

Medication Safety Today



Medicines Governance Team

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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). Guidelines for the treatment of hyperkalaemia are available.

Hyperkalaemia treatment kits are being introduced in hospitals, together with an e-learning module, to assist staff in treating hyperkalaemia.

Remember:

- Licensed soluble insulin contains 100units/ml. Each 10ml vial contains 1,000 units of insulin.
- The adult dose of insulin used to treat hyperkalaemia is 10 units, which must be measured using an insulin syringe.
- Insulin should be infused in 50ml of glucose 50%. This high concentration of glucose is used to prevent hypoglycaemia.
- Obtain a second check at every stage of preparation and administration. One of the practitioners involved must be a senior nurse on duty.

Watch out for the kit and e-learning module in your hospital.



Not just a sticking plaster

Did you know that a Fentanyl '50' patch (Durogesic DTrans[®]) is approximately equivalent to 135 - 189mg of oral morphine per 24 hours?

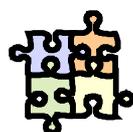
For information on dose equivalents of other strengths of fentanyl patches and other opioid patches, see Summary of Product Characteristics, BNF or your hospital guidelines.

Number time



1. A 3 year old child weighing 15 kg requires treatment with phenytoin at a dose of 4mg/kg daily in two divided doses. Phenytoin suspension 30mg/5ml is available. How many mls are required for each dose?
2. A patient is prescribed hyoscine hydrobromide 2.4mg over 24 hours sub-cutaneously. On the ward is hyoscine hydrobromide 400 micrograms/ml. How many ml are required for each 24 hour dose?

Answers overleaf



Puzzling paraldehyde

Paraldehyde is administered rectally for the treatment of status epilepticus in children. It must be diluted before administration. A ready prepared enema solution is available from a specials manufacturer where paraldehyde has been diluted with an equal volume of olive oil.



Doses in the BNF for children are expressed as the volume of paraldehyde. Confusion can occur if staff are unsure whether the prescribed volume is that of paraldehyde or of paraldehyde and olive oil enema.

For example, the dose of paraldehyde for a 1 – 2 year old child is 2ml. This is 4ml of paraldehyde and olive oil enema.

Safety tips

- ✔ When prescribing paraldehyde always be clear whether the prescribed volume refers to paraldehyde or paraldehyde and olive oil enema.
- ✔ When administering paraldehyde, always check the dose. If you are unsure whether the prescribed dose refers to paraldehyde or paraldehyde and olive oil enema, check with the prescriber.

Novo Mix-up

Confusion between NovoMix® and NovoRapid® has resulted in prescribing, dispensing and administration incidents in Northern Ireland. Incidents of this type are also included in the NPSA Patient Safety Observatory Report *Safety in doses: medication safety incidents in the NHS*¹.



Safety tips

- ✔ Review the storage of insulin and consider separating insulins with similar names and packaging and attaching alert notices.
- ✔ Wherever possible, show the insulin preparation to the patient and confirm that this is the insulin they are expecting to receive.
- ✔ Confirm that the frequency of administration corresponds to the expected frequency for that type of insulin.

Which of the following are long, intermediate and short acting insulins?

- | | |
|----------------|----------------|
| 1. Levemir® | 6. NovoMix 30® |
| 2. Optiset® | 7. Novopen® |
| 3. Lantus® | 8. Innolet® |
| 4. Insulatard® | 9. NovoRapid® |
| 5. Actrapid® | |

Answers below

1. http://www.npsa.nhs.uk/site/media/documents/2806_RevisedPSOforweb.pdf

If you have any comments on this newsletter, please contact Sharon O'Donnell, Medicines Governance pharmacist on Ext: 2600 at Belfast City Hospital or by e-mail at Sharon.odonnell@belfasttrust.hscni.net Further copies of this newsletter can be viewed at www.medicinesgovernanceteam.hscni.net or on your Trust intranet.

Insulin Answers

- 1 and 3 are long acting
- 4 and 6 are intermediate acting
- 5 and 9 are short acting
- 2, 7 and 8 are devices

Calculation answers

- 1. 5ml
- 2. 6ml

The colour purple



The use of intravenous syringes for the measurement and administration of oral liquid medicines has resulted in inadvertent administration of oral medication via the parenteral route. Oral syringes have different tips that make them incompatible with IV equipment thus reducing the risk of this type of incident.

Oral syringes have been in use in some areas and many have been using amber syringes as a visual reminder that the medication in the syringe must be administered via the enteral route.

DHSSPS distributed a NPSA Patient Safety Alert¹ on this subject, recommending the judicious use of colour to aid differentiation from other syringes. The alert highlights that oral/enteral syringes with a **purple plunger** are available. Purple is also the colour used for enteral feeding tubes. Some users found that the meniscus of a clear liquid was more difficult to read on the amber barrel, whereas the purple syringes have a clear barrel.

Find out if your Trust uses oral/enteral syringes – if you have them, remember to use them for all oral liquids where a syringe is required. If you have been using amber oral syringes, be aware that the colour may be changing.

1. http://www.dhsspsni.gov.uk/hsc_sqsd_28-07.pdf



The missing link

Medication incidents have occurred when the dose of a liquid medicine has been expressed as a volume without stating the strength. For example,

Year: 2008		Day and month: →		1/7	2/7	3/7
Circle times or enter variable times and circle						
Medicine: FUROSEMIDE				06 ⁰⁰		
Dose: 10 ML	Route: PO	Start date: 1-7-08	Stop date:	08 ⁰⁰	TM	DC
Special Instructions / Directions			Signature:	14 ⁰⁰		
Signature: * Doctor.		Bleep: 1111	Pharmacy:	18 ⁰⁰		
Print name:				22 ⁰⁰		

There are three different strengths of furosemide available. Liquid medicines are often available in more than one strength.

Safety tips

- ✔ Prescribe the dose in micrograms, milligrams or grams or if prescribing the dose as a volume, include the strength as part of the prescription.
- ✔ When administering liquid medicines, remember that without the strength on the prescription, you do not have the information to administer a dose. Do not assume that the only strength that exists is the only one you know about or that is in stock.