One step for medication safety

open FOR BETTER CARE
Hāpai ake te toiora

Insulin administration and monitoring

Check the safety of administration and monitoring in your area – use the six questions to review practice

Background and evidence

Errors have been identified at all stages of the medication management process: prescribing, administration, dispensing and monitoring. Successful management of the blood sugar levels of insulin-dependent diabetics relies on appropriate insulin administration in terms of dose and timing related to food intake. Patients can become hypoglycaemic or hyperglycaemic if doses are not administered on time or if not appropriately monitored, particularly when a patient has another illness affecting their blood sugar levels.

International evidence suggests insulin is frequently associated with adverse drug events. While often the events may not cause serious harm, they can cause patients distress and confusion, and impact on the confidence of patients in managing their diabetes as well as prolong their hospital stay. The UK National Patient Safety Agency[1] reviewed 16,600 reported insulin-related patient safety incidents and identified that 61 percent occurred during insulin administration. Twenty-six percent were due to the administration of the wrong insulin dose, strength or frequency and 20 percent were due to omitted or delayed doses.

The national diabetes inpatient audit 2011 in England and Wales[2] identified that 31 percent of insulin patients audited experienced at least one medication error. These patients were more than twice as likely to experience a severe hypoglycaemic episode compared with patients with diabetes who did not experience a medication error. The most common prescription error, 11.1 percent, was insulin prescriptions not signed as being given.

Two New Zealand district health boards recently reviewed reported errors over a 12–14-month period and identified 97 insulin-related errors.

1 Cousins D, Rosario C, Scarpello J. 2011. Insulin, hospitals and harm: a review of patient safety incidents reported to the National Patient Safety Agency. *Clinical Medicine* 11 (1): 28–30.

2 Healthcare Quality Improvement Partnership. 2012. *National Diabetes Inpatient Audit 2011*. London: Healthcare Quality Improvement Partnership. URL: www.hscic.gov.uk/catalogue/PUB06279/nati-diab-inp-audi-11-nat-rep.pdf.

One step for medication safety

The activity:

To test the timeliness and appropriateness of insulin administration and monitoring for patients, the Health Quality & Safety Commission's Medication Safety team is asking wards/units or hospitals to check six elements of care for insulin patients.

This simple, six-question insulin administration/monitoring data collection tool is designed to allow people to evaluate the current situation for their patients for up to 10 insulin administrations or a maximum of 10 days.

Organisation:		**Ward/Unit:**											
Review of administration		**Insulin administration for one patient**											
For each insulin administration answer these questions	**eg**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Total Y**	**Total Y /Total checked x100**
Was the insulin given within 30 minutes of the prescribed time?	**N/A**												%
Was the insulin given more than one hour before or after the prescribed time?	**N/A**												%
If the patient is not NBM* was the insulin given at the correct time in relation to meals?	**Y**												%
Total Yes												**Total Y**	%
Review of monitoring		**Insulin monitoring for one patient**											
For each day answer these questions	**eg**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Total Y**	**Total Y/ Total checked x100**
Was blood sugar monitoring carried out?	**Y**												%
Was blood sugar monitoring done at the required frequency (as per: care plan, protocol or requested)?	**N**												%
Total Yes													%

* Nil by mouth

One step for medication safety

Reviewing your results

Are there elements of insulin administration timing and monitoring that have greater risk to patients than others?

How can your hospital or team improve the administration and monitoring of insulin?

Improving insulin administration and monitoring

How will you know if a change is an improvement? After raising awareness of this issue locally or within your team and trying a change in practice, you could periodically repeat this insulin administration/monitoring bundle to measure whether or not there has been an improvement.

With thanks to the Patient Safety First Campaign for permission to use the one step approach