

GUIDELINES FOR INSULIN ADJUSTMENT

Insulin can be adjusted for:

- patterns of low blood sugars
- patterns of high blood sugars
- planned activity
- changes in meals
- illness

or using a variable dose insulin schedule (sometimes called a sliding scale) to correct blood sugars above the goal range.

1. Know your blood sugar goals (same for all ages):

Time	Blood Sugar Goals
before meals	4-8 mmol/L
after meals	5-10 mmol/L
bedtime	6.7-10 mmol/L
overnight	4.5-9 mmol/L

2. Look for patterns of blood sugars that are outside of the goal range at the same time of day for at least 2-3 days.
3. Decide which insulin needs adjusting. This will be the one that has the **most** effect at the time of day when blood sugars are too high or too low. Change only one insulin dose at a time.
4. Adjust for low blood sugars first. Then adjust for the high readings.
5. If there is more than one time of day when the blood sugars are high, begin by adjusting insulin to bring down the blood sugars that happen **earliest** in the day.
6. If **all** of the blood sugars are high, begin by adjusting insulin to bring down the **morning** blood sugars. See what effect this has on the rest of the blood sugars before making other changes.

7. Adjustments to food and/or activity can often be made instead of changing the insulin.
8. How much to adjust the insulin?

If the current insulin dose is...	Adjust the insulin up or down by...
5 units or less	$\frac{1}{2}$ unit
6-15 units	1 unit
16-30 units	2 units
more than 30 units	3-4 units

9. Always assess the effect of dose changes. Wait 2-3 days before making another insulin adjustment. If you have adjusted the same insulin twice and blood sugars are still not in the goal range, contact the Diabetes Clinic for advice.
10. Insulin doses may need to be decreased for physical activity. Adjust the insulin which is having the most effect during the time of the activity.
11. Guidelines for decreasing insulin for activity are:

For this kind of exercise...	Decrease the insulin by...
moderate activity	20%
strenuous or long-lasting activity	30-40%
strenuous activity planned within 2 hours of injecting rapid-acting insulin (Humalog®, NovoRapid® or Apidra®)	up to 50%

12. For activities lasting many hours, more than one insulin (i.e. both the rapid- and the long-acting insulins) will likely need to be decreased
13. These guidelines are very general and need to be individualized. Extra blood sugar monitoring is needed before, during and after any new activity. After a few personal experiences, you will be able to judge how much of an adjustment is needed for a specific activity.

See also our handouts [Insulin Adjustment](#) and [Which Insulin Affects Which Blood Sugar?](#)

Our [Online Insulin Dose Adjustment Self-Learning Program for Parents of Children with Diabetes](#) is a tool to learn about insulin adjustment. It is available at www.bcchildrens.ca/health-info/coping-support/diabetes/insulin-dose-adjustment.