BRIEF ADMINISTRATION GUIDE

For detailed information refer to the full guideline on the following pages or for NICU also see the Australasian Neonatal Medicines Formulary **sucrose** guideline

Indications: Analgesia for painful or invasive minor neonatal procedures

Route: Oral

- Supplied as sucrose 25% oral liquid (manufactured by Biomed), 25 mL

Dose:

Neonates 26 - 32 weeks (CGA*) up to 0.1 mL per procedure in 0.05 mL increments

Neonates ≥ 32 weeks (CGA*) up to 0.5 mL per procedure in 0.2 mL increments

Infants 0 - 1 month up to 0.5 mL
Infants > 1 month (max age 18 months) up to 1 mL

Maximum of 10 doses in 24 hours

*CGA = corrected gestational age

Preparation and administration

- Draw up dose in an oral syringe
- Administer to the anterior part of the tongue, 2 minutes prior to painful procedure (not effective nasogastrically / swallowed)
  Alternatively a pacifier can have drops applied from the syringe and offered 2 minutes prior
- Repeat dose every 2 minutes as required
- Encourage non-nutritive sucking as it may increase the pain relief effect e.g. offer a pacifier immediately after sucrose administration (if consented for)
- Discard the bottle 7 days after first opening

Monitoring

- Assess pain / discomfort with suitable assessment tool, as appropriate e.g. N-PASS
- Monitor for signs of gagging and choking

Storage and Stability

- Store sucrose oral liquid at room temperature, from 15 to 25 °C
- Once opened discard after 7 days if used in NICU, and 14 days for other areas

Competency for administration

This procedure is carried out by, or under, the direct supervision of a registered nurse/registered midwife who holds current Waikato DHB Generic Medicine Management

1. Purpose and scope

To facilitate appropriate administration of sucrose oral liquid to decrease pain in neonates and young infants under 18 months of age undergoing minor procedures at Waikato DHB hospitals.

Note: Prior to any procedure consideration should be given on how to minimise any resulting pain through the use of pharmacological and non-pharmacological measures.

Non pharmacological measures include ensuring, where possible, that the baby is calm, relaxed, warm, fed, the parents are well informed and where possible assisting in calming and holding the child. All necessary equipment for the procedure is at hand.

Once non-pharmacological measures have been implemented, oral sucrose analgesia may be administered. Oral sucrose will not always eliminate all crying or pain, but is known to reduce the physiological stress of pain.

2. Drug

Drug	**Sucrose oral liquid 25%**
Drug action	Sucrose mediates an increase in endogenous opiate release. The time to maximal effect is approximately 2 minutes and the duration of effect is approximately 5 to 10 minutes
Indications	Any procedural pain: heel stick, blood sampling, venepuncture, IV insertion, lumbar puncture, dressing changes, adhesive tape removal, immunisations, suture removal, urinary catheter insertion, nasogastric tube insertion, etc. Sucrose is primarily used in babies **up to 3 months of age**. It may be considered up to 18 months of age but should not be used as a sole form of analgesia in older infants.
Presentation	Sucrose 25% oral liquid, supplied in 25 mL bottles
Route	Oral, onto the anterior part of the tongue
Dose	**Neonates 26 - 32 weeks** (CGA): up to 0.1 mL per procedure, in 0.05 mL increments **Neonates > 32 weeks** (CGA): up to 0.5 mL per procedure, in 0.2mL increments **Infants 0-1 month**: 0.2 to 0.5mL **Infant 1-18 months**: 0.5 to 1mL Maximum of 10 doses in 24 hours. Doses to be administered no less than 1 hour apart.
Contraindications	• Neonates with known fructose intolerance • Glucose-galactose malabsorption or sucrase-isomaltase deficiency • Oesophageal atresia or tracheal oesophageal fistula • Suspected or proven necrotising entercolitis • Altered gag/swallow reflexes • Pre-op sedated patients due to risk of aspiration • Intubated infants • Neonates <26 weeks postconceptional age • Age > 18 months • Parental refusal

Adverse effects	Sucrose is generally well tolerated. Administration may be associated with transient hyperglycaemia, minor oxygen desaturation, choking, bradycardia and brief apnoeas.

3. Administration

Competency for administration	This procedure is carried out by, or under, the direct supervision of a registered nurse / registered midwife who has generic medicines management verification
Preparation & Administration	Administer sucrose oral liquid with a 1mL oral syringe directly onto the front of the tongue 2 minutes prior to the painful procedure Offer a pacifier immediately after sucrose administration if part of the infants care (non-nutritive sucking is beneficial as it may increase analgesic effect). Alternatively a pacifier may have sucrose dose / drops applied and offered 2 minutes prior to the procedure.
Observations and management	• Assess for signs of pain and discomfort • Monitor for signs of gagging and choking
Special considerations (audit, funding, storage)	• Efficacy as a pain reliever appears to decrease with increasing age and maturation (first 6 months of life) with greatest benefit seen in infants up to 3 months of age • Store at room temperature (15 to 25 °C). Once opened discard after 7 days if used in NICU, and 14 days for other areas • Other methods prior to cannulation or lumbar puncture include use of vapo-coolant spray or topical local anaesthetic (e.g. Ametop) • Sucrose 24% has an osmolarity of about 1000 mOsm/L • Sucrose is only effective when given orally and is ineffective if given directly into the stomach i.e. via nasogastric tube
Rescue medication	Not applicable

4. References

- Australasian Neonatal Medicines Formulary. Sucrose Drug Guideline. 2017. Available from https://www.slhd.nsw.gov.au/RPA/neonatal%5Ccontent/pdf/Medications_Neomed/sucrose_Neomed.pdf
- The Royal Children's Hospital, Melbourne. Sucrose for procedural pain management in infants. https://www.rch.org.au/rchcpg/hospital_clinical_guideline_index/Sucrose_oral_for_procedural_pain_management_in_infants/
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- NZ Hospital Medicines List, Pharmac accessed on 21st October 2020 at https://ieschedule.pharmac.govt.nz/HMLOnline.php?osq=sucrose
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- UpToDate. Sucrose Pediatric Drug Information. Accessed on 21st October 2020 via https://www.uptodate.com/contents/sucrose-pediatric-drug-information?source=search_result&search=sucrose%20and%20pain&selectedTitle=3~150
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