

SUCROSE 25%

Trade Name	Sucrose Solution 25% without preservative (Biomed).
Class	Analgesic.
Mechanism of action	Sucrose appears to elevate pain thresholds via endogenous opioid pathways. Its calming effect is due to acute central nervous system changes triggered by sucrose.
Indications	Painful or invasive neonatal procedures including: Venepuncture, lumbar puncture, bladder puncture, bladder catheterisation, iv cannulation, peripheral arterial line placement, arterial stab, heelprick, im injection, gastric tube insertion, tape/tegaderm/suture removal, dressing change, longline insertion and removal, chest drain insertion and removal, ventricular tap, eye examination, echo, hearing screening.
Contraindications	Medically paralysed, unsafe swallow (ie pharyngeal incoordination, vocal cord palsy), oesophageal atresia, tracheo- oesophageal fistula, known fructose intolerance, glucose-galactose malabsorption syndrome, sucrase-isomaltase deficiency.
Supplied as	Sucrose 25% without preservative. 25mL bottle
Dilution	Use undiluted.
Dosage	Less than 32 weeks: 0.1- 0.2 mL per procedure Greater than 32 weeks: 0.2 – 0.5 mL per procedure
Interval	Less than 32 weeks: Maximum of 1 mL in 24 hours Greater than 32 weeks: Maximum of 5 mL in 24 hours
Administration	Oral: use a syringe to administer to the anterior part of the tongue, 2 minutes prior to painful procedure (not effective nasogastrically). More effective if given in small aliquots over time than the whole dose at once. Effect wears off within 10 minutes so if a procedure is prolonged then continue to give dose increments
Compatible With	Not applicable - do not mix with any other medication.
Incompatible With	Not applicable – do not mix with any other medication.
Monitoring	Neonatal Pain Scale monitoring in applicable infants.
Stability	Manufacturer's expiry and discard 7 days after opening in NICU.
Storage	Not in the fridge – sucrose may crystalize.
Adverse Reactions	Due to hyperosmolarity of sucrose avoid in extremely unwell infants. ie:infants with suspicion of NEC, confirmed NEC, septic shock.

Metabolism	<p>Oral sucrose is hydrolysed in the small intestine by the enzyme sucrase to glucose and fructose, which are then absorbed.</p> <p>Duration of effect is 5 - 10 minutes.</p>
Comments	<p>For infants of mothers on the methadone programme (Ngā Taonga Pēpi), due to inutero exposure to and tolerance of opioids there could be a negligible response to sucrose as a result of affected opioid pathways. This does not preclude its use in these babies.</p> <p>When used on the Maternity and Paediatric wards Sucrose 25% should be discarded 14 days after opening.</p>
References	<ol style="list-style-type: none"> 1. Parfitt K (Ed). Martindale The Extra Pharmacopoeia, 33rd Edition, 2002 2. Noerr B. Sucrose for neonatal procedural pain. Neonatal Network Vol 20(7), 2001 3. Smith B. Diminished reactivity of premature human infants to sucrose compared with term infants. Developmental Psychology Vol 28(5), 1992. 4. Stevens B et al. Sucrose analgesia in newborn infants undergoing painful procedures. Cochrane Database of Systemic Review, Issue 3, 2004. 5. Best Practice Guideline – Assessment and management of neonatal pain. ANZNN. Sept 2007 6. Management of procedure-related pain in neonates. Paediatrics and Child Health Division RACP Guideline Statement. J Ped Child Health 2006;42:S31-9. 7. Johnston CC et al. Routine sucrose analgesia in the first week in neonates <31 weeks. Ped 2002;110:523-8. 8. Stevens B et al. Consistent management of repeated procedural pain with sucrose in preterm infants. Clin J Pain 2005;21:543-8.
Updated by	B Robertshawe and A Lynn March 2025