**DRUG:** INSULIN SHORT-ACTING (ACTRAPID®/HUMULIN R®)

**PRESENTATION:** Vial: 100 units/mL  10mL vial

**ACTION & INDICATION**
A pancreatic hormone. It promotes cellular uptake of glucose, fatty acids and amino acids, and their conversion to storage forms in most tissues.
Used for:
Hyperglycaemia due to diabetes or other causes
Hyperkalaemia: to reduce blood potassium levels

**DOSE:**
- **Intermittent dose:**
  - SC: 0.05-0.2 units/kg/dose 6 to 12 hourly
- **Infusion:**
  - 0.01-0.1 units/kg/hour
- **Prescription for infusion:**
  - 3 units/kg to be added to 0.9% Normal Saline to make the final volume to 30 ml.
  - Infusion rate: 0.1-1 ml/hour (0.01-0.1 units/kg/hour)

**PREPARATION:**
Use solution prepared by Pharmacy (CIVAS).
If unavailable prepare solution as follows.

**Step 1:**
Draw up 50 units (0.5 mL) from vial and dilute to 50 mL with Water for Injections or 0.9% Sodium Chloride. The resulting solution contains 50 units in 50 mL (1 unit in 1 mL)

**Step 2:**
Draw up 3 units/kg (3 mL/kg) from the solution prepared in Step 1 and dilute it to 30 mL using 0.9% Sodium Chloride. The resulting solution will contain 0.1 unit/kg/mL.

**Step 3:**
Commence infusion. Usual rate at commencement is 0.01 units/kg/hour (0.1 mL/hour).

**Titrate the infusion based on blood glucose levels.**

If a more concentrated solution is required (eg for subcutaneous injection):
Draw up 50 units of 100 units/mL strength (0.5 mL) and dilute to 10 mL with Water for Injections. **0.5 units in 0.1 mL**

**ADMINISTRATION:**
Intravenous infusion via syringe pump.
To prime the line for IV infusion, make up twice the volume of the fluid required. Prime the line, wait 20 minutes, then discard contents in line. Re-prime the line and infusion is then ready to commence.
Subcutaneous: As per NCCU policy

**ADVERSE EFFECTS:**
Hypoglycaemia.
Close monitoring of plasma glucose levels is mandatory

**COMMENTS:**
Albumin 0.3g/100 mL may be added to infusion solutions containing insulin to reduce absorption to plastic
Due to the risk of precipitation in pump catheters, Actrapid should not be used in insulin pumps for continuous subcutaneous infusion
Discard excess solution immediately

**REFERENCES:**
Australian Injectable drugs handbook 5th edition
Neofax 2013

**DATE:** September 2013

This document should be read in conjunction with the NCCU Disclaimer.