



**Ottawa Science
Innovation
Challenge
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Ottawa Science Innovation Challenge

Acknowledgements

**This case was developed by
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Case designed by Ericka Ogouma**

Hormonal Disorders





Case study 1

Hidden Differences

Adelaide Gunn



Jetta retreated over to the side of the yard after the group of kids had finished playing pool games.



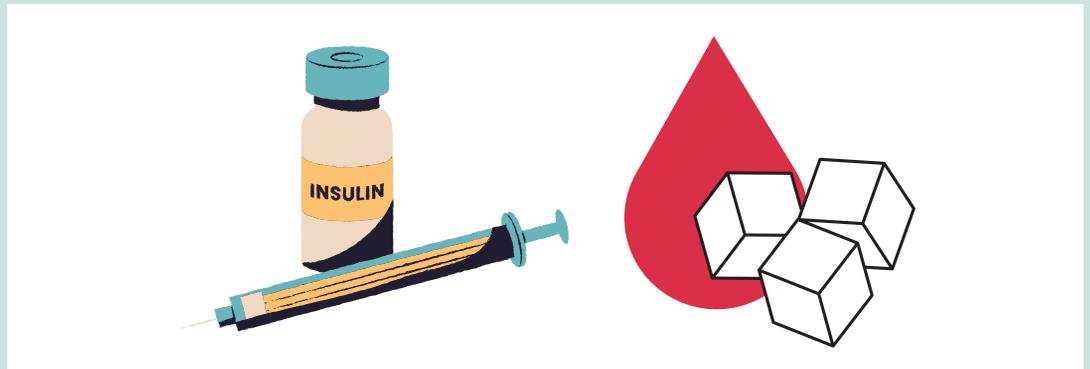
“Hey, what are you doing?” asked Cairo. “We’re about to have my birthday cake!”



“I have to check my blood sugar, it won’t take long!” she replies, as she pokes her finger and starts bleeding.



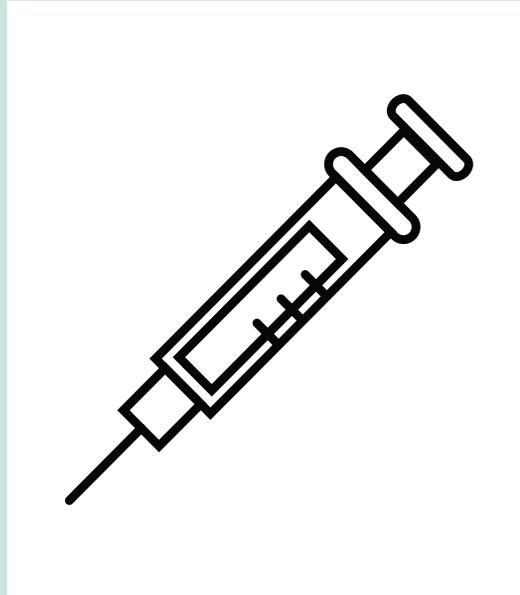
“Woah! What does that mean?” Cairo inquired, concerned.



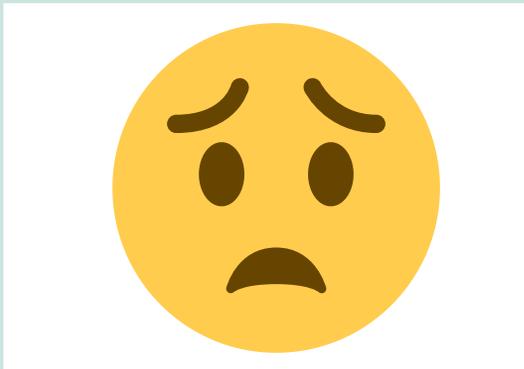
I have diabetes, so my pancreas doesn't produce a hormone, insulin, that you need to create energy from the food that you eat!” explains Jetta. “Because we’re about to eat, I need to check the amount of sugar in my blood already and make sure I take the right amount of insulin, so I don’t get sick after eating the sugar in the cake!”



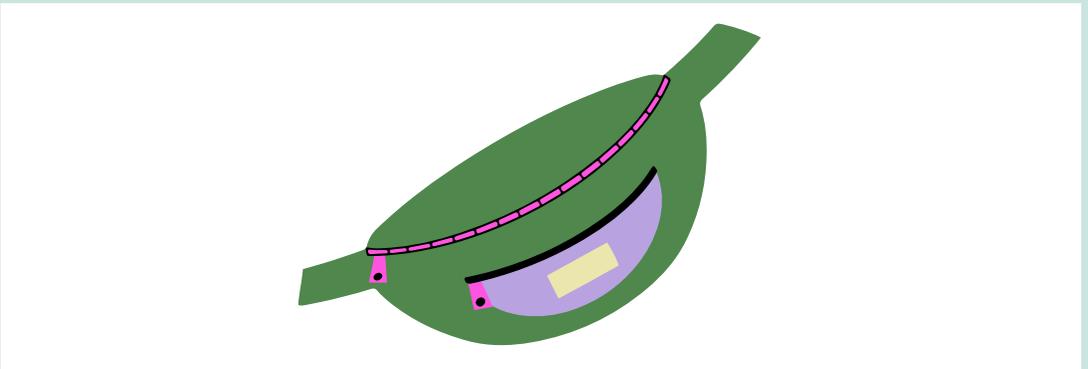
After the monitor finishes analyzing the blood, she pulls out more medical supplies. “Oh wait! I know what that is! My grandpa just got it and now grandma won’t let him eat anything good!” laughs the birthday boy. “How did you get it?”



“Let me show you how it works. You’re not scared of needles, are you?” Jetta asks as she is about to start her injection. “No, it’s okay, I’m so curious!” he answers, following her every move. She continues, “I have type 1, your grandpa probably has type 2. The one I have is not something you can catch, I was born with it, and doctors don’t really know why it happens. For type 2 diabetes, adults usually get it from eating poorly throughout their lives!”



“Oh... Are you sure the cake isn’t bad for you?” Cairo questions worriedly.



“I have to be careful of what I eat, but I can have anything and everything in moderation! As long as I manage my medication properly, it’s no problem!” She starts packing away the waste she used. “I can’t believe I never knew this before!” he exclaims astounded, “So is that why you carry that bag everywhere with you?”



“Yes! I need to carry my medical devices, medications, and candy!” Jetta states as she shows her friend the contents of her belt bag. “I wish I was forced to have candy all the time, you’re so lucky!” sighed Cairo, still thinking about his triple chocolate and rainbow candy cake waiting in the kitchen.

“Well, not really,” She informs him, “If I need to have it, that means I have low blood sugar. It’s called hypoglycemia and I’ll feel really faint, weak, and awful overall!”



“I’m so sorry I didn’t mean to say that, it must be really horrible to have this disease.” he muttered apologetically. Jetta, finished with her pre-meal process, starts heading indoors along with the rest of the children, who had finished drying off and getting dressed.

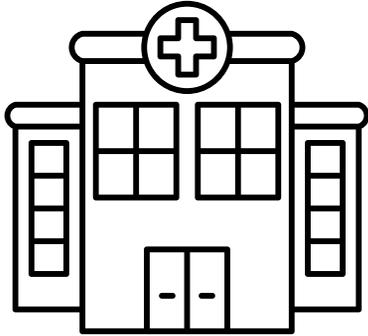
“Well, I do have to be careful. I go to the doctor often because there are a lot of possible complications that could happen, like heart disease, kidney damage, bone deterioration, or even more serious autoimmune diseases. But, it doesn't stop me from doing anything if I want to do it!” she explains kindly, “Let’s go eat cake!”



Case study 2

Should I be worried?

Katherina Goodman



“Well here goes nothing” Sabine thinks to herself as she pushes open the doors to the clinic. She was here just a week ago for an appointment with her doctor after a recent change in her health left her feeling worried.

She started noticing the changes about a month ago. At first, she began to lose her appetite and, as a result, a significant amount of weight. Her heart had also been beating very quickly, but work had been very busy, so she assumed it was just stress and was not too concerned. However, last week she noticed that her neck was swollen and decided that it was time to check with her doctor. After reviewing her symptoms and inquiring about her family health history, her doctor, suspecting a thyroid disease, referred her for a blood test which she completed a few days ago. This morning, she received a call informing her that her results were back from the lab. The very results over which she had been losing sleep and stressing for three days now. The results that would finally explain what is wrong. “Sabine Martin?” she heard the receptionist call as she was brought back to the present. “The doctor will see you now.” Thanking the receptionist, she walks into the examination room.



“Hello Sabine, how have you been?” asked the doctor. “Good, all things considered. Just nervous about the test results.” “Well, as we told you over the phone, we have received the results from your blood tests back from the lab.” Sabine nodded.



“It seems that you have a condition known as hyperthyroidism” he paused. “Your blood tests came back with increased levels of thyroxine, a hormone known for regulating metabolic functions. Thus, an increase in T4 would explain your symptoms” he added.



“Should I be worried?” “Hyperthyroidism is fairly common within your demographic. Luckily, we caught it early” he assured her. “I’ll prescribe you some Tapazole, an antithyroid drug, which will limit your thyroxine production” he added.

“Thank you!” Sabine exclaimed before leaving the clinic feeling like a weight has been lifted from her shoulders.

