



INSULIN - Intravenous Sliding Scale

- Dissolve 50units (0.5ml) of prescribed Human Actrapid Insulin with 49.5ml of 0.9% sodium chloride. This will make a total volume of 50 ml. An insulin syringe must be used to measure the 50 units of Actrapid.
- This will provide a concentration of 1unit / 1 ml.
- Set up an intravenous Insulin syringe-driver infusion pump.
- Start with SCALE A (see below for further instructions).
- Measure the capillary blood glucose at the bedside hourly and chart.
- After the first 12 hours, if the blood glucose is stable and the patient is stable, 2-hourly tests may suffice.
- As the prepared intravenous insulin has a 24-hour expiry a new insulin/saline infusion must be prepared for the syringe-driver every 24 hours.

Sliding Scale Regimen		Insulin Infusion Rate (units / hour = ml / hour)			
		A	B	C	D
Blood Glucose Concentration (mmol/l)	0 – 3.9	0	0	0	0
	4 – 6.9	1	2	3	4
	7 – 8.9	2	4	6	8
	9 – 10.9	3	6	9	12
	11 – 12.9	4	8	12	16
	> 13	6	12	18	24

- Start with Scale A.
- However, if the patient is anticipated to have a high insulin requirement, or if, when in health, they have been administering more than 100 units of insulin / day in health, consider starting with scale B.
- Discuss with the on-call RMO &/or and consider obtaining more senior advice if either scale C or scale D is required.

Blood Glucose Targets

Acute myocardial infarction	4 – 7 mmol/l
Acute stroke	4 – 7 mmol/l
Labour	6 – 9 mmol/l
Other circumstances	4 – 9 mmol/l

After six hours:

- If capillary blood glucose still exceeds 10 mmol/l - and is still rising, step up to the next scale. i.e. move from scale A to scale B, or from Scale B to scale C.

- If capillary blood glucose still exceeds 10 mmol/l - but has fallen by less than 25% in the last hour, consider stepping up to the next scale. i.e. move from scale A to scale B, or from Scale B to scale C.
- Write up the new regimen on the intravenous insulin chart, sign and date.
- Review after a further six hours.
- If blood glucose is < 3.5 mmol/l - step down to the next scale.
- If the blood glucose cannot be maintained > 4 mmol/l on scale A, consider either a customised infusion rate or adding dextrose 4% / sodium chloride 0.18%, every 8 hours, with 20 mmol potassium chloride in each bag.

Author: -Diabetes Multidisciplinary Team. Version No 1.Issue Date: -July 2005. Review Date: July 2007.
Author: -Diabetes Multidisciplinary Team. Version No 2.Issue Date: - Feb. 2008.Review Date: Feb.2010.
Author: -Diabetes Multidisciplinary Team. Version No 3.Issue Date: - Jan. 2009.Review Date: Dec. 2012.