Clinical Guideline
Furosemide (frusemide) 10mg/mL injection, 10mg/mL oral mixture

Policy developed by: SA Maternal, Neonatal & Gynaecology Community of Practice
Approved SA Health Safety & Quality Strategic Governance Committee on: 07 March 2017
Next review due: 31 March 2020

Summary
The Furosemide (frusemide) 10mg/mL injection, 10mg/mL oral mixture Clinical Practice Guideline is for the administration of furosemide (frusemide) to a neonate

Keywords
Furosemide, frusemide, clinical guideline, neonatal medication guideline, neonatal, Furosemide (frusemide) 10mg/mL injection, 10mg/mL oral mixture

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? Y
If so, which policies? frusemide

Applies to
All Health Networks
CALHN, SALHN, NALHN, CHSALHN, WCHN

Staff impact
All Staff

PDS reference
CG028

Version control and change history

<table>
<thead>
<tr>
<th>Version</th>
<th>Date from</th>
<th>Date to</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>November 2012</td>
<td>March 2017</td>
<td>Original version</td>
</tr>
<tr>
<td>2.0</td>
<td>07 March 2017</td>
<td>Current</td>
<td>Review</td>
</tr>
</tbody>
</table>

© Department for Health and Ageing, Government of South Australia. All rights reserved.
South Australian Neonatal Medication Guidelines

Furosemide (frusemide)
10mg/mL injection, 10mg/mL oral mixture

© Department of Health, Government of South Australia. All rights reserved

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.

SA Health does not accept responsibility for the quality or accuracy of material on websites linked from this site and does not sponsor, approve or endorse materials on such links.

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

Dose and Indications

Diuretic

Intravenous, oral
1 to 2mg/kg/dose

Corrected Age (weeks) | Frequency (hours)
--- | ---
[Gestational age PLUS postnatal age] | 
<29 | every 24 hours
≥29 | every 12 to 24 hours

May increase to a maximum of 2mg/kg/dose IV or 6mg/kg/dose orally

Renal Failure

Intravenous
5mg/kg/dose as a single dose under specialist Renal advice.

Contact:
NeoMed@health.sa.gov.au
Furosemide (frusemide)
10mg/mL injection, 10mg/mL oral mixture

Preparation and Administration

**Intravenous**

<table>
<thead>
<tr>
<th>Dose</th>
<th>1mg</th>
<th>2.5mg</th>
<th>5mg</th>
<th>7.5mg</th>
<th>10mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>0.1mL</td>
<td>0.25mL</td>
<td>0.5mL</td>
<td>0.75mL</td>
<td>1mL</td>
</tr>
</tbody>
</table>

Administer over 15 to 30 mins

Discard remaining solution

**Oral**

<table>
<thead>
<tr>
<th>Dose</th>
<th>1mg</th>
<th>2.5mg</th>
<th>5mg</th>
<th>7.5mg</th>
<th>10mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>0.1mL</td>
<td>0.25mL</td>
<td>0.5mL</td>
<td>0.75mL</td>
<td>1mL</td>
</tr>
</tbody>
</table>

Lasix® (Frusemide) 10mg/mL oral solution contains 12.7% v/v ethanol. Concerns have been expressed in relation to its safety for use in premature infants and young children, particularly when chronic therapy is required. At WCH, an extemporaneous formulation is available.

The intravenous preparation may be given orally and is more cost effective when giving a single dose or expected short term use.

Frusemide tablets (20mg) can be used in halves and quarters (dispersed in water) if the dose can be rounded to these values.

**Compatible Fluids**

- Sodium chloride 0.9%

**Adverse Effects**

**Common**

- Hyponatraemia, hypokalaemia, hypomagnesaemia, dehydration, hyperuricaemia

**Infrequent**

- Dyslipidaemia, increased creatinine concentration, hypocalcaemia, rash

**Rare**

- Deafness (especially with rapid IV administration), acute pancreatitis, jaundice, thrombocytopenia, haemolytic anaemia, agranulocytosis, interstitial nephritis, exfoliative dermatitis, Stevens-Johnson syndrome, bullous eruptions.

Nephrocalcinosis in preterm neonates may occur with prolonged use.

**Monitoring**

- Weight
- Serum and urine electrolytes
- Renal function
Practice Points

> The commercially available oral solution contains alcohol, thereby intravenous preparation is preferred to be given whilst inpatient. At discharge, parents should be counselled as to the options, which are to use the commercial preparation or to use the compounded product available from the WCHN. The risks of using the commercial preparation are unknown but considered to be very low

> Patients on long-term treatment with frusemide may require supplementation with oral potassium chloride to prevent hypokalaemia

> Do not use intravenous solution if discoloured yellow

> Risk of ototoxicity is increased with renal impairment, high doses, rapid IV administration and the use of other ototoxic drugs such as aminoglycosides

> Administration with other drugs with a hypotensive effect may cause an additional drop in blood pressure.

> Precipitation can occur when mixed with any IV fluid such as glucose, with a pH<5.6. It should thereby be diluted with just sodium chloride and always be separated by asodium chloride bolus.

Version control and change history

**PDS reference:** OCE use only

<table>
<thead>
<tr>
<th>Version</th>
<th>Date from</th>
<th>Date to</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>November 2012</td>
<td>March 2017</td>
<td>Original version</td>
</tr>
<tr>
<td>2.0</td>
<td>March 2017</td>
<td>Current</td>
<td>Review</td>
</tr>
</tbody>
</table>