

Flowchart A: PREOPERATIVE adult diabetic inpatients being admitted on the DAY BEFORE surgery

S/C Insulin supplemental guideline until midnight

At midnight: start fasting + stop regular DM Rx (also refer to separate **Metformin guideline**)

Blood Glucose (BG) values are measured in mmol/l (previously referred to as HGT).

Long-acting insulin analogues: Glargine (Lantus); Levemir (Detemir)

NB: If in doubt or glycaemic control on suggested regimes problematic: contact Diabetes Services

Midnight

Midnight BG

Yes
BG < 4

No
BG > 15*

Yes

IVSPGP Regimen* (Appendix A)

No

Repeat BG at 05:00 hrs

05:00 Hrs

Start IVSPGP at 05:00 hrs

Yes
Major surgery

No

Yes
BG > 12

Yes

Aim for first on the list. If surgery is delayed, call MO to consider starting maintenance fluid unless already on IVSPGP. If **BG > 12**, then switch to IVSPGP.

No

Yes
BG 4-12

Yes

Repeat BG every 2Hrs

***NB:**
If patient has a **BG > 15**, then check for urine ketones. If **2+**, Call MO and take ABGs

No

Yes
BG > 12*

Yes

Start IVSPGP Regimen (Appendix A)

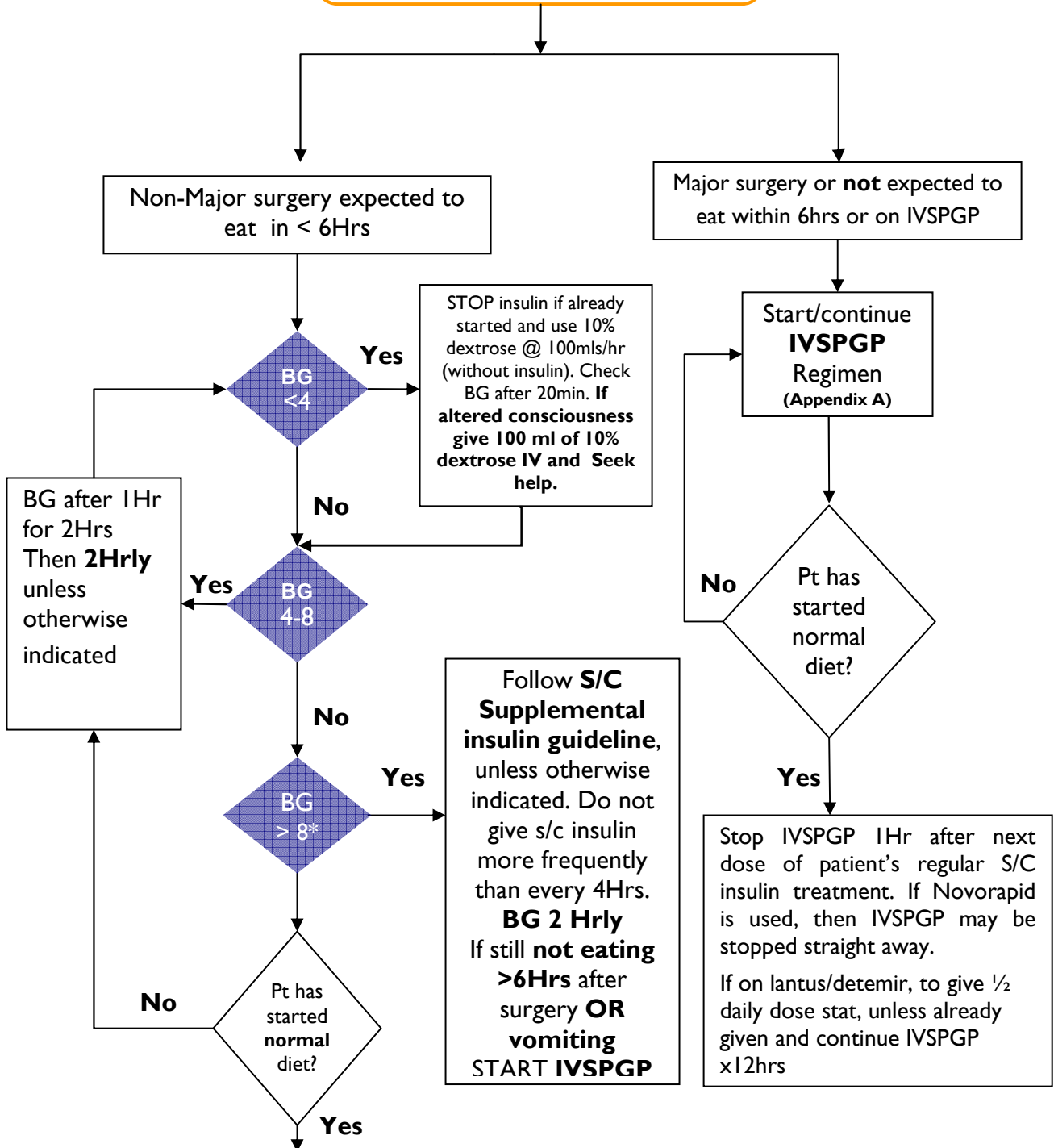
STOP insulin if already started and use 10% dextrose @ 100mls/hr (without insulin). Check BG after 20min. If altered consciousness give 100 ml of 10% dextrose IV and Seek help.

Yes

Yes
BG < 4

Flowchart E: POSTOPERATIVE diabetes care for adult diabetic INPATIENTS

BG ON ADMISSION TO WARD.
Continue **IVSPGP** if on it and follow regimen (**Appendix A**)



***NB:** If patient has an **BG >15**, then check for urine ketones. If **2+**, Call MO and take ABGs.

May revert to patient's regular Diabetic Rx † unless otherwise indicated. If morning lantus/detemir missed, then give ½ dose stat.
† preop Rx ± adjustments.

Blood Glucose (BG) values are measured in mmol/l (previously referred to as HGT).
Long-acting insulin analogues: Glargine (Lantus); Levemir (Detemir)
NB: If in doubt or glycaemic control on suggested regimes problematic: contact Diabetes Services

† See separate Metformin guideline

Appendix A IVSPGP (Insulin Via Syringe Pump with Glucose/Potassium Infusion via Volumetric Pump) for Adult Diabetic Patients.

1

Volumetric pump

+

2

Syringe pump

- 1) Use a **500-mL bag of 5% Glucose in 0.45% saline** and connect to **anti-syphon valve of Y-Connector**
- 2) **Potassium: ADD 13.5 mmol KCL (5 mL of 20% KCL solution)** to each bag
 - a. Check U&E's creat (eGFR). Repeat on admission if preop result **> 1 week** old or abnormal.
 - b. **Omit KCL** if potassium **>5 mmol/L**.
 - c. **Omit potassium** if renal impairment (eGFR **< 30**) and contact the medical HST on call, or if already under the care of a medical team contact the latter.
- 3) Repeat serum potassium **daily**. Adjust potassium supplementation accordingly.
- 4) Program the volumetric pump at **100 mL/hr**. This covers maintenance but **not** extra fluid losses (need to be prescribed separately). Contact the medical HST on call, or if already under the care of a medical team contact the latter for further advice regarding flow rate if patient is
 - a. on renal replacement therapy, or
 - b. cardiac failure, or
 - c. has raised intracranial pressure

- 1) **Set up 50 units of Actrapid in 50 mL 0.9% saline**. See Table 1 below for rates.

Check BG 1-2 Hrly

BG mmol/L	Units of Insulin/Hr
< 4.0	STOP insulin if already started and use 10% dextrose @ 100 mL/hr (without insulin). Check BG after 20min. If altered consciousness give 100 mL of 10% dextrose IV and seek help.
4.0 - 6.9	1 unit
7.0 - 12.9	2 units
13.0 - 17.0	4 units (If BG not improving > 2Hrs: Call MO)
> 17	6 units Change glucose to 0.9% saline. (Add KCL as point 2 above) Check urine ketones Inform doctor



- **Aim** for a target blood glucose of **6-10 mmol/L**
- Optimal glycaemic control will aid recovery.
- Regime may have to be altered by Medical team if target BG is not achieved.
- **Post op:** Once patient is established on normal diet, overlap IVSPGP by 1Hr after regular diabetes treatment is administered. Refer to post-op flowchart.

NB: If in doubt or glycaemic control on suggested regimes problematic: contact Diabetes Services.