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Insulin Dose Titration Decision Support Tool

This Insulin Dose Titration Decision Support Tool is not applicable to patients on continuous subcutaneous insulin pump treament.

Basal Bolus Insulin Regime

- **Standard CBG target** is 6-10mmols (4-12mmols acceptable)
- **Conservative CBG target** (for frail, elderly, end of life) is 6-15mmols.

Quick acting insulin with meal
(Novorapid/Humalog/Apidra/Fiasp/ Actrapid/Humulin S)

Once or twice daily basal/background insulin
(Lantus/Levemir/Tresiba/Toujeo/Abasaglar/ Humulin I/Insulatard/Insuman basal)

If patient has type 1 diabetes and is carbohydrate counting trained
e.g. DAFNE trained, and capable and competent to self-manage their diabetes, they should be able to self-adjust their insulin doses.

If patient on fixed subcutaneous doses follow flowchart below

CGB> 18mmols and standard CBG target *

(see Management of Hyperglycaemia in Patients with Diabetes Decision Support Tool)

Persistent levels above 14mmols for 24 hours or above 12mmols for 48 hours
(ensure urine/blood ketones are checked in type 1 diabetes)

High pre breakfast blood glucose levels

Exclude overnight hypoglycaemia

Increase bedtime basal insulin or once daily basal insulin by 10%

High pre meal blood glucose levels

Increase PRECEEDING quick acting insulin dose by 1-2 units or 10%

Hypoglycaemia blood glucose below 4mmols

Ensure hypoglycaemia appropriately treated. Look for obvious precipitants.

Overnight hypoglycaemia

- Once daily basal insulin: reduce basal insulin by 10% if CBG 3-4mmols by 20% if CBG below 3mmols
- Twice daily basal insulin: reduce evening/teatime basal insulin by 10% if CBG 3-4mmols by 20% if CBG below 3mmols

Ensure access to bedtime snack

Hypo pre meal

Reduce PRECEEDING meal time insulin dose by 10% if CBG 3-4mmols by 20% if CBG below 3mmols

Review CBG pre-meal and at bed-time daily and titrate insulin every 48hr if required.
If persistent problems seek advice from diabetes team via ICE

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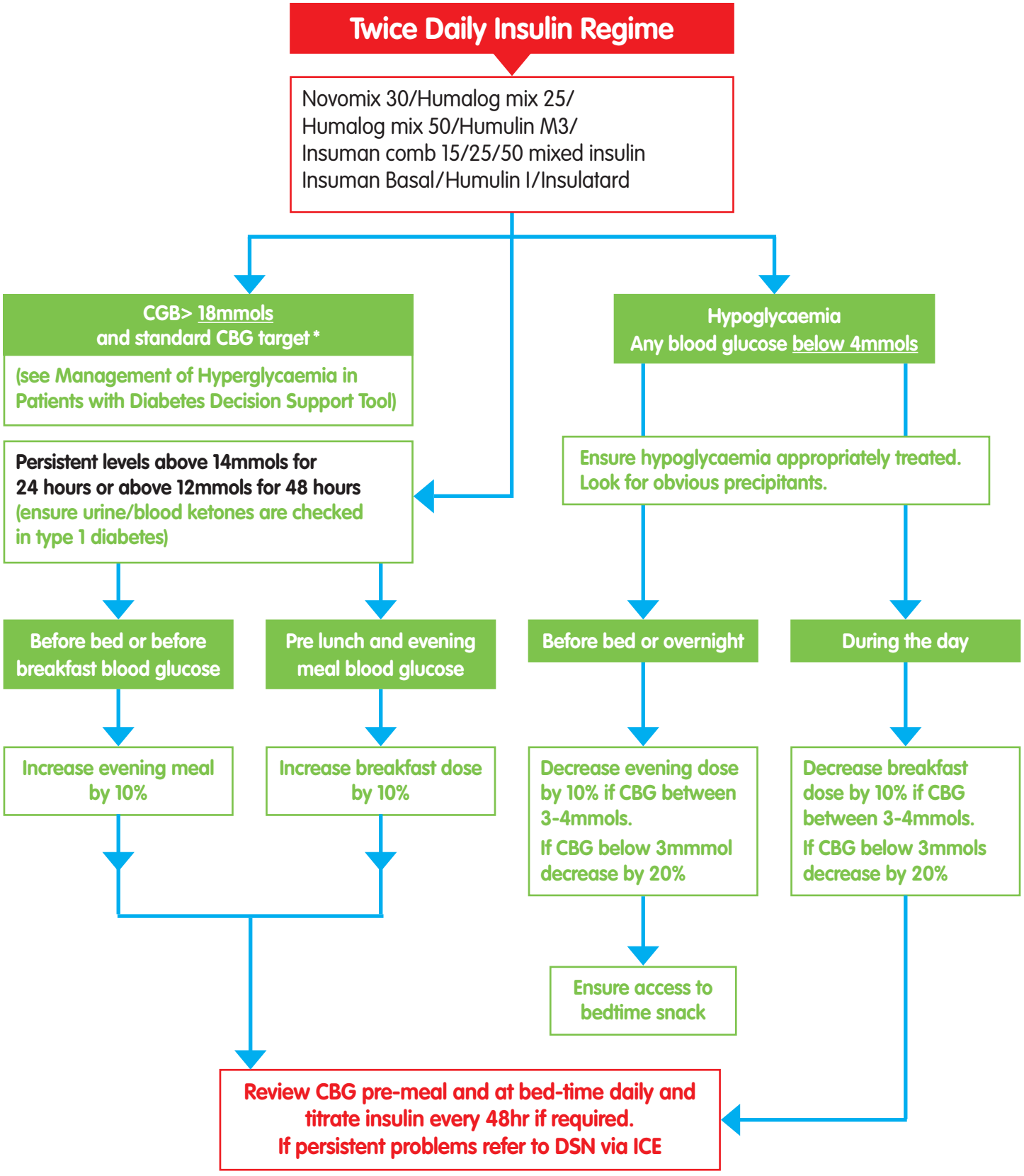

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Once Daily Insulin Regime

Levemir (Detemir)/Lantus/Insulatard/Humulin I/Insuman basal/Tresiba/Toujeo/Abasaglar

Please note:

- Once daily regimen titration should be based on pre breakfast blood glucose levels.
  Daytime levels will probably be higher but expected to fall overnight.
  If daytime hyperglycaemia is a problem, regimen may need changing so refer to DSN team
- Patients on once daily insulin regimes usually have type 2 diabetes and take other glucose lowering medications. These should also be reviewed when insulin doses reviewed.

CGB> 18mmols and standard CBG target *

(see Management of Hyperglycaemia in Patients with Diabetes Decision Support Tool)

Persistent levels above 14mmols for 24 hours or above 12mmols for 48 hours
(ensure urine/blood ketones are checked in type 1 diabetes)

Before breakfast blood glucose

Exclude overnight hypoglycaemia by reviewing green diabetes chart

Increase by 10%

Hypoglycaemia
Any blood glucose below 4mmols

Ensure hypoglycaemia appropriately treated. Look for obvious precipitants.

Overnight hypoglycaemia

Ensure access to bedtime snack

Daytime hypoglycaemia

Reduce insulin by 10% if CBG 3-4mmols or by 20% if CBG below 3mmols

Monitor blood glucose level pre meal and 10pm
Titrate insulin every 48 hours if required.
If this does not work refer to diabetes team via ICE

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Insulin Dose Titration Decision Support Tool Guidance Notes

Sepsis, reduced mobility, stress, steroids and supplementary feeding can all have an effect and may increase blood glucose levels.

Once the patient is well, doses may need reducing back to their pre-admission doses to prevent hypoglycaemia at home.

- Ensure medication has been given as prescribed and patient compliant with regimen
- Ensure correct insulin is being administered at correct time - Insulin is a time-critical medication

Right person
Right insulin
Right time
Right place
Right dose
Right device

Never abbreviate units to "u" or "iu" as abbreviation can result in a 10x insulin overdose.

- Exclude any mechanical problems with insulin delivery device (pen device working correctly?)
- Insulin pen devices should be prescribed on a named patient basis and should always be used with an insulin safety needle.
- Use insulin safety syringe for administration if using a vial of insulin.

Never draw insulin from a pen device with a syringe

- Insulin should be shaken prior to administration
- Offer a bedtime snack to all patients on insulin. If the patient usually has a bedtime snack at home this should continue in hospital.
- Check any episodes of hypoglycaemia are not a direct result of receiving PRN insulin doses (see prn insulin decision support tool)
- Review glucose control on a daily basis
- Patients on insulin must have an insulin time-critical aide in their bedside notes and a magnet on the white board to prompt timely insulin administration.

Know what you are doing

- Ensure you have had sufficient training to enable you to prescribe, administer and titrate insulin doses safely.

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