

# SUCROSE ADMINISTRATION

## Indications

- Analgesia or co-analgesia for **procedural pain** (use in addition to usual pain treatments for procedures e.g.; local anesthetics, opioids, etc.)
  - E.g.; Punctures (venous, subcutaneous, intra-muscular, heel stick, PICC line insertion), urinary catheter insertion, lumbar puncture, dressing changes & rectal irrigation
- Analgesia or co-analgesia for **pain** (use in addition to usual pain treatments)
  - E.g.; painful mobilization and/or manipulations

## Contraindications

- 2 hrs. pre-operatively
- Absence of gag reflex
- Swallowing disorder
- Short bowel syndrome with carbohydrate intolerance
- Tracheal esophageal fistula and/or atresia
- Necrotizing enterocolitis
- Suspicion of/or diagnosis of inborn error of metabolism
- NOTE: Irritability is NOT an indication alone for sucrose. There are small animal studies showing that repeated exposure to high doses of sucrose in the premature baby can have a negative impact on brain development; sucrose administration MUST be reserved for painful procedures.

## Key points

- The analgesic effect of sucrose is thought to mediate endogenous opioid release, activated through taste receptors at the tip of the tongue
- Analgesia effect related to taste is observed within 10 seconds
- Analgesia related to the release of endorphins has peak effect at two minutes and can last up to 7 minutes
- Sucrose works best when combined with other non-pharmacological approaches. Use the Comfort Zone approach: Topical anesthetic, distraction with pacifier and music, comfort positioning (bundling).
- Breastmilk drops do not have the same effect of opioid release. However, some studies suggest that breastmilk drops MAY help decrease pain response (although not as effectively as sucrose). Breastmilk is a safe alternative, especially for those receiving high doses of sucrose.
- Direct breastfeeding, if possible during the procedure, is the ideal analgesic intervention.

## Materials

- 24% Sucrose Solution
  - Comes in 1 ml twist tip vial
  - Single-patient use
  - These vials do not need to be refrigerated and last up to two years in closed packages
  - Vials must be discarded after one procedure
  - Each drop is approximately 0.04 mL

## Procedure

o When?

Procedural pain and painful mobilization/manipulation	1 dose 2 minutes prior to procedure	1 dose at time of procedure	1 dose 2 minutes after the beginning of procedure
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o How?

1. Sucrose should be administered **directly to the oral mucosa**
2. Concomitant use of a **pacifier** is recommended
3. **Document administration** in the context of the collective order for the administration of sucrose in the flow sheet, on the Excreta page under the column marked “Sucrose”. Document number of pokes required for the procedure as well.
- 4.

o Doses

Age	Dose	Maximum/procedure	Maximum/day
< 31 weeks	1-3 drops (0.1 mL)	0.5 mL per procedure (12 drops)	DO NOT EXCEED 10 doses per day
31 weeks-35+6 weeks	1-3 drops (0.1 mL)	0.5 mL per procedure (12 drops)	
36 weeks corrected to 12 months	1-7 drops (0.1-0.3 mL)	2 mL per procedure (50 drops)	16 mL