



CLINICAL GUIDELINE	
Hypoglycaemia	
Scope (Staff):	Nursing and Medical Staff
Scope (Area):	NICU KEMH, NICU PCH, NETS WA

This document should be read in conjunction with this [DISCLAIMER](#)

Definition: Blood glucose level < 2.6 mmol/L.

At-Risk Neonates

- Poor stores: Small for gestational age, preterm, placental insufficiency.
- Metabolic derangement: Infant of diabetic mother.
- Increased consumption: Stressed, septic, asphyxiated infants.

Management

- Calculate glucose-delivery rate.
- Term infants need 4-6 mg/kg/min; preterm infants need 6-8 mg/kg/min.
- Recurrent hypoglycaemia (2 or more episodes of hypoglycaemia): take blood for hypoglycaemia screen: blood gas (lactate), growth hormone, cortisol, ketones, β -hydroxybutyrate (1 mL green top + 1 mL red top tubes). Urine metabolic screen (5mls of urine).
- Insulin levels should ideally be taken prior to the administration of dextrose. However appropriate management should not be delayed by the acquisition of the insulin level.

Mild, Asymptomatic, Stable Babies (BGL \geq 1.5 mmol/L):

- If enterally fed, feed volume can be increased to 15 mL/kg/feed (provides 7mg/kg/min of glucose). Feeds can be increased in frequency to continuous milk feeds, or fortified (if no contraindications).
- Recheck glucose level after 30 minutes. If response to feed is inadequate, insert IV and commence 10% Glucose at 80-100mL/kg/day (5.6-7mg/kg/hr).
- Repeat glucose level after 30 minutes. If response inadequate, increase glucose concentration or infusion rate.

Severe (BGL < 1.5mmol/L) or Symptomatic Babies:

- Hypoglycaemia screen.
- Consider IM Glucagon 100-200 mcg/kg as interim measure if symptomatic or difficult IV access.
- If BGL < 2.6mmol/L, give bolus of 2 mL/kg of 10% dextrose and commence 10% dextrose at 100 mL/kg/day. Repeat BGL in 30 minutes.

- If unable to site IV or if baby requires glucose concentrations > 12.5%, insert UVC.

Note: Beware of causing hyponatraemia with higher infusion rates. It may be preferable to increase glucose concentration rather than increase the rate. Early referral for advice is recommended.

Calculations

To Calculate Glucose Delivery Rate:

$$\frac{\text{Rate x \% glucose x 1000}}{100} = \text{mg/hr}$$

$$\frac{\text{mg/hr}}{\text{Weight (kg)}} = \text{mg/kg/hr}$$

$$\frac{\text{mg/kg/hr}}{60} = \text{mg/kg/min}$$


To Increase Concentration of Glucose:

$$\frac{\text{Vol x (reg\% - avail\%)}}{(\text{add\%} - \text{avail\%})} = \text{Amount of additive glucose required (mL)}$$

Example: To make 50 ml of 13% glucose, using 50% glucose ampoules and 10% glucose bags:

$$\frac{50 \times (13-10)}{(50-10)} = \frac{50 \times 3}{40} = 3.75 \text{ mL of 50\% glucose to } 46.25 \text{ mL 10\% glucose}$$

This document can be made available in alternative formats on request for a person with a disability.

File Path:			
Document Owner:	Neonatology		
Reviewer / Team:	Neonatal Coordinating Group		
Date First Issued:	August 2009	Last Reviewed:	1 st October 2018
Amendment Dates:		Next Review Date:	1 st October 2021
Approved by:	Neonatal Coordinating Group	Date:	25 th October 2018
Endorsed by:	Neonatal Coordinating Group	Date:	
Standards Applicable:	NSQHS Standards: 		
Printed or personally saved electronic copies of this document are considered uncontrolled			