Initial Screening and Management of Hypoglycemia in Neonates Greater than 35 weeks Gestation (Hypoglycemia) – Medical Directive

Pharmacy & Therapeutics Approved: 07SEP2020

☑ Harmonized

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Authorizing Prescriber(s)

Paediatricians, Family Medicine Physicians, and Midwives with privileges in the Women's and Children's Program at Lakeridge Health

Authorized to Whom

Nurses working in the Women's and Children's program at Lakeridge Health.

Patient Description/Population

Asymptomatic infants born at a Lakeridge Health facility who are greater than 35 weeks' gestation at birth and are identified as at risk of neonatal hypoglycemia as per below tables.

Unwell infants	Perinatal asphyxia, congenital cardiac disease, endocrine disorders, inborn errors of metabolism and infants who are feeding poorly
Small for Gestational age (SGA)	Less than the 10th percentile for gestational age (see table below)
Large for Gestational age (LGA)	Greater than the 90th percentile for gestational age (see table below)
Late preterm infants	Infants born between 34-36 6/7 weeks' gestational age, regardless of growth status (AGA, SGA, LGA)
Infant of a Diabetic Mother (IDM)	Whether longstanding or gestational diabetes

10th and 90th percentile cut-offs for birthweight at term (Canadian Infants)

Gestation (completed weeks)	Birthweight (grams)			
	10th Percentile (SGA)		90th Percentile (LGA)	
	Male	Female	Male	Female
37	2552	2452	3665	3543
38	2766	2658	3877	3738
39	2942	2825	4049	3895
40	3079	2955	4200	4034
41	3179	3051	4328	4154
42	3233	3114	4433	4251

Orders:

These orders are not presented in sequential order; any one of or a combination of the orders may be preformed by a nurse. Refer to the Order Table Form:

- For breastfeeding infants, feed infant within the first hour of life and then a minimum of every 2-3 hours thereafter.
- For formula feeding infants, feed infant 5 mL/kg within the first hour of life, then 5-10 mL/kg/feed for the first 24 hours, 10-12 mL/kg/feed from 24-48 hours and 12-15 mL/kg/feed from 48-72 hours of life. Feed infants on regular schedule every 3-4 hours.
- For all at risk infants, check a Point of Care Test (POCT) blood glucose at 2 hours of life. Then:
  - For SGA and late preterm infants, check glucose using POCT glucose meter every 3-4 hours prior to feeding for 24 hours **and** until 3 consecutive values are greater than or equal to 2.6 mmol/L.
  - For LGA and IDM infants, check glucose using POCT every 3-4 hours prior to and in conjunction with feeding for 12 hours **and** until 3 consecutive values are greater than or equal to 2.6 mmol/L.
- If POCT is less than 2.6 mmol/L, immediately repeat POCT.
- If subsequent POCT blood glucose result is greater than or equal to 2.6 mmol/L, continue with above orders.

  If subsequent POCT blood glucose result is less than 2.6 mmol/L, notify Most Responsible Practitioner (MRP) and send STAT blood glucose sample to lab.

Indications to the Implementation of the Directive

Any admitted neonates who are greater than or equal to 35 weeks' gestation and identified as being at risk of neonatal hypoglycemia according to the above tables.

Contraindications to the Implementation of the Directive

This directive must not be implemented in any of the following circumstances:

- Infants born less than 35 completed weeks' gestation.
- Infants in the Neonatal Intensive Care Unit (NICU) who are receiving IV fluids.
- Infants experiencing symptomatic hypoglycemia.
- Temperature less than 36.5.
- Lack of parental/guardian consent

Note: If the parent/guardian refuses treatment, contact the Most Responsible Practitioner (MRP) immediately to determine plan of care.

Consent

The Nurse implementing the medical directive must obtain verbal consent from parent/ guardian, prior to the initiation of glucose monitoring.

Documentation Requirements

In addition to standard documentation practices, the Nurse implementing this medical directive must document in the patients' health record:

- The name of this medical directive
- The procedure(s) and order(s) that were completed
- Consent obtained
- The name of the implementer
- Legible signature of implementer including credentials (unless documenting electronically)
- Date and time (unless documenting electronically)

Review/Evaluation Process

This medical directive is to be reviewed every 2 years by the Women's and Children's Program.

References

Guidelines for the Management of Hypoglycemia. National Women's Health Newborn Clinical Guideline. http://www.adhb.govt.nz/newborn/guidelines/nutrition/HypoglycaemiaManagement.htm (2016) Accessed January 18, 2017.

Guidelines for Neonatal Glucose Monitoring. Medication Management Clinical Practice Guidelines & Care Directive. IWK Health Centre, Halifax NS. May 3, 2016.

Narvey, M., Marks, S., Fetus and Newborn Committee. Screening guidelines for newborns at risk for low blood glucose. Canadian Paediatric Society Position Paper. http://www.cps.ca/documents/position/newborns-low-blood-glucose. (2019) Accessed December 2019.

This table must **not** be used independently from the Medical Directive

Order Table Form

Order	Indication	Contraindication	Notes (Optional)
Point of Care Test (POCT) blood glucose at 2 hours of life. Then: • For SGA and late preterm infants, check glucose using (POCT) meter every 3-4 hours prior to and in conjunction with feeding for 24 hours **AND** until 3 consecutive values are greater than or equal to 2.6 mmol/L. • For LGA and IDM infants, check glucose using POCT every 3-4 hours prior to and in conjunction with feeding for 12 hours **AND** until 3 consecutive values are greater than or equal to 2.6 mmol/L.	For all at risk infants as per the above tables.	• Infants admitted to the NICU who are receiving IV fluids • Infants born less than 35 weeks gestation • Infants experiencing symptomatic hypoglycemia • Temperature less than 36.5 and not responding to interventions • Lack of parental/guardian consent	
If POCT blood glucose is less than 2.6 mmol/L immediately repeat test.	All infants at risk of hypoglycemia as per above tables.		
If repeat POCT is less than 2.6 mmol/L notify the MRP	All infants at risk of hypoglycemia as per above tables.		
If repeat POCT is greater than or equal to 2.6 mmol/L continue screening as per above orders.	All infants at risk of hypoglycemia as per above tables.		

For bottle-fed infants within the first hour of life: • Feed infant 5mL/kg within the first hour of life Then feed the infant on a regular schedule every 3-4 hours: • 5-10 mL/kg/feed for the first 24 hours, • 10-12 mL/kg/feed from 24-48 hours • 12-15 mL/kg/feed from 48-72 hours of life	For bottle-fed infants	Lack of parental consent to supplementation of feeds with a bottle.	
For breastfeeding infants, feed infant within the first hour of life and then a minimum of every 2-3 hours thereafter.	Breastfeeding infants	Bottle-fed infants	