

# glucose

## 5%, 10% and 25% infusion bags, 50% injection

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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

60 to 150mL/kg/day of 10% glucose

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NeoMed@health.sa.gov.au

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**Preparation and Administration****Intravenous Bolus**

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

**Central Venous Bolus**

Glucose 50% is strongly hypertonic and should always be administered by a central line

**Intravenous Infusion**

5%, 10% and 25% glucose bags are available

For higher percentages of glucose, dilute as directed to make 50mL in total

| <b>Final Percentage Glucose<br/>(approximate)*</b> | <b>Volume of Glucose 10%<br/>(100mg/mL)</b> | <b>Volume of Glucose 50%<br/>(500mg/mL)</b> |
|--|---|---|
| 12.5%  | 47mL  | 3mL   |
| 15%  | 44mL  | 6mL   |
| 17.5%  | 41mL  | 9mL   |
| 20%  | 38mL  | 12mL  |
| 25%  | 31mL  | 19mL  |

Glucose should be infused at a maximum rate of 0.5grams/kg/hr (approximately 8mg/kg/min). This is equivalent to

- > 5mL (10%)/kg/hr
- > 10mL (5%)/kg/hr

**Compatible Fluids**

Sodium chloride 0.9%, water for injection

**Adverse Effects****Common**

Venous irritation and thrombophlebitis (glucose solutions >10%), hyperglycaemia

**Monitoring**

- > Blood glucose
- > Electrolytes (sodium and potassium) periodically

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### Practice Points

- > Phlebitis is likely with solutions over 10% (a central line should be considered for continuous infusions greater than 10% and is required for any infusion >12.5% glucose)
- > A 5% solution is isotonic with blood. More concentrated solutions can cause thrombophlebitis. A long line with its tip in a large vessel is therefore best for any solution containing more than 10% glucose
- > Enteral milk feeding should be considered for treatment of hypoglycaemia where appropriate

### Version control and change history

**PDS reference:** OCE use only

| Version | Date from     | Date to | Amendment        |
|---------|---------------|---------|------------------|
| 1.0     | November 2012 | current | Original version |
|         |               |         |                  |
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