



NCCU CLINICAL GUIDELINES
SECTION: 3

PAIN ASSESSMENT AND MANAGEMENT

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Oral sucrose for procedural pain relief
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Neonatology Clinical Guidelines
King Edward Memorial/Princess Margaret Hospitals
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ORAL SUCROSE FOR PROCEDURAL PAIN RELIEF

The sweet taste of sucrose causes the release of endogenous opioids. It should be administered to the anterior part of the tongue as 90% of the taste buds are on the first 2 cms of the tip of the tongue (in adults). Sucrose has been shown not to be effective when given directly into the stomach.

KEY POINTS

- Nurse initiated treatment, the amount of sucrose and the total amount given over a 24-hour period is documented.
- Two minutes prior to a minor painful procedure administer appropriate dose to the anterior part of the tongue and offer pacifier, with mother's consent. Effects of sucrose last for approximately 5 minutes. The dose may be repeated two to three times if procedure prolonged.
- Non-nutritive sucking with a pacifier enhances the calming response elicited by sucrose.
- The infant should be awake and in a feeding position during sucrose administration to prevent aspiration.
- Routine repeated use in infants <31 weeks may be detrimental and should be used with caution.
- Breast feeding infants - breastfeeding throughout a painful procedure is analgesic in term newborns and should be considered where appropriate in place of sucrose.
- Neonates who have been antenatally exposed to methadone may have altered endogenous opiate systems resulting in lack of analgesic effect from sucrose, so use may not be as effective but these babies should not be excluded from receiving sucrose.

EXCLUDE THE FOLLOWING NEONATES FROM SUCROSE

- Suspected or proven necrotising enterocolitis.
- Un-repaired tracheo-oesophageal fistula.
- Altered gag or swallow reflex (i.e. infants with HIE).
- Known fructose or sucrose intolerance.
- Critically ill neonates already receiving IV analgesia and/or sedation.
- Ongoing investigations into recurring hypoglycaemia (get permission first).

EXAMPLES OF PAINFUL PROCEDURES PERFORMED ON NEONATES WHERE SUCROSE SHOULD BE ADMINISTERED

Arterial puncture	Dressings / removal of sutures
Heel puncture	IDC insertion
Venipuncture	Gastric tube insertion
IV/arterial access	Lumbar puncture
Central line insertion / removal	Suprapubic urine collection
Restrapping ETT	ROP examination
Removal of adhesive tape	Immunisations / IM injections

SUCROSE DOSAGE: (25% SUCROSE SOLUTION)

- Term: up to 0.5 - 1.0 mL (give in 0.25mL aliquots)
- Preterm: 1500gms and above 0.25 mL of 25% sucrose solution
- Preterm: 1000 – 1500 gms 0.15 mL
- 0.05 to 0.1 mL of 25% sucrose solution for VLBW if deemed appropriate

Total dose in 24 hours - **3 mL** if wt >1500gms
2 mL if wt < 1500gms
1 mL if wt < 1000gms.

Evaluate and document the effectiveness of treatment in the comments section of the observation chart.

Futher reading:

Stevens, B. Yamada, J. Lee, GY. Sucrose for analgesia in newborn infants undergoing painful procedures. [Review][Update of Cochrane Database Syst Rev. 2010;(1):CD001069; PMID: 20091512]