

## Intravenous Insulin – Variable Rate Intravenous Insulin Infusion (VRIII)

### STARTING VRIII

- Confirm VRIII is the correct treatment for clinical scenario
- VRIII not used for treatment of DKA or HHS (for DKA / HHS use FRIII according to protocol)

### VRIII INDICATIONS:

- Consider for patients who are hyperglycaemic and:
  - unable to take oral fluid/food
  - acutely unwell
  - for whom adjustment of their own insulin regimen not possible

Particularly in the following groups of patients:

- Patients with type 1 diabetes who are unable to eat and drink
- Patients with type 1 diabetes with recurrent vomiting (exclude DKA)
- Patients with type 1 or 2 diabetes and severe illness with need to achieve good glycaemic control e.g. sepsis

### STOPPING VRIII

**⚠ WARNING - if not managed appropriately stopping VRIII is high risk in Type 1 diabetes - risk of DKA**

- VRIII discontinuation should be well planned and switch over should be at a meal time
- Ensure usual treatment (insulin, tablets etc) has been prescribed and administered
- Ensure 30-60 min overlap between administration of usual diabetes medication and stopping VRIII
- Monitor CBG regularly (minimum 4 x day) in following 48hrs if patient remains in hospital

### TOP TIPS FOR SAFE MANAGEMENT OF VRIII

- VRIII should NEVER be administered without iv dextrose (substrate fluid)
  - The substrate fluid prevents hypoglycaemia
  - Always refer to local trust guidance
- If a patient is usually on sc basal/background insulin this should be continued whilst on VRIII (Note: for patients undergoing surgery or fasted procedures background insulin is reduced by 20% whilst on VRIII)

### MONITORING

- Check CBG hourly (only reduce to 2hrly if patient stable after 12 hrs)
- Review infusion rate hourly
- Aim for CBG range of 6-10mmol/l

### HYPOGLYCAEMIA

What to do if a patient on VRIII becomes hypoglycaemic (CBG <4.0mmol/l)

- Stop the VRIII
- Treat hypoglycaemia according to local trust guidance
- Re-start VRIII when CBG >4.0mmol/l
- If recurrent hypoglycaemia occurs – reduce insulin doses in infusion scale or use 10% dextrose as substrate fluid

### NEVER STOP IV INSULIN IN TYPE 1 DIABETES FOR > 20 MINS - RISK OF DKA

- The half-life of iv insulin is 3-5 mins