High Risk Medications- Insulin Safety

Insulin is a potent, lifesaving medication, but if prescribed or administered inappropriately has the potential to cause harm. It is therefore considered a ‘High Risk’ medication.

Safe use of Insulin

1. The abbreviation ‘u’ or ‘iu’ should not be written for units. The word ‘units’ must be written in full. U can look like 0 (zero) and IU can look like 1U or 10 which can result in overdoses.

![Fig 1. Unapproved abbreviation](image)

![Fig.2 Approved Abbreviation](image)

2. All insulins should be measured in insulin pens or in appropriately-sized insulin syringes marked in units. Tuberculin and other 1ml or 2ml syringes should NOT be used.

![Fig. 3 Insulin Syringe](image)

3. The strength of insulin products is standard at 100 units/ml.

![Fig 4. 100 Units/ml](image)

4. A second practitioner, either medical or nursing, should perform an independent second check of insulin doses. This second check must:

   - include all aspects of administration irrespective of route or administration method,
   - be conducted from preparation through to actual administration and documentation of administration
   - include the use of any devices and calculations.

![Fig 5. Second check](image)
Other safety tips:

- Insulin pens are designed for ‘single patient’ use only. Sharing of pens, even when needles are changed, could result in transmission of pathogens to patients who use the same pen.

- Insulin pens should be labeled with the patients’ details – Remember one pen, one patient.

- A sterile, disposable needle must be attached to an insulin pen for each use.

- Never store an insulin pen with a needle attached. Dispose of the needle carefully in the Sharps bin.

- Never draw insulin from a pen cartridge using a syringe and needle. There is potential for air embolism and incorrect dosages may be delivered if a dose is withdrawn manually and the cartridge then returned to the pen and used.

- Record the date opened on the insulin. Protect open, in-use pens from excessive heat (>25°C) and discard by their expiry date or 4-6 weeks after first opening as specified by the manufacturer, whichever is soonest.

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