



Inpatient Diabetes Management

Basal–bolus, not sliding scale · Target 140–180, and never stop basal insulin

SSI ALONE IS OBSOLETE
reactive, not proactive

SET THE TARGET *tight control has no benefit and real harm on the wards*

MOST INPATIENTS

140–180 mg/dL (7.8–10.0 mmol/L) for the majority of critically ill and non-critically ill patients. **Avoid targets below 110** — tighter control increases hypoglycemia without improving outcomes.

SELECTED PATIENTS

110–140 mg/dL may be appropriate in selected patients — for example post-surgical or cardiac surgery patients — **if it can be achieved without significant hypoglycemia**.

RELAX IT

Higher targets for terminal illness, limited life expectancy, severe comorbidity, or where the risk of hypoglycemia outweighs benefit. State the individualized target in the notes.

BUILD THE REGIMEN *three components, prescribed deliberately*

Component	What it does	How to set it
1 • Basal glargine, detemir, degludec, or NPH	Covers hepatic glucose output between meals and overnight	Roughly 50% of the total daily dose . Starting total is about 0.3–0.5 units/kg/day , reduced to 0.2–0.3 in renal impairment, the elderly, or the underweight.
2 • Prandial (bolus) rapid-acting analogue	Covers the carbohydrate in each meal	The other 50% split across meals . Hold the prandial dose if the patient does not eat — and give it with or just after the meal in unreliable eaters.
3 • Correction	Corrects the glucose that is already high	A supplemental scale on top of basal-bolus, not instead of it. Choose a sensitivity based on total daily dose and weight.

Sliding-scale insulin used alone is discouraged — it treats hyperglycemia only after it has happened, produces wide swings, and is associated with worse control. It remains reasonable only as a short-term bridge while you determine requirements, or in a patient with mild, transient hyperglycemia.

WHAT TO DO WITH THE HOME MEDICATIONS *most oral agents come off*

GENERALLY STOP ON ADMISSION

Metformin — hold with AKI, hypoxia, sepsis, contrast, or before surgery (lactic acidosis risk). **SGLT2 inhibitors** — hold in acute illness and **before surgery**, because of **euglycemic ketoacidosis**, in which the glucose looks reassuringly normal. **Sulfonylureas** — hold, as unpredictable intake causes hypoglycemia. **Thiazolidinediones** — hold with heart failure or edema.

OFTEN CONTINUE

DPP-4 inhibitors are generally well tolerated and weight-neutral. **GLP-1 receptor agonists** may be continued in stable patients, but cause nausea and **delayed gastric emptying**, which matters around procedures and sedation. **Never stop insulin in type 1 diabetes**, even when NPO — withholding basal precipitates ketoacidosis.

SPECIAL SITUATIONS *where regimens fail*

Situation	Approach
NPO / surgery	Continue basal (often at 75–80% of the usual dose), hold prandial , and keep correction doses. Check glucose every 4–6 hours . Use a variable-rate insulin infusion for prolonged fasting or major surgery.
Enteral or parenteral feeding	Match insulin to the feed. Continuous feed needs basal cover plus regular correction; bolus feeds need rapid-acting insulin with each. If the feed stops unexpectedly, the insulin must be reviewed immediately — a common cause of severe hypoglycemia.
Glucocorticoids	Cause a predominantly post-prandial and afternoon rise. Prednisone given in the morning often needs additional intermediate-acting insulin (NPH) in the morning . Anticipate the rise, and taper the insulin as the steroid tapers .
Transitioning off an infusion	Give the first dose of subcutaneous basal 2–4 hours before stopping the drip . Stopping an infusion without overlap is one of the commonest causes of rebound hyperglycemia and ketoacidosis.

HYPOGLYCEMIA *the complication your regimen is most likely to cause*

Level	Definition and response
Level 1 — alert	< 70 mg/dL (3.9 mmol/L). Treat and, importantly, review the regimen — this is the signal to act before it becomes severe.
Level 2 — clinically significant	< 54 mg/dL (3.0 mmol/L). Requires immediate treatment and a documented change to the insulin orders.
Level 3 — severe	Any level with altered mental status requiring assistance . A patient-safety event that should trigger formal review.
Treat it	Conscious: 15–20 g fast-acting oral carbohydrate, recheck in 15 minutes, repeat as needed, then give a complex-carbohydrate snack if the next meal is distant. Unable to swallow: IV dextrose , or glucagon if there is no access — noting glucagon is less effective in liver disease or malnutrition.
Prevent it	Commonest causes are an interrupted feed or meal , a missed insulin adjustment after steroids are tapered , improving renal function (insulin clearance rises), and overlapping correction doses . Review insulin daily against actual readings rather than continuing yesterday's orders.

HbA1c AND DISCHARGE PLANNING *the admission is a chance to reset the outpatient regimen*

CHECK AN HbA1c

Measure in every patient with diabetes or hyperglycemia **if it has not been done in the previous 3 months**. It distinguishes **stress hyperglycemia** from previously undiagnosed diabetes and tells you whether the home regimen was working — a high value means discharge on the same regimen will fail.

PLAN THE HANDOVER

Provide **written instructions, a glucose meter and supplies**, and confirm the patient or carer can demonstrate the technique. Arrange **follow-up within 1–2 weeks** of a regimen change. Consider **cost and access** explicitly — insulin the patient cannot afford is the commonest silent cause of readmission.

PEARLS & PITFALLS

- **Never withhold basal insulin in type 1 diabetes**, including when NPO. Basal covers hepatic glucose output, not food.
- **Overlap subcutaneous basal with the insulin infusion by 2–4 hours**, or the patient will rebound.
- **SGLT2 inhibitors cause euglycemic ketoacidosis**. Hold them in acute illness and before surgery, and check ketones even when the glucose looks fine.
- **Sliding scale alone is reactive**. Prescribe basal-bolus with correction and adjust it daily against the actual readings.
- **Review insulin the moment a feed is interrupted** — this is a leading cause of inpatient hypoglycemia.
- **Plan the discharge regimen and the follow-up**, and make sure the patient can actually administer and afford it. An elegant inpatient regimen that fails at home has achieved nothing.

