

Macy Thilker

Case Study, Chapter 51, Assessment and Management of Patients With Diabetes

1. Sallie Smith, 42 years of age, is newly diagnosed with type 2 diabetes. During the patient education, the patient asks the nurse, "What should I do if I am sick and can't eat; should I still take my medicine for the diabetes?" (Learning Objective 10)

- a. What management strategies should the nurse provide the patient to deal with "sick days?"
 - a. Illness and stress may cause blood sugar to rise and fall abnormally. On these "sick days" it is essential to stay well hydrated, eat what you can, and most importantly check your blood sugar before each meal and before bed (even more if you're feeling off!). If you are unable to eat your regular diet, look for meal replacements, such as broths and nutritional shakes. Be aware of your blood glucose levels and take your insulin as prescribed. Keep glucagon and some candy close by in case of an hypoglycemic emergency.

2. Jerry Thomas is a 26-year-old type 1 diabetic. He was originally diagnosed at the age of 14, and currently manages his disease with an intensive regimen of insulin injections. Jerry is employed as a schoolteacher and soccer coach. He presents today with a 2-day history of vomiting and diarrhea. He has been closely monitoring his blood glucoses, and is using regular insulin for high blood glucose levels. He has only been able to tolerate liquids such as Gatorade, but today he is unable to even tolerate that, and comes to the clinic for evaluation of possible diabetic ketoacidosis (DKA). (Learning Objective 9)

- a. Describe the pathophysiology of DKA and why it occurs in patients with type 1 diabetes.
 - a. Diabetic Ketoacidosis occurs when the body goes through starvation. When the cells sense a lack of glucose, the liver begins to break down glycogen and glucose. The liver breaks the glycogen into fatty acids that accumulate in the bloodstream, known at this point as ketones. The other products of the reactions, glycerol and amino acids, combined to raise the blood sugar.
- b. Based on the diagnosis of DKA, what assessment findings does the nurse correlate to this disorder?

- a. The nurse can anticipate that Jerry will have a severely elevated blood glucose and positive serum ketones.
- c. The physician orders a complete metabolic panel, and Jerry's blood glucose is 425. Other lab values include a serum sodium of 152, serum potassium of 3.0, and BUN of 64. What is your assessment of these results?
 - a. These labs confirm the diagnosis that Jerry is in DKA. The increased sodium and BUN support Jerry's statement that he has not been eating or drinking, as these are common changes in dehydration. Hypokalemia is often seen in vomiting and diarrhea.
- d. Explain why it is important for Jerry to continue to take his insulin even though his oral intake is decreased.
 - a. Jerry must continue to take his prescribed insulin to facilitate cellular absorption of glucose so that his body does not continue to go through glycogenesis and produce excess ketones.

Resources:

Capriotti, T., & Frizzell, J. P. (2016). *Pathophysiology: introductory concepts and clinical perspectives*. Philadelphia: F.A. Davis Company.

Team, C. C. (2016, February 22). 5 Best Tips to Manage Diabetes When You're Sick. Retrieved April 7, 2020, from <https://health.clevelandclinic.org/5-best-tips-manage-diabetes-youre-sick/>