

Effects of Exercise, Illness, Stress, and Growth on Blood Sugar Levels



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Exercise, illness, stress, and growth all affect blood sugar levels in a child with type 1 diabetes.

Exercise makes insulin work more effectively because it takes less insulin to balance the carbohydrates consumed. Therefore, children who begin to exercise more may find that taking their *typical* doses of insulin before eating a *typical* amount of food may result in lower blood sugar levels. (*Note: Every child is unique and several factors affect blood sugar levels, so exercise will not always result in lower blood sugar levels.*)

At school, this situation occurs in physical education classes, where activities and intensity levels vary daily. Sometimes students are learning how to play a game, and the physical intensity level is low. Other days, students spend more time playing games, running, or doing other strenuous activities. On days like this, children with diabetes should be more aware of how they are feeling and have extra snacks and insulin on hand. Physical education teachers should monitor the student more closely before and during the activity.

A child may also be more active during recess and field trips. Older children with diabetes who participate in a sport need to plan for this additional activity. They may reduce insulin intake or eat extra food before the activity begins.

Illness and stress, on the other hand, often cause blood sugar levels to rise. A child who doesn't feel well may have trouble performing in class. She may have difficulty concentrating, for example. In such cases, the teacher can help reduce some of the stress by providing extra time for students with type 1 diabetes to complete tests or other work. Teachers may also need to be more patient as the student works to grasp new ideas and concepts.

Sometimes a child will achieve (at least for a short time) the "perfect balance" of insulin and food intake. Life can be rewarding and even close to *normal* for several months or longer. Then something as simple as a growth spurt could suddenly throw everything off. Early adolescence is an especially difficult time: the body grows, and hormones turn boys and girls into men and women. Children may have more issues with blood sugar at this time and require more help emotionally and physically, both at home and at school.