7.7.3 Restarting the Insulin Pump

If an insulin pump has been disconnected intra-operatively due to initiation of a VRII, the insulin pump can be restarted at the patient's usual pre-hospital rates and the VRII ceased after a two-hour overlap.

Please note the following contraindication to insulin pump recommencement:

- Inability to resume eating 50% or more of usual intake.
- Vomiting
- Ketones >1.0 mmol/L
- Acute change in conscious state/mental status
- Inability to demonstrate competence with pump management
  - Procedures involving anaesthesia that alter the patient's capability to manage the pump
- Recurrent, persistent or unexplained episodes of hypoglycaemia or hyperglycaemia or unresolved pump failure
- Risk of suicide

If any of the above is present, insulin pump therapy should not be recommenced until further review by a diabetes specialist team.

7.8 Basal Bolus Insulin Regimen

Basal bolus insulin regimen includes basal insulin cover (e.g. insulin glargine) and a rapid acting insulin (e.g. insulin aspart) to mimic physiological responses to food intake or when hyperglycaemia occurs (e.g. >12 mmol/l). This is an alternative to 'sliding scale insulin' where short/rapid acting insulin boluses (e.g. Actrapid) are administered solely based on the BGL at the time unrelated to meals or previous insulin doses. The use of 'sliding scale insulin' as a sole therapy is not recommended.

'Supplemental insulin' via a protocol given in addition to the patient's usual diabetes medication is more appropriate for correction of elevated glucose levels.

A 'basal-bolus-supplemental' insulin approach has been shown to be superior to sliding scale insulin in improving glycaemic control and ease of implementation[32,33,34,35] with no concurrent increase in hypoglycaemia. It is a 'proactive' approach, adding supplemental rapid-acting insulin boluses to correct for hyperglycaemia, in addition to scheduled mealtime boluses. It also benefits from having defined times for nurses to check the BGL (pre-meals and pre-bed). Pre-emptive insulin boluses and more structured timing for checking BGLs result in insulin doses being adjusted in a more predictable manner.

An example basal bolus insulin regimen (without a correctional supplemental component) is provided below. Local basal bolus protocols should be used where available.

32 Zaman Huri H, Permalu V, Vethakkan SR. Sliding-scale versus basal-bolus insulin in the management of severe or acute hyperglycemia in type 2 diabetes patients: a retrospective study. *PLoS One*. 2014;9(9):e106505. doi:10.1371/journal.pone.0106505

33 Roberts GW, Aguilar-Loza N, Esterman A, Burt MG, Stranks SN. Basal–bolus insulin versus sliding-scale insulin for inpatient glycaemic control: a clinical practice comparison. *Med J Aust*. 2012;196(4):266-269. doi:10.5694/mja11.10853

34 Umpierrez GE, Palacio A, Smiley D. Sliding scale insulin use: myth or insanity? *Am J Med*. 2007;120(7):563-567. doi:10.1016/j.amjmed.2006.05.070

35 Umpierrez GE, Smiley D, Zisman A, et al. Randomized study of basal-bolus insulin therapy in the inpatient management of patients with type 2 diabetes (RABBIT 2 trial). *Diabetes Care*. 2007;30(9):2181-2186. doi:10.2337/dc07-0295