



Adjusting your ultra – long-acting basal Insulin

Name of my insulin	Name of my device
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My target glucose range is:

mmol fasting

mmol pre-evening meal

mmol pre bed

Ultra long-acting insulin works in the background to control glucose levels between meals and when fasting overnight. It is usually given once daily. Checking your glucose levels before bed and comparing this to your fasting (when you wake up before you have anything to eat or drink other than water) result will help you see how effectively your insulin is working. If your result remains within 2-3 mmol/L then your dose is correct.

The step-by-step approach to basal insulin dose adjustment

1. Is your fasting glucose reading out of target range?
2. Exclude other causes for above or below target glucose, for example changes to usual routine, illness, and snacks, physical activity, alcohol, missed diabetes medication doses.
3. Is there a consistent pattern in your glucose readings over 5 days?
4. If yes, follow chart below:

Current Insulin Dose	Recommended Change to your Basal insulin Dose
10 – 20 units	If your glucose is above your target increase your dose by 1 – 2 units If your glucose is below your target decrease your dose by 1 – 2 units
21 - 30 units	If your glucose is above your target increase your dose by 2 – 3 units If your glucose is below your target decrease your dose by 2 – 3 units
More than 30 units	If your glucose is above your target increase your dose by 3 – 4 units If your glucose is below your target decrease your dose by 3 – 4 units

5. Review your glucose over 5 days after the change - has the insulin dose adjustment been effective?
6. Repeat the process from step 1 until target achieved.

Only make **one** dose adjustment at a time every 5 days. You will know when you have made the correct changes as your glucose levels will stay within your target range without experiencing regular hypos (when your glucose falls to below 4 mmol).

See overleaf for hypo signs symptoms and management.

Information for Patients

If you experience a hypo overnight (glucose falling to below 4 mmol/l), please immediately decrease your insulin dose by the amount stated above.

What is hypoglycaemia?

Hypoglycaemia or a 'hypo' is where the level of glucose in your blood drops too low. A glucose level of below 4.0 mmol/L is the beginning of a hypo. Some people may experience hypoglycaemic symptoms at higher blood sugar levels.

What are the signs?

Low glucose has a different effect on everyone. The signs and symptoms can include:

- Hunger
- Irritability
- Blurred vision
- Trembling or dizziness
- Feeling drowsy
- Sweating heavily
- Tingling of the lips
- Difficulty concentrating
- Slurred speech
- Looking pale

If left untreated, a severe hypo can lead to unconsciousness. If you are unable to wake up a person with diabetes, call 999 immediately.

How to treat a hypo

At the first signs of a hypo, you should test your blood glucose level to confirm hypoglycaemia. If you are using a CGM device (Libre or Dexcom) please confirm that you are experiencing a hypo by using a manual (finger prick) test with a glucose meter. If your blood glucose level is below 4.0 mmol/L, have 15-20g of a fast-acting carbohydrate.

Examples of hypo treatment are:

- 200ml (a small carton) of smooth orange juice
- 60 ml Glucojuice or Lift, 5 glucotabs or 6 dextrose tablets
- A glass of ordinary (not diet) fizzy drink. Check the amount of carbohydrate per 100ml as these vary. You often need more than 200ml
- Sweets: 4-5 jelly babies, or 8- 10 jellybeans, 5-6 wine gums or fruit pastilles

Wait 10-15 minutes and re-test your blood sugar level.

If your level is still low, take another 15-20g fast-acting carbohydrate and re-test after another 10-15 minutes. If your level is 4.0 mmol/L or higher, you should then eat some longer-acting carbohydrate. If it is not a mealtime, have a snack of 15-20g of longer-acting carbohydrate to make sure your blood sugar level does not drop again before your next meal.

This could be one of the following:

- A small banana
- A slice of bread or toast
- A pot of yogurt
- A small bowl of breakfast cereal
- A glass of milk (half a pint)
- A medium slice of malt loaf
- Two digestive biscuits
- A two-finger wafer bar.

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