

Insulin titration and adjustment

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Guidance for titrating and adjusting insulin in Type 2 diabetes

Guideline for Insulin dose titration (Adapted from NICE CKS)[i]

Starting insulin therapy

1. Review blood glucose results. Do not adjust the insulin dose based on a single high blood glucose result. Assess the overall picture.
2. If blood glucose targets have not been reached: Titrate the insulin dose, and review every 7 days or weekly depending on response. Continue to titrate the dose until the individually agreed blood glucose target is reached, or hypoglycaemia limits further titration.
3. Consider every dose adjustment as a trial. Monitor the response.
4. Once-daily regimen (usually taken at bedtime) Review pre-breakfast (fasting) blood glucose levels, as this usually gives a good indication of effectiveness. Titrate the individual insulin dose, increasing it by 10% when appropriate (although this can vary from 5–20%, depending on the individual, for example a smaller increase for frail elderly people and a higher increase for obese people).

Titration in once daily injection

Average fasting blood glucose	Insulin dose increase
Greater than 10 mmol/L	Increase daily dose by 8 units
8–10 mmol/L	Increase daily dose by 4–6 units
6–8 mmol/L	Increase daily dose by 2–4 units
<5	Reduce daily dose by 2–4 units

After a period of time, the insulin dose can then be increased by 10% if three consecutive fasting blood glucose results are higher than the agreed blood glucose target.

Twice-daily regimen

1. Adjust pre-breakfast insulin dosages based on the pre-dinner glucose level (for example, based on average records from 3 consecutive days).
2. Adjust pre-dinner insulin dosages based on pre-breakfast glucose level (for example, based on average records from 3 consecutive days).
3. Titrate the individual insulin dose, increasing it by 10% when appropriate (although this can vary from 5–20%, depending on the individual, for example a smaller increase for frail elderly people and a higher increase for obese people).
4. Alternatively, titrate the dose using the schedule shown in Table 1.
5. If hypoglycaemia becomes a problem: a reduction in insulin dose is indicated, consider reduce the insulin dose by 20%.
6. Consider switching to a long-acting insulin analogue if hypoglycaemia is a significant problem