



A Day in the Life of a Diabetic

Goal

To apply what you have learned about diabetes and how different foods and activities influence blood sugar levels to practical questions.

Background

Normal glucose levels in non-diabetic individuals
fasting 70-110 mg/dL
within 2 hrs of eating 100-180 mg/dL

Assume the person you are studying is a type I diabetic taking insulin. Assume she has eaten a normal dinner the night before and taken a regular dose of insulin.

Step 1 - Predictions

Based on what you know about diabetes, insulin and blood glucose levels, make a prediction as to how and why each of the following activities would affect blood sugar levels (ie, would the proposed activity raise or lower blood sugar levels, by how much, and why) . Then, choose a blood glucose level (mg/dL value or range) which is consistent with your prediction. Be sure to explain why you chose the level you did. You may also record your predictions in the “expected glucose level” column on the attached data sheet.

1. The diabetic wakes up in the morning before breakfast. She has not eaten since the previous evening and took her usual insulin shot before bed.

Predicted blood sugar level - _____ mg/dL

Why?

2. The diabetic eats a normal lunch, sandwich, chips and apple. She measures her blood sugar 2 hrs after this meal.

Predicted blood sugar level - _____mg/dL

Why?

3. In the afternoon, the diabetic runs 10 miles. She usually only runs 2 miles, but today she felt full of energy and wanted to see how far she could run.

Predicted blood sugar level - _____ mg/dL

Why?

4. That evening, the diabetic helps her mother celebrate her birthday and eats a large slice of birthday cake.

Predicted blood sugar level - _____ mg/dL

Why?

Step 2 - Testing your predictions

You will be given a glucose test strip and a liquid solution which represents of the the blood samples taken from the diabetic in this scenario. Note the color of your tube (the plastic tube, not the liquid in the tube). The different colors of tubes refer to the different blood samples that the class will be testing.

purple - time 1 - before breakfast

yellow - time 2 - after lunch

clear - time 3 - after exercise

green - time 4 - after birthday cake

GLUCOSE TESTING INSTRUCTIONS

1. Wet the yellow square on the end of your glucose strip by sticking it into the simulated blood in your tube. When the square is wet, remove it from the liquid.

DO NOT leave your glucose strip in the blood sample longer than the time needed to wet it.

2. Wait one minute.

DO NOT wait longer than one minute. The strip will become darker over time!

The color of the yellow square will change to green. At one minute, determine the glucose concentration in your simulated blood sample by comparing the color of your strip to the color of the squares on the can. If your color is between two of the squares on the can, estimate a number between the two.

3. Record your value on the attached activity sheet

Step 3 - Data Analysis

How does the glucose level you obtained compare with the level you predicted in step 1.