Good Practice Guidance 2: Use of insulin in Care Homes

Key Points

- Ensure the NPSA Alert for the 'Safer Administration of Insulin' has been reviewed and the required actions implemented within the care home.
- All regular and single insulin (bolus) doses are measured and administered using an insulin syringe or commercial insulin pen device. IV syringes must never be used for insulin administration.
- The term 'Units' is used in all contexts. Abbreviations, such as 'U' or 'IU', are never used.
- All clinical areas and care home staff treating patients with insulin have adequate supplies of insulin syringes and subcutaneous needles, which staff can obtain at all times.
- An insulin syringe must always be used to measure and prepare insulin for an IV infusion. Insulin infusions are administered in 50ml IV syringes or larger infusion bags. Consideration should be given to the supply and use of ready to administer infusion products e.g. prefilled syringes of fast acting insulin 50 units in 50ml sodium chloride 0.9%.
- A ***training programme*** should be put in place for all healthcare staff (including medical staff) expected to ***prescribe***, ***prepare*** and ***administer*** insulin.
- Policies and procedures for the preparation and administration of insulin and insulin infusions in clinical areas are reviewed to ensure compliance with the above.

Safer Administration of Insulin

In June 2010 the National Patient Safety Agency (NPSA) issued the rapid response alert 'Safer Administration of Insulin'. The aim of this alert is to reduce wrong dose incidents involving insulin. Between August 2003 and August 2009 the NPSA received 3,881 wrong dose incident reports involving insulin; these included one death and one severe harm incident due to 10-fold dosing errors from abbreviating the term 'unit'. Three deaths and 17 other incidents between January 2005 and July 2009 were also reported where an intravenous syringe was used to measure and administer insulin.

All organisations in the NHS and independent sector should have ensured by **16th December 2010** that:

1. All regular and single insulin (bolus) doses are measured and administered using an insulin syringe or commercial insulin pen device. IV syringes must never be used for insulin administration.

2. The term 'Units' is used in all contexts. Abbreviations, such as 'U' or 'IU', are never used.

3. All clinical areas and community staff treating patients with insulin have adequate supplies of insulin syringes and subcutaneous needles, which staff can obtain at all times.

4. An insulin syringe must always be used to measure and prepare insulin for an IV infusion. Insulin infusions are administered in 50ml IV syringes or larger infusion bags. Consideration should be given to the supply and use of ready to administer infusion products e.g. prefilled syringes of fast acting insulin 50 units in 50ml sodium chloride 0.9%.

5. A ***training programme*** should be put in place for all healthcare staff (including medical staff) expected to ***prescribe***, ***prepare*** and ***administer*** insulin.

6. Policies and procedures for the preparation and administration of insulin and insulin infusions in clinical areas are reviewed to ensure compliance with the above.

This guidance would be equally relevant to nurses administering insulin in care homes. They should read the guidance above, undertake the e-learning programme and record it in their training record.

The two most common errors reported in relation to insulin are:

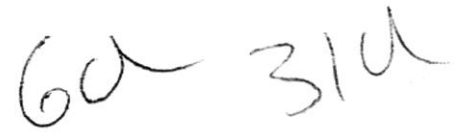
- **The inappropriate use of non-insulin (IV) syringes, which are marked in ml and not in insulin units.**

- **The use of abbreviations such a 'U' or 'IU' for units which may be misread e.g. 10U read as 100.**

Insulin Units

A recent BMJ article[1] discussed the alert and gave some useful prescribing advice:

- Never use abbreviations 'U' or 'IU' for the term 'units' or 'international units'. Incident data showed that many '10 fold' errors arose from use of abbreviations. See examples below:



6 units or 60 units ? 3 international units or 31 units?

10 units or 100 units? 3 international units or 31 units or 310 units?

It is therefore suggested that when prescribing insulin the best way to reduce errors through misperception of the dosage would be **use the lower case and a space left between the dose and the word i.e. '10 units'.**

It should be noted that this guidance should also be applied when labelling dispensed medicines and when producing medicine administration record (MAR) sheets for use in care homes both with and without nursing.

- Use the full, correct name of the insulin. This includes name, strength and origin (human, animal or analogue). Insulin should be prescribed and printed on the MAR chart by brand e.g. Novorapid – generic names should not be used to avoid confusion. If generic names are used either on the prescription or the MAR chart , the care home should discuss with the residents GP or community pharmacist
- Note that some insulins have similar names but very different properties e.g. Novorapid and Novomix.

Take care to complete product names as this could lead to the patient receiving the wrong insulin e.g. Humulin S and Humulin I.

[1] BMJ 2010;341:c5269 http://www.bmj.com/content/341/bmj.c5269.full

The table below summaries responsibilities for prescribing, dispensing and administration of insulin:

	GPs	Nurses	Pharmacists	Care Homes	Patient/Carers
Prescribing	Ensure that insulin prescriptions are written clearly and free from abbreviations. Take particular care with the word 'units'. Ensure correct injecting equipment is prescribed if necessary.	Nurse prescribers: Ensure that insulin prescriptions are written clearly and free from abbreviations. Take particular care with the word 'units'. Ensure correct injecting equipment is prescribed if necessary.			
Dispensing	Dispensing practices: Ensure products are labelled with instructions free from abbreviations. Take particular care with the word 'units'. Ensure MAR sheets also reflect this. If possible, show patient insulin dispensed prior to handing out.		Ensure products are labelled clearly with instructions free from abbreviation. Take particular care with the word 'units'. Ensure MAR sheets also reflect this. If possible, show patient insulin dispensed prior to handing out.		

Administra-tion		If administering insulin to patients ensure an appropriate insulin syringe is used (including appropriate size). Follow guidance from NHS diabetes: **Right insulin** **Right dose** **Right time** **Right way** Training programme available at: www.diabetes.nhs.uk/safe_use_of_insulin		If administering insulin to patients ensure an appropriate insulin syringe is used (including appropriate size). Follow guidance from NHS diabetes: **Right insulin** **Right dose** **Right time** **Right way** Training programme available at: www.diabetes.nhs.uk/safe_use_of_insulin	If administering insulin to patients ensure an appropriate insulin syringe is used (including appropriate size). Follow guidance from NHS diabetes: **Right insulin** **Right dose** **Right time** **Right way** Training programme available at: www.diabetes.nhs.uk/safe_use_of_insulin

Communication

If district nurses administer insulin to residents in a care home, it is important to ensure appropriate communication between the care home staff and district nursing teams to reduce the risk of medication incidents.

It is important that an agreement is reached between healthcare professionals and the care home as to where recording of administration of medicines should take place to ensure there is an accurate record of what has been administered, who administered the medicine and when this occurred.

Also, it is important that care home staff notify the district nurse teams with any admission and discharge of residents from hospital if they require them to administer medicines e.g. insulin. This ensures that the district nurses are aware they need to start re-visiting the care home to administer a residents medicines or that they do not visit a home to find the resident is in hospital. For further information please refer to NHS Oxfordshire 'Good Practice Guidance N – Admission of residents from care homes to hospitals' and 'Good Practice Guidance O - Discharge of residents from hospital to Care Homes'.

Local Guidance

Buckinghamshire and Oxfordshire Cluster has produced local 'Guidance on Type 2 Diabetes Insulin Initiation & Adjustment'. This guidance covers the use of insulin in Type 2 Diabetes only; care homes can request hard copies.

Further Information

- Further information on managing medicines in care homes is available in Outcome 9 of the CQC Essential Standards of Quality and Safety.

- Further information on The handling of medicines in Social Care' can also be found on the Royal Pharmaceutical Society website: www.rpharms.com

- The Nursing and Midwifery Council (NMC) provides guidance and advice on a number of topics which is available on their website; www.nmc-uk.org

- The National Patient Safety Agency also contains safety alerts related to medicines; http://npsa.nhs.uk/

- Safe use of insulin e-learning; www.diabetes.nhs.uk/safe_use_of_insulin

- Oxfordshire Guidelines for Guidance on Type 2 Diabetes Insulin Initiation & Adjustment – hard copy only from Buckinghamshire and Oxfordshire Cluster.

The above links are made available solely to indicate their potential usefulness to users. The user must use their own judgment to determine the accuracy and relevance of the information they contain.

Oxfordshire CHUMS Working Group & Medicines Management Team