Neonatal Medication Guideline

Clinical Guideline

Glucose

Policy developed by: SA Maternal, Neonatal & Gynaecology Community of Practice
Approved SA Health Safety & Quality Strategic Governance Committee on: 6 October 2017
Next review due: 6 October 2020

Summary
The purpose of this guideline is to guide nursing, midwifery, medical and pharmacy staff in the dosing and administration of glucose

Keywords
glucose, dextrose, neonatal medication guideline, hypoglycaemia, neonatal hypoglycaemia, BGL, phlebitis

Policy history
Is this a new policy? N
Does this policy amend or update an existing policy? Y v1.0
Does this policy replace an existing policy? N
If so, which policies?

Applies to
All SA Health Portfolio
All Department for Health and Ageing Divisions
All Health Networks
CALHN, SALHN, NALHN, CHSALHN, WCHN, SAAS

Staff impact
All Clinical, Medical, Midwifery, Nursing, Students, Allied Health, Emergency, Mental Health, Pathology, Pharmacy

PDS reference
CG031

Version control and change history

<table>
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<th>Version</th>
<th>Date from</th>
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<tr>
<td>1.0</td>
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Note

This guideline provides advice of a general nature. This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. The guideline is based on a review of published evidence and expert opinion. Information in this statewide guideline is current at the time of publication.

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Health practitioners in the South Australian public health sector are expected to review specific details of each patient and professionally assess the applicability of the relevant guideline to that clinical situation.

If for good clinical reasons, a decision is made to depart from the guideline, the responsible clinician must document in the patient's medical record, the decision made, by whom, and detailed reasons for the departure from the guideline.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for discussing care with consumers in an environment that is culturally appropriate and which enables respectful confidential discussion. This includes:

- The use of interpreter services where necessary,
- Advising consumers of their choice and ensuring informed consent is obtained,
- Providing care within scope of practice, meeting all legislative requirements and maintaining standards of professional conduct, and
- Documenting all care in accordance with mandatory and local requirements

Synonyms

Dextrose

Dose and Indications

For Acute Management of Hypoglycaemia

Intravenous Bolus

2mL/kg glucose 10%

Refer to South Australian Perinatal Practice Guidelines Neonatal Hypoglycaemia

Maintenance calorie intake

Intravenous Infusion

Start with 10% glucose, concentration of glucose can be increased up to 30% (central intravenous access only)

Maintenance Fluid

Intravenous Infusion

Start with 10% glucose, concentration of glucose can be increased up to 30% (central intravenous access only)
Preparation and Administration

Intravenous Bolus
Administer over 5 to 10 minutes; bolus dose should always be followed by a maintenance infusion of glucose.

Intravenous Infusion
5%, 10% and 25% glucose bags are available
For higher percentages of glucose, dilute as directed to make 50mL in total

<table>
<thead>
<tr>
<th>Final Percentage Glucose (approximate)*</th>
<th>Volume of Glucose 10% (100mg/mL)</th>
<th>Volume of Glucose 50% (500mg/mL)</th>
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<tbody>
<tr>
<td>12.5%</td>
<td>47mL</td>
<td>3mL</td>
</tr>
<tr>
<td>15%</td>
<td>44mL</td>
<td>6mL</td>
</tr>
<tr>
<td>17.5%</td>
<td>41mL</td>
<td>9mL</td>
</tr>
<tr>
<td>20%</td>
<td>38mL</td>
<td>12mL</td>
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<tr>
<td>25%</td>
<td>31mL</td>
<td>19mL</td>
</tr>
<tr>
<td>30%</td>
<td>25mL</td>
<td>25mL</td>
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Compatible Fluids
Sodium chloride 0.9%, water for injection

Adverse Effects
Common
Venous irritation and thrombophlebitis (peripheral glucose solutions >12.5%), hyperglycaemia

Monitoring
> Blood glucose measured as per Neonatal hypoglycaemia Perinatal Practice Guideline
> Electrolytes (sodium and potassium) periodically
Practice Points

> Therapeutic goal for BGL is >3.5mmol/L when on intravenous glucose
> Phlebitis is likely with solutions over 12.5% (a central line should be considered for continuous infusions >12.5% glucose)
> Enteral milk feeding should be considered for treatment of hypoglycaemia where appropriate
> An infusion rate of >10mg/kg/min is suggestive of hyperinsulinism

Version control and change history

**PDS reference:** OCE use only

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