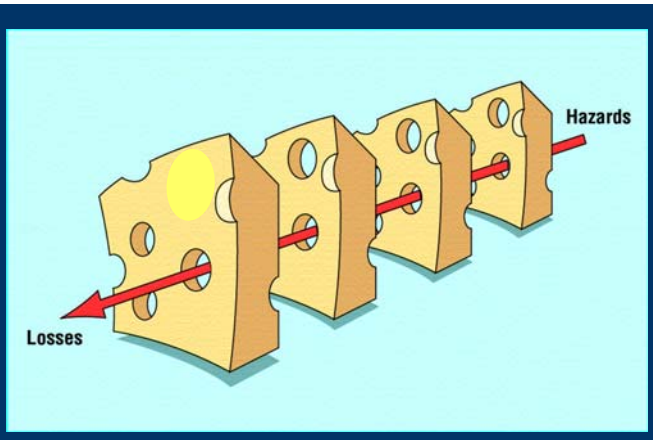
Medication Safety Today



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Insulin in hyperkalaemia

Serious medication incidents have occurred when insulin has been used as part of hyperkalaemia treatment (high potassium levels). Remember:

- Licensed soluble insulin contains **100 units/ml**. Each 10ml vial contains **1,000 units of insulin**.
- The usual adult dose of insulin used to treat hyperkalaemia is **10 units**, which must be measured using an **insulin syringe**.
- Insulin must be infused in **50ml** of **glucose 50%**. This high concentration of glucose is used to prevent hypoglycaemia.

Meet the Fentany(i)ls

Opioids are acknowledged to be a high-risk group of medicines and despite the extra checks that are in place because they are Controlled Drugs (CDs), a number of similar name medication incidents continue to be reported. Some products with similar names that have been confused include:

Alfentanil	and	Fentanyl
Fentanyl	and	Remifentanil
Remifentanil	and	Alfentanil

Safety tips:

- Print the medicine name, form, strength and dose in full clearly on the kardex. If you are in any doubt, check with the prescriber and have it rewritten if necessary.
- Schedule 2 CDs require an independent second check of preparation and administration.
- During preparation and administration, check that the medicine name and strength on the product matches that on the prescription sheet.
- Be aware of the risks of similar packaging.
- Consider separating CDs with similar packaging within CD storage areas.
- On receipt of a CD at ward level always check it against the CD requisition to ensure the correct CD has been supplied. If in doubt, double check with pharmacy.

Palliative Patches

There is a small but growing range of patches available for use within palliative care. Along with the increased range and use of patches, a number of medication incidents have been reported:

- **Confusion between different patches**
  - Be aware of the different products.
  - Do not assume there is only one medicine available as a patch.
- **Lack of awareness of the different strengths**
  - Do not assume there is only one strength available.
- **Lack of monitoring**
  - Remember that these patches are strong opioids: see table below for the 24 hour doses of morphine considered to be equivalent to the fentanyl patches shown.
  - Failure to monitor the patient after patch removal.
- **Overlooking patch usage during medication history**
- **Patch applied for the incorrect length of time**
  - Record the date and time of administration on the kardex.
  - When changing a patch, it is preferable to apply it at the same time of day each time.
  - Check the duration for which each patch should be applied. For example, a lidocaine patch (unlicensed) should be applied for 12 hours within a 24 hour period.
  - Remember to remove the old patch before applying a new one on a different area.

Preparation	Strength of patch PER HOUR	Equivalent oral morphine dose PER 24HOURS
Buprenorphine (Transtec®)	35 micrograms	30-60mg
Fentanyl (Durogesic®)	25 micrograms 50 micrograms	90mg 180mg

If you have any comments on this newsletter, please contact Tracey Boyce, Medicines Governance pharmacist on ext 5724 at the Royal Hospitals or by e-mail at Tracey.boyce@royalhospitals.n-i.nhs.uk.

The Medicines Governance Team website and previous newsletters can be viewed at www.dhsspsni.gov.uk/pgroups/pharmaceutical

Tell me about your medicines

Finding out what medicines a patient is on can be a tricky business. Information can come from a variety of sources including the patient, carer, GP receptionist, community pharmacist, an admission letter, a copy of a repeat prescription, by looking at any supplies of medicines that have been brought into hospital, to name but a few!

While there are many different sources of information available, it is important to look at several rather than just one. Often these different sources reveal different pieces of information, which can be used together to form an accurate medication history. Some things to consider when using different sources include:

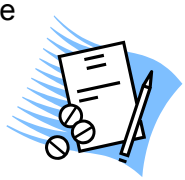
Patient / Carer

Ask the patient / carer about all of the patient's medicines. Often patients forget to mention medicines that they don't 'take', for example eye drops, inhalers or patches.

Patient's own supplies of medicines

Do they all belong to that patient? Have they been dispensed recently? Is the patient still taking the medicines? Is the patient taking them according to the directions on the label?

Copy of repeat prescription



Is the copy for that patient? What is the date on the copy? Has there been a more recent update? Have any medicines been recently prescribed that are not on the repeat prescription? What is the date of last issue for each medicine? Is the patient still taking all of the medicines on the copy? Is the patient taking all of the medicines according to the directions on the repeat prescription?

Admission letter

Take care with handwritten letters; any illegible medicine names or doses should be checked.

GP receptionist / Community Pharmacist

Has the patient's full list of medication been given? Are newly prescribed medicines held in a different place on the record? If medicines are recorded on both paper and computer, have both records been checked?

Take care with verbal communication; always read back any information you receive over the telephone to confirm you have heard it correctly.

Many patients also take herbal remedies and other medicines that they purchase. Often patients don't realise that these medicines are important; remember to ask about them.

Calculations

1. A patient requires 100 micrograms of digoxin elixir. The elixir preparation contains 50 micrograms/ml. How many millilitres do they require?
2. A 6 year old child weighing 20kg requires an IV infusion of bumetanide. The dose required is 50 micrograms/kg. Bumetanide is available as a 4ml ampoule labelled as containing 0.5mg/ml. How many millilitres of bumetanide will be required to make up the infusion?
3. You need to make up a 900mg infusion of amiodarone. Amiodarone is available as 3ml ampoules containing 150 milligrams/ml. How many millilitres of amiodarone will you need?
4. The amiodarone has now been made up to exactly 500ml with glucose 5%. It needs to run in over 23 hours. What is the rate in mls/hr?

Answers at bottom of page

Confusing combinations

The penicillin based antibiotic, co-amoxiclav (Augmentin®), is manufactured as tablets, soluble tablets, suspensions and injections, all containing different combinations of amoxicillin and clavulanic acid. The full range is listed in the table below.

Formulation	Strength (total mg)	Strength (constituents mg/mg)	Amoxicillin (mg)	Clavulanic acid (mg)
Tablets, dispersible tablets	375	250/125	250	125
Tablets	625	500/125	500	125
Suspension	156	125/31	125	31
Suspension	312	250/62	250	62
Suspension*	457	400/57	400	57
Injection	600	500/100	500	100
Injection	1200	1000/200	1000	200

* Augmentin® Duo

To avoid omitted doses, under- and over-doses, staff need to exercise caution when prescribing, administering or dispensing co-amoxiclav.

- When prescribing co-amoxiclav, think of the formulation required for the patient. Ensure you select the strength appropriate to this formulation and that it is prescribed clearly.
- Where the formulation of co-amoxiclav is changed, the prescription must be rewritten to reflect the new strength. Simply adding, for example, 'liquid' to an existing prescription for tablets will lead to confusion and possible medication incidents.
- When administering or dispensing co-amoxiclav, carefully select the quantity required based on the total strength i.e. the sum in milligrams of the constituent medicines. Medication incidents have occurred where doses have been administered based on the clavulanic acid strength, a prescribed dose of 375mg resulting in the administration of three '250/125' tablets.
- If you are in any doubt, check it out!

Answers (1) 2ml (2) 2ml (3) 6ml (4) 21.7mls