Aim

Neonates feel pain as intensely as adults do. Oral Sucrose has been shown to be an effective and safe treatment for reducing the pain response of neonates. The effects of sucrose and non-nutritive suckling are thought to be mediated by the endogenous and non-opioid systems. A neonatal admission will typically involve between 2 and several hundred painful procedures. The aim is to reduce the discomfort caused by these procedures.

Criteria

Prior to any invasive procedure consideration should be made on how to minimize any resulting pain. Painful procedures include, but are not limited to; venepuncture, peripheral venous line placement, heel prick, arterial stab, and peripheral arterial line placement. Ways to reduce pain can be through the use of pharmacological and non-pharmacological measures. Non pharmacological measures include ensuring, where possible, that the baby is calm, relaxed, warm, fed and that all necessary equipment for the procedure is at hand. Once non-pharmacological measures have been implemented, oral sucrose analgesia may be used in babies in the clinical area by Level I nurses. Oral sucrose will not always eliminate all crying, but is known to significantly reduce the physiological stress of pain.

Indications for use:

Any procedural pain-heel stick, blood procurement, venepuncture, IV insertion, dressing changes, adhesive tape removal, immunisations, suture removal, urinary catheter insertion, nasogastric tube insertion, etc.

Contraindications:

- Neonates with known fructose intolerance
- Glucose-galactose malabsorption
- Sucrase-isomaltase deficiency
- Oesophageal atresia or tracheal oesophageal fistula
- Suspected or proven necrotising enterocolitis
- Altered gag/swallow reflexes
- Pre-op sedated patients due to risk of aspiration
- Neonates <1500g and <31 weeks postconceptional age.
- Maximum age 18 months
- Parental refusal
Dose & Administration

<table>
<thead>
<tr>
<th>Patient group</th>
<th>Babies 0 - 1 months</th>
<th>Infants 1 - 18 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dose to be given</td>
<td>0.2 - 0.5ml (max 4 doses in 24hrs)</td>
<td>0.5 - 1 ml (max 4 doses in 24hrs)</td>
</tr>
</tbody>
</table>

- Note: The concentration used at Starship is a 66.7% Sucrose Solution (Syrup BP, 0.667g/ml)
- Administer with a 1ml syringe onto the front of the tongue. Offer a pacifier if part of the infants care.
- Administration through a nipple or teat not recommended
- There is no analgesic effect if the sucrose is given directly into the stomach via a nasogastric tube
- Give 2 minutes prior to a painful procedure
- There is no minimum interval time between doses of oral sucrose.
- The analgesic effects last 5-8 minutes

Supporting Information

Parents should be advised that this procedure is to be used in hospital only. An information leaflet is available on request.

Sucrose will be prescribed on the drug chart as PRN but with maximum 24-hour dose.

For more information on pain management in children see Starship Childrens’ Health Pain Management Guidelines.

Storage

Oral Sucrose Solution 66.7% preservative free (Syrup BP) should be stored in the refrigerator once opened and discarded 7 days after the bottle has been opened. Shelf life is 12 months from manufacture.
References


Sucrose (oral) for procedural pain management in infants. The Royal Childrens Hospital Melbourne. Clinical Guidelines