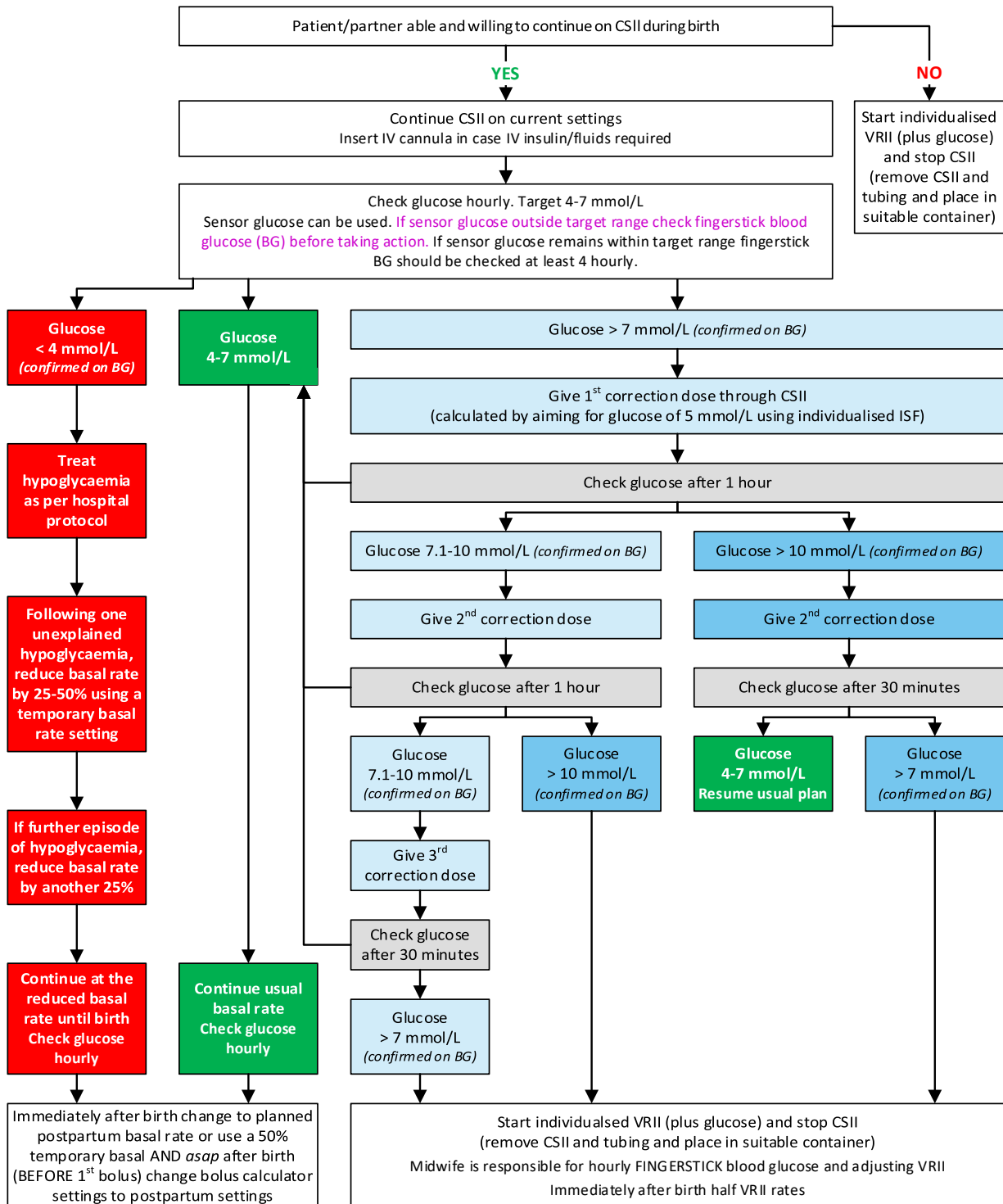


INTRAPARTUM MANAGEMENT FOR PATIENTS USING INSULIN PUMP THERAPY

- If diabetes is stable (blood glucose 4-7 mmol/L), and patient able to manage insulin pump, continue with insulin pump therapy.
- If for Lower Segment Caesarean Section (LSCS) inform surgeon, anaesthetist and theatre staff that insulin pump therapy is being used.
- Ensure the insulin pump infusion set, and the continuous glucose monitoring sensor (CGMS), if being used, is situated away from the abdominal area, towards the back, to avoid potential LSCS site and the area to be cleansed.
- Ensure the insulin pump has new batteries/fully charged, a full reservoir/cartridge, and that a new cannula and infusion set has been sited. It is advisable to have adequate insulin pump supplies.
- Ward staff may not be familiar with insulin pumps and cannot be expected to manage the pump, which is the responsibility of the patient and/or her birth partner.
- If problems arise remove the infusion set, whilst it is still attached to the insulin pump, and start IV insulin/glucose as per maternity guidelines. The pump should be switched off when not in use.

PROTOCOL FOR MANAGING GLUCOSE LEVELS FOR WOMEN CONTINUING ON INSULIN PUMP THERAPY DURING LABOUR AND BIRTH OR DURING CAESAREAN BIRTH

Start once in established labour, or on waking on the morning of a planned caesarean, or when made nil by mouth for an emergency caesarean.



Flowchart copied from UKDTN Insulin Pump Guidelines

CSII – Continuous Subcutaneous Insulin Infusion VRIII – Variable Rate Intravenous Insulin Infusion
ISF – Insulin Factor Sensitivity

This document is to be viewed only via the Health NZ Te Whatu Ora Waitaha Canterbury intranet and/or website.
Any printed versions, including photocopies, may not reflect the latest version. Policy Library version is authoritative.

VAGINAL DELIVERY

- The usual insulin pump basal infusion rate should be continued. Give correction doses of insulin through the pump. The correction dose should be calculated aiming for a glucose of 5 mmol/L.
- Glucose should be checked and recorded hourly. This can be sensor glucose if available. If the sensor glucose is outside the target range of 4-7 mmol/L a capillary glucose (ward meter test) should be checked immediately and before action is taken. In addition, capillary glucose should be checked at least 4 hourly.

Immediately after delivery the pump settings must be changed to the planned postpartum settings. This should be set up as a programme option for the pump prior to delivery. The main maternal diabetes risk after delivery is hypoglycaemia.

If postpartum profile is not programmed into the pump advise patient to halve the current basal settings (50% reduction) for after delivery and set this as a profile.

PLANNED DELIVERY BY LSCS UNDER REGIONAL ANAESTHESIA

It is anticipated that the duration of time taken to undergo this procedure is short, ie. less than 2 hours, therefore the following suggested:

Aim blood glucose between 4- 7 mmol/L.

- **If blood glucose level (BGL) above the target of 7 mmol/L, advise patient to give a bolus correction dose** via the insulin pump to maintain target blood glucose level 4-7mmol/L (target blood glucose in pump settings 5 mmol/L).
- Correction bolus dose, or insulin sensitivity factor (ISF), is individual and should be recorded.
- After 1 hour if the first correction bolus was insufficient and BGL 7.1-10.0 mmol/L, give a second correction bolus and repeat test in one hour. If BGL > 10 mmol/L, give a second correction dose and recheck in ½ an hour.
- For those with BGL 7.1-10 mmol/L prior to the second dose, and still in the same range give a 3rd correction dose. Recheck in ½ hour, if not settled convert to IV insulin infusion as per maternity guidelines. However, if BGL is more than 10 mmol/L after second correction start IV insulin/glucose infusion.
- For those with BGL >10 mmol/L prior to the second dose recheck after ½ hour. If BGL still not below 7.0 mmol/L then stop insulin pump and switch to IV insulin/glucose infusion.

MANAGEMENT OF HYPOGLYCAEMIA

- Blood glucose less than 4.0 mmol/L treat as per usual hypoglycaemia treatment for insulin pump users, eg. 15g quick acting carbohydrate.
- If more than one hypoglycaemic episode, ask the patient to reduce the basal rate by 50% using a Temporary Basal Rate (TBR) setting. Continue the reduced basal rate until delivery.

PLANNED LSCS UNDER GENERAL ANAESTHESIA (GA)

Switch to IV insulin infusion and continue till patient has recovered from GA, able to eat and able to self-manage the insulin pump.

RECOMMENDED POSTPARTUM MANAGEMENT AND PUMP SETTINGS

Target glucose range 6-10mmol/L for the first week to avoid hypoglycaemia, post meal excursions of 12 mmol/L are expected and acceptable.

- Activate postpartum basal profiles either 80% of pre-pregnancy basal rate or alternatively 50% predelivery basal rate.
- Change Insulin to Carb ratios either pre-pregnancy settings or between 1:10g and 1:15g.
- Target for bolus calculations usually between 5 and 6.5mmol/L, latter if reduced hypo awareness.
- Change ISF either pre-pregnancy setting or alternatively 1 unit insulin to drop glucose by between 3 and 4 mmol/L.
- If breastfeeding, basal rate may need reducing by a further 20%.
- Aim BGL between 6-10 mmol/L (post meal excursions up to 12mmol/L acceptable).

Always have hypoglycaemia treatments immediately available to the patient for self-administration, especially when breast feeding. Reduced hypoglycaemic awareness can be more common around pregnancy. Once eating, check glucose on waking, before meals, 2 hours post meals, before bed and when getting up in the night. These can be sensor readings, which should be checked by capillary glucose if out of range.

Team to call the obstetric physician or diabetes team if there are any concerns during day hours or diabetes consultant on call via the operator out of hours.