

## Sick Day Management in Type 1 diabetes

Individuals with diabetes know that when they are sick their sugars run higher and that their bodies require more insulin. This means more frequent glucose testing, additional insulin if the sugar is > 11 (200 mg/dL) and often salty fluids. Without these precautions diabetic ketoacidosis (DKA), a life-threatening complication, may ensue.

The earliest stage of DKA can be detected by measuring ketones in the blood (BHB = beta-hydroxybutyrate) before the need for hospitalisation with a finger-poke personal device and BHB test-strips. BCDiabetes recommends using either the Freestyle Lite meter (measures BHB & glucose) or for those who use a Freestyle Libre CGM, using the Freestyle Libre Reader (also measures BHB & glucose) .

Any blood ketone value >0.6 is abnormal and requires immediate action - action is “sick day” management.

### **Sick day management includes**

- 1) test your sugar every 15-30 minutes until it is down-trending - your ultimate target is < 10.0
- 2) test your ketones every 2 hours until down-trending - your target ultimately is < 0.6 though this may take 12-18 hours
- 2) pushing salty fluids: drink 1-2 cups of beef, chicken or vegetable broth every 30 minutes (or make up your own normal saline solution by dissolving 1 level teaspoon of salt in 2 cups of water or 2 level teaspoons in a litre of water).
- 3) taking extra rapid insulin every hour until your sugar is < 12. If your sugar is > 12 (220 mg/dL) give yourself a bolus of rapid insulin every hour equivalent to 15% of the average total daily dose (TDD). Give it subcutaneously (the usual way). Consider this example: if you take insulin glargine U100 34 units once daily and rapid insulin 12@ breakfast, 12@ lunch and 14@ dinner TDD = 34+12+12+14=70 units. Fifteen percent of 70 = 10.5 units so take 10 or 11 units every hour.
- 4) Going to hospital if you are unable to keep fluids down, or after 8 hrs if your sugar is still > 15.

For patients taking SGLT2 inhibitor medication such as dapagliflozin, empagliflozin and canagliflozin who feel unwell, even if sugar is < 10 mM (180 mg/dL) ketones may be elevated. In this case the SGLT2 inhibitor should be stopped, salty fluids, should be consumed and rapid insulin given as noted above.

Short URL = <http://bit.ly/2Y3peJq>