



Coping with Illness

Ryan's Story

Ryan has had type 1 diabetes for around two years and he uses a multiple daily injection regime (fast-acting insulin before meals and long-acting insulin at bedtime). He had been out with his friends to the cinema and decided to get a kebab on the way home as he was starving. This was at 7 pm.

At 10 pm he started to feel sick and he vomited when he got home. He had taken his dose of insulin because of all the carbs he'd eaten, so he was a bit worried that he would have a hypo as he'd vomited the food but had taken insulin. Before lunch that day his blood glucose had been 7 mmol/L, and he hadn't checked it since.

He checked it at that point and saw it was 17 mmol/L but didn't know if it was increasing or decreasing. He realised he had taken a bigger insulin dose than usual and he knew that the fast-acting insulin would be working in his body for around 4–6 hours and would possibly be lowering his blood glucose. But he had been told that infections can make your blood glucose rise and he wondered if he'd picked up a stomach bug. He had mostly been worried that he would have a hypo but he knew his high blood glucose would prevent that. Now, however he was worried his glucose would go too high and he might be at risk of diabetic ketoacidosis (DKA) His diabetes nurse had told him about the sick day guidance.

He remembered he should test his blood glucose regularly, test for ketones if it was over 13 mmol/L and drink plenty of water. He also had the NHS 24 phone number of the on-call doctor. So he thought the best thing was just to keep checking his blood glucose every hour and decide what to do as he tested.

10 pm: 17 mmol/L – He had stopped vomiting but still felt a bit sick. He was managing to sip water. He wasn't sure if his high blood glucose was because he'd eaten so many carbs or if the food poisoning was causing it. He remembered signs of DKA were stomach pains, nausea and vomiting and drowsiness. He had all of these apart from drowsiness so he tested his blood ketone level which was 0.6. He knew that a reading over 0.6 was dangerous.

10.30 pm: 17.9 mmol/L – He was worried so tested after 30 minutes and found his blood glucose was slightly higher and ketone level still 0.6. He was still feeling sick but hadn't vomited again. At this point he took his full dose of long-acting evening insulin as he knew it was important not to stop that. He didn't take any fast-acting insulin as a correction dose, but he really wasn't sure what to do.



11 pm: 21 mmol/L – He checked his ketone level which was 0.9. He was still feeling sick but managing to take sips of water. He worked out that he had taken his evening meal insulin at 7 pm, which was 4 hours ago. This reassured him as he knew he wouldn't have much of this insulin left in his system so he wasn't at risk of a hypo. He knew he had to take fast-acting insulin because of his ketone level, however. So he worked out his correction dose as follows:

- His correction factor was 1 unit for 2 mmol/L.
- His blood glucose was 21 mmol/L and his target was 8 mmol/L. This is a drop of 13 mmol/L.
- So 13 divided by 2 = 6.5 units.
- He gave himself 7 units.

At this point he called the on-call diabetes doctor, who reassured him that he was doing the right thing and if he began to feel worse, if his ketone level went any higher, or if he started vomiting again he had to go to A&E.

12 midnight: 20 mmol/L – He still felt sick and continued to sip water. He checked his ketone level and found it was still 0.9. He decided to check it again in an hour and set his alarm.

1 am: 22 mmol/L – He didn't understand the higher result as he was feeling a bit better. He checked again for ketones and found the level was 0.6, so back down to normal. He decided to take another correction dose and calculated it as follows.

- His correction factor was 1 unit for 2 mmol/L.
- His blood glucose was 22 mmol/L and his target was 8 mmol/L. This is a drop of 14 mmol/L.
- So 14 divided by 2 = 7 units.
- He gave himself 7 units.

2 am: 17 mmol/L – He was happy to see his blood glucose was finally dropping. His ketone level was 0.6.

3 am: 15 mmol/L – His ketone level was 0.4 and he no longer felt sick. He decided to get some sleep and set his alarm so that he could check again in 3 hours.



6 am: 14 mmol/L – His ketone level was 0.3. He decided to give himself another correction dose as his last one had been 5 hours ago.

- His correction factor was 1 unit for 2 mmol/L.
- His blood glucose was 14 mmol/L and his target was 8 mmol/L. This is a drop of 6 mmol/L.
- So 6 divided by 2 = 3 units.
- He gave himself 3 units.

