

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 blood glucose testing, additional insulin if the sugar is > 10 (180 mg/dL) and sometimes salty fluids. Without these precautions diabetic ketoacidosis (DKA), a life-threatening complication, may ensue.

The earliest stage of DKA can be detected before the need for hospitalization using a blood ketone meter. BCDiabetes recommends using the [Freestyle Precision Neo meter](#). Not only does it give blood ketone values (beta-hydroxybutyrate, BHB), it also doubles as a blood glucose meter (it takes both regular Freestyle glucose strips and ketone strips).

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

Sick day management includes

- 1) pushing salty fluids: take 1 cup of beef, chicken or vegetable broth every 30 minutes (or make up your own salt solution by adding ½ teaspoon salt per cup or 2 teaspoons per litre).es) and
- 2) taking extra insulin. If sugar > 10 (270 mg/dL) an hourly bolus of rapid insulin equivalent to 15% of the average total daily insulin dose. (example: if you take Lantus 34 units once daily and rapid insulin 12@ breakfast, 12@ lunch and 14@ dinner total daily dose = 34+12+12+14=70 units. Fifteen percent of 70 = 10.5 units so take 10 or 11 units every hour).
- 3) blood ketones should be measured every 2 hours. If ketones remain > 0.6 or sugar > 15 after 6 hours the patient should go to hospital. Any individual unable to keep fluids down with sugar > 15 should go to hospital immediately.

For patients taking SGLT2 inhibitor medication such as dapagliflozin, empagliflozin and canagliflozin ketones may be elevated even when sugar is normal or mildly elevated, say < 10 mM (180 mg/dL). In this case carbs should be consumed and insulin given in the usual way until ketones are <=0.6.