

Insulin Optimisation

Summary

- Diabetic patients on insulin should not be over-ordering insulin and stock piling in their fridge. Patients should be made aware of the waste/cost implications if insulin treatment is changed and they still have vast quantities of insulin in their possession.
- Traditionally clinicians have prescribed insulin (especially pens) in whole boxes –packs of 5 pens/cartridges. Pharmacies that dispense insulin can split packs of pre-filled pens or cartridges, if needed, as long as the expiry date is clear on the single pen/cartridge being dispensed and insulin is stored correctly.
- Some patients prefer their insulin to be in its original box. This is acceptable as long as the total quantity being prescribed does not exceed the total amount needed per month/three months/six months.

Aim/Purpose/Background

- Identify patients prescribed INSULIN (pens, vials or refill cartridges).
- Review patient record and assess whether the amount of insulin being prescribed per month/year (according to guidance below) is correct.
- The following link provides information on how to store insulin and expiry dates:
<http://iddt.org/about/living-with-diabetes/looking-after-your-insulin-and-injection-devices/storing-insulin>.
- This is a cost and safety project (patients may be injecting too much insulin, not storing their insulin properly or ordering too much).

Guidance for Action

- Run a report on patients currently prescribed Insulin (for SystmOne) select the action group ENDOCRINE ->DIABETES ->INSULIN. After running the search, you will need to select the 'breakdown results' option in order to exclude patients *not* on insulin, as this search includes patients on lancets and test strips who are not currently being prescribed insulin.
- Check the patient's record to ensure they are having the correct amount of insulin each month. For example, if Mrs Smith injects 30IU daily of Lantus via the pre-filled pens this will equate to 30x30IU = 900IU per month. The 3ml pens contain 300IU each, so the patient will need three pens per month (or 15 pens every five months if whole box required).
- There are several ways to find out how much insulin a patient should be taking:
 - Look at latest diabetes review in patient's history or recent clinical letter from specialist.
 - Phone the patient.
 - Ask the diabetes nurse at the practice.
 - Ask the community pharmacist about whether any insulin is not being picked up by the patient because they do not need it.
- If there are any discrepancies refer to the lead GP or diabetic nurse.
- Make amendment to quantity of insulin on repeat screen once agreed by clinician.

Points for Consideration

- This same review can be applied to patients on 'INJECTABLE DIABETIC MEDICINES' such as Victoza, Lyxumia, Byetta and Bydureon, etc.
- If unsure about dosing regimens please contact your local Diabetic Specialist Service (hospital or community based) for advice. The following link has the contact numbers for Cambridgeshire:
<http://www.cpft.nhs.uk/services/community-diabetes-service.htm>. (These teams provide advice for adults over 18yrs of age, but for children, the latest specialist letter will have the correct clinician to contact).



- Reusable pens for use with 3ml cartridges should not be on repeat and a maximum of 2 should be issued (in case the one in use becomes faulty). They can last for many years if looked after carefully.
- A full list of 'reusable pens' available on FP10 can be found via this link: <http://www.nhsbsa.nhs.uk/PrescriptionServices/4940.aspx>.

Insulin Quantities (NB boxes of insulin can be split)

Calculation Chart for the monthly amount of insulin to be prescribed in relation to daily dose taken					
Daily dose	With air shots used when changing pen needles. Daily units	No. of units used per month with air shots (pens & cartridges)	No. of 3ml cartridges or pens needed per monthly prescription (contain 300 units)	No. of units required per month with no air shot (syringes)	No. of 10ml vials needed per monthly prescription (1,000 units) No air shot required
10 units	22	616	2	280	1 will last 3 months
20 units	32	896	3	560	1
30 units	42	1176	4	840	1
40 units	52	1456	5	1120	2
50 units	62	1736	6	1400	2
60 units	72	2016	7	1680	2
70 units	82	2296	8	1960	2
80 units	92	2576	9	2240	3
90 units	102	2856	10	2520	3
100 units	112	3136	11	2800	3
110 units	122	3416	12	3080	4
120 units	132	3696	13	3360	4
130 units	142	3976	14	3640	4
140 units	152	4256	14	3920	4
150 units	162	4536	16	4200	5

Insulin calculation will be needed for each type of insulin being used. At times of sickness, infection, pregnancy, steroid treatment more insulin will be required for that period. People with type 1 and type 2 diabetes who vary insulin dose with meals will need enough to cover the average amount taken each month **BD Microfine needles are suitable for all devices. Lengths longer than 8 mm should not be used. Skin lifts are important to inject into the subcutaneous layer of skin.**

