



Ensuring the Safe Administration of Insulin

To: All NHS Wales Chief Executives, Medical Directors, Directors of Nursing, Chief Pharmacists, Medication Safety Officers, Patient Safety Teams, General Practitioners, Community Nurses and Community Pharmacists.

For information: Medical, Nursing and Pharmacy Directors in independent hospitals; residential and nursing care homes.

It has been identified that some patients and healthcare professionals have been extracting insulin from pen devices using an insulin syringe and needle. This practice is not safe and results in dosing errors.

Risks associated with extracting insulin from pen devices

High strength insulin preparations are now available (e.g. Toujeo (Insulin glargine) 300units/mL, Humalog (Insulin lispro) 200 units/mL, Tresiba (insulin degludec) 200 units/mL). These high strength insulin preparations are only available as prefilled pen devices. Extraction of high strength insulin from these pen devices, using an insulin syringe, results in the incorrect dose of insulin being administered to patients, and causes patient harm.

Standard Insulin Preparations

Furthermore, the extraction of standard strength insulin from pen devices using an insulin syringe and needle damages the mechanism of the pen device. Subsequent use of the damaged pen device can result in dosing errors, and causes patient harm.

The extraction of insulin from pen devices using an insulin syringe is not permitted.

Use of Safety-Engineered Devices

Under the European Union Council Directive 2010/32/EU, healthcare professionals should use safety-engineered devices (i.e. 'safer sharps,' 'safety needles' or 'safety syringes') when administering injections to minimise the risk of needle stick injuries. Safety-engineered devices or 'safer sharps' are defined as "medical sharps that incorporate features or mechanisms to prevent or minimise the risk of accidental injury."¹ Safety-engineered insulin syringes and pen needles are

Actions

When: As soon as possible but no later than 28 October 2016.

Who: All hospitals and community services (general practices, pharmacists, nurses) where insulin products are prescribed, dispensed or administered.

All NHS Wales organisations must:

1. Identify if insulin is administered in your organisation.
2. Consider if immediate action needs to be taken locally and ensure that an action plan is underway, if required, to ensure the safe and appropriate administration of insulin.
3. Circulate this notice to all medical, nursing, pharmacy and other staff involved in administering insulin to patients.
4. Ensure healthcare professionals and patients never extract insulin from pen devices using insulin syringes.
5. Ensure healthcare professionals use safety-engineered insulin devices to administer insulin.
6. Ensure healthcare professionals are trained and competent in the use of insulin pen devices and safety-engineered insulin needles.
7. Share any learning from local investigations or locally developed good practice resources by emailing: ImprovingPatientSafety@Wales.gsi.gov.uk



available to support the safe administration of insulin. Some safety-engineered insulin needles require a different technique to be used to safely and accurately administer insulin doses. The use of the incorrect administration technique can result in dosing errors because of both failure of the needle to penetrate the skin and/or retention of the insulin within the barrel of the needle. An example of an incident involving a safety-engineered pen needle reads:

“Administered insulin as per protocol. A residue was left on the skin and insulin left in the needle. Therefore, patient did not receive the full dose.”

Investigation of this incident identified that problems with the administration technique had led to failure of the pen needle to advance beyond the plastic surround, resulting in retention of the insulin within the barrel of the needle and uncertainty around the dose of insulin administered.

Organisations must ensure that healthcare professionals, who use safety-engineered insulin pen needles to administer insulin, have received training and are competent in their use. Protocols should be in place to support healthcare professionals to take appropriate action in situations where patients are believed to have received the incorrect dose of insulin because of device failure or any other reason.

Self Administration of Insulin by Patients

Within any hospital setting, patients should be encouraged to self-administer insulin where they are deemed to have capacity and can competently administer insulin using the pen device. Health boards must have policies to support patients to self-administer insulin safely as inpatients. If patient self-administration is not possible, healthcare professionals must administer insulin using the pen device and a safety-engineered pen needle.

References

- ¹ HSE. Health and Safety (Sharp Instruments in Healthcare) Regulations 2013. Guidance for employers and employees. March 2013. www.hse.gov.uk/pubns/hsis7.pdf

Technical notes

Stakeholder engagement

The notice was adapted in collaboration with the Medication Safety Officer network within Wales, the All Wales Therapeutics and Toxicology Centre, the Diabetes National Service Advisory Group for Wales, Think Glucose and Diabetes Specialist Nurse Network in Wales.