

H: Problem Solving and Adjusting Insulin

H1: Insulin adjustment and frequently asked questions

There are some general guidelines to help you to adjust your insulin doses and resolve problems with your blood glucose levels. These guidelines relate to basal bolus regimens where you are giving rapid acting insulin with carbohydrate and long acting insulin once or twice per day. If the blood glucose level is out of target, review portion size, check carbohydrate counting is correct for the meal before, and check whether snacks are being eaten without insulin. If you are satisfied you have considered all these factors then consider changing the insulin to carbohydrate ratio (e.g. if you want to increase the insulin dose go from 1 unit:10grams to 1 unit:8 grams). **If in any doubt always ask a member of the diabetes team.**

Exercise such as school sports/swimming/dancing/shopping can affect your glucose results

Look to see if there is an association as you may need to give less insulin before such events. It is generally better to get glucose levels in target in the morning first and then work through the day.

You should only change insulin doses if there is a trend of **three** or more high or low blood glucose levels. It is important to only change one dose of insulin at a time and to wait for 2 -3 days before making any further changes. If the blood glucose levels do not respond as you expected, please ring a member of the Diabetes Team for advice.

H2: Frequently Asked Questions

In this section we have tried to address frequently asked questions such as:

- What to do if you are high
- What to do if you are low at certain times of the day
- What to do if you have missed your insulin
- What to do if you have given the wrong insulin
- What to do if you have given the wrong amount

These guidelines relate to basal bolus regimens where you are giving fast acting insulin with carbohydrates and long acting insulin as a background.

It is important to remember Don't Panic if you have given the wrong insulin or amount. Please ring the team or advice line.

The important thing is to correct the action to minimise hypoglycaemia or hyperglycaemia and ketones.



What to do if your blood glucose is 'High'

Q	Is your blood glucose level above 7mmol/L on most mornings before food?
A	<p>Yes.</p> <ul style="list-style-type: none"> First check a blood glucose level around 2-3am to ensure you are not going low overnight. Make sure you are going to bed with a glucose level in target , if so check your glucose level is within target in the morning. If your bedtime glucose is within target but your blood glucose levels rise during the night then increase your long acting Insulin by 0.5-1unit if taken at night. Wait 2-3 days and repeat if still above 7 mmol/L. on waking. If your bedtime glucose levels are above target at bedtime which then makes them high in the morning you need to concentrate on improving your pre bed glucose levels.
A	No. Leave your long acting dose the same.
Q	Is your blood glucose level above 7mmol/l before lunch on most days?
A	Yes. If you do not eat a snack mid-morning, consider increasing your meal ratio with breakfast. If you have a mid-morning snack you may need extra insulin with this, or consider omitting snack, or limit carb amount. If unsure what to do discuss with your diabetes nurse.
A	No. Keep your ratio with breakfast the same.
Q	Is your blood glucose level above 7mmol/l before tea on most days?
A	Yes. If you do not have a snack mid-afternoon, consider increasing your meal ratio with lunch. If you have a snack mid-afternoon you may need insulin with this, or consider omitting snack, or limit carb amount. If unsure what to do discuss with your diabetes nurse.
A	No. Keep ratio with lunch the same.
Q	Is your blood glucose level above 7mmol/L before bed on most days?
A	Yes. Consider increasing meal ratio with tea if certain no other snack has been eaten.
A	No. Keep ratio with tea the same.
Q	Have you eaten anything and forgotten to give Insulin?
A	Yes. Give rapid acting insulin now for carbohydrates eaten.
A	No or not sure. Recheck blood glucose in 60 mins and give correction if necessary. Use your Insulin Sensitivity Factor (correction dose) to work this out. See ISF chart. Or call diabetes team for advice.
Q	Have you given insulin in the last 90 mins?
A	Yes. Do nothing and recheck blood glucose in 60 mins.

A	No. Give a correction dose using rapid acting Insulin. Or you could wait until the next meal to give a correction if answer to next question is no.
Q	Do you have blood ketones over 0.6mmol/L?
A	Yes. Consider contacting the Diabetes team for urgent advice. Give a correction dose of Rapid Acting Insulin now. (unless you have given insulin in the last 90mins, then recheck blood glucose and ketones in 60 mins)
A	No. Add a correction dose of Rapid Acting Insulin to next meal.

What to do if your blood glucose is 'Low'

Q	Is your blood glucose level below 4 .0mmol/L on most mornings before food?
A	Yes. Reduce your long acting Insulin by 0.5-1unit if taken at night. Wait 2-3 days and repeat if still 3.9mmol/l or below.
A	No. Leave your long acting dose the same.
Q	Is your blood glucose level below 4 .0mmol/L before lunch on most days?
A	Yes. Decrease your meal ratio with breakfast. Alternatively, consider giving small snack mid-morning without insulin. If unsure what to do discuss with your diabetes nurse.
A	No. Keep your ratio with breakfast the same.
Q	Is your blood glucose level below 4 .0mmol/L before tea on most days?
A	Yes. Decrease your meal ratio with lunch. Alternatively, consider having small snack mid-afternoon without insulin. If unsure what to do discuss with your diabetes nurse.
A	No. Keep ratio with lunch the same.
Q	Is your blood glucose level below 5.0mmol/L before bed on most days?
A	Yes. Consider decreasing meal ratio with tea.
A	No. Keep ratio with tea the same.
Q	Are you low following exercise/activity?
A	Yes. Consider having extra carbohydrates before, during or after. This could be either as a sports drink or eaten as light snack. Alternatively consider giving less insulin with your meal if exercise is within 2 hours.
A	No or not sure. Discuss with your diabetes nurse or dietitian for further advice.
Q	Have you given a correction dose within the last 2 hours?
A	Yes. Consider adjusting your correction dose to give less insulin. If you are unsure how to do this discuss with diabetes nurse.
A	No or not sure. Ring to discuss



What to do if you have forgotten to take your long acting insulin

Q	Do you normally take your long acting insulin at night?
A	Yes. Take half usual dose in the morning and take full dose in the evening. Test blood glucose more frequently and if more than 10mmol/l correct at meal times with fast acting insulin. Test blood glucose overnight between 2-3 am to ensure you are not hypoglycaemic.
A	No. See next question.
Q	Do you normally have your long acting insulin in the morning?
A	Yes. If you remember your missed dose before mid-day take your normal dose immediately.
A	Yes. If you remember your missed dose after mid-day , take half your normal dose of long acting insulin and then give your normal dose the following morning. Test your blood glucose levels more frequently. Correct at meal times with fast acting insulin. Check blood glucose level between 2-3 am to ensure you are not hyperglycaemic (too high). If blood glucose levels are over 14mmol/L with ketones greater than 0.6mmol/L give a correction dose using fast acting insulin. Use your Insulin Sensitivity Factor (ISF) see chart.

What to do if you have forgotten to take your rapid acting insulin

Q	Is it within 30 mins of eating?
A	Yes. Give fast acting insulin for carbohydrates eaten.
A	No or not sure. Check blood glucose levels now. If over 14mmol/l check for ketones. If ketones greater than 0.6 mmol/l give a correction dose now using fast acting insulin. Use your Insulin Sensitivity Factor (ISF) see chart, or contact diabetes team for further advice.

What to do if you have given the wrong insulin

Q	Have you given rapid acting Insulin instead of long acting Insulin ?
A	Yes. Check your blood glucose levels 1 hourly for the next 4 hours and give extra food containing carbohydrates (without insulin). Treat hypoglycaemia with fast acting glucose. Call the diabetes team for further advice.
Q	Have you given long acting Insulin instead of rapid acting Insulin ?
A	Yes. Call the diabetes team for advice.

If you have 2 or 3 injections each day, please discuss with your Diabetes Team. If you are uncertain about your accuracy of the insulin to carbohydrate ratio ask about doing a test meal