	CCMC Corporation		
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	Provision of Care, Treatment and Services	Date Effective:	August 07, 2013
	Guideline: Oral Sucrose in Pain Management	Date of Origin:	June 01, 2002
	Approved By: CCMC-UCHC NICU Collaborative, Clinical Council	Date Approved:	July 09, 2013

I. Purpose

The purpose of this document is to provide guidelines for the safe and appropriate use of sucrose to manage pain during painful procedures in neonates and infants less than six months of age.

II. Background Information

Sucrose analgesia is thought to stimulate the endogenous opioid response mediated by sweet taste. In patients less than six months of age, oral sucrose may be helpful in limiting the pain associated with painful procedures.

III. Inclusion/Exclusion Criteria/Indications/Definitions

A. Indications
   1. Painful procedures include, but are not limited, to:
      a. Heel sticks
      b. Immunizations
      c. Venipuncture
      d. Intravenous or arterial line placement
      e. Bladder catheterization
      f. Lumbar puncture
      g. Circumcision
      h. Chest tube insertion/removal
      i. Gavage tube insertion
      j. Suturing
      k. Dressing changes or adhesive removal
      l. Uncomfortable occupational or physical therapy treatments
   2. The use of oral sucrose does not eliminate the need for additional pain control interventions, including topical and/or systemic analgesia or non-pharmacological measures, such as positioning, holding, and non-nutritive sucking.

B. Relative Contraindications

The following conditions represent relative contraindications for the use of oral sucrose. If these conditions are present, a physician or other licensed health care provider order is required for the use or oral sucrose.

1. The patient is receiving nothing by mouth (NPO) or in the immediate post-operative period.
2. Low birth weight infants or preterm infants less than 28 weeks gestation prior to establishment of enteral feeds, due to the increased risk for necrotizing enterocolitis in this population.

3. Suspected or proven gastrointestinal motility abnormality, such as ileus, obstruction, or possible necrotizing enterocolitis.
4. The patient has a recent history of glucose intolerance.
5. Infants with impaired ability to handle oral solution.
6. The patient has known fructose intolerance or sucrose deficiency.
7. The patient is receiving a ketogenic diet.

IV. Guidelines

A. Administration

1. For full term infants (greater than 37 weeks post-conceptional age) and older:
   a. Obtain two milliliters (mls) of 24 percent sucrose solution product supplied by the Pharmacy.
   b. Administer solution by oral syringe into the infant's mouth (one ml in each cheek) or allow infant to suck solution from a pacifier or gloved finger no more than two minutes prior to the start of the painful procedure.
   c. Sucrose may be given for more than one procedure within a relatively short period of time but should not be administered more than twice in one hour.
   d. Sucrose appears to be more effective when given in combination with a pacifier. Non-nutritive suck and swaddling may also contribute to calming the infant and reducing pain-elicited distress.
   e. Nasogastric or orogastric administration has not been shown to be effective.
   f. Oral sucrose is not recommended for infants greater than six months of age due to evidence of limited efficacy and implications on oral hygiene.
2. For preterm infants (less than 37 weeks post-conceptional age), the procedure as listed above is the same but with the additional dosing guidelines:

< 1000 grams	0.2 ml of solution
1000-2000 grams	0.5 ml of solution
> grams	1-2 ml of solution

3. The total volume of sucrose administered per procedure should not exceed one ml for infants less than 37 weeks post-conceptual age and should not exceed two ml for infants greater than or equal to 37 post-conceptual age. Repeated use of sucrose should be limited to three ml per kilogram per eight hour shift unless ordered by a credentialed practitioner. When this limit is reached, additional analgesic options must be considered.

4. After a given procedure, discard any unused sucrose solution.
5. When teaching family/caregivers about the use of oral sucrose, include information about the limited effectiveness and the oral hygiene implications of the use of these solutions in children beyond six months of age.

B. Documentation
1. Document sucrose administration on the patient care flowsheet.
2. Document other pain management interventions, used in conjunction with sucrose.
3. Record any pain assessments with the appropriate pain scale or describe behavioral symptoms in the medical record.
4. Describe the infant's response to the oral sucrose and tolerance of the painful procedure.
5. Describe explanations/education given to the family concerning the use of oral sucrose in the Teaching and Discharge Care Plan.

V. References

Lexi-Comp Online™, Pediatric & Neonatal Lexi-Drugs Online™, Hudson, Ohio: Lexi-Comp, Inc.; May 31, 2013.

Morrow, C., Hidinger, A. & Wilkinson-Fault, D. (2010). Reducing Neonatal Pain during Routine Heel Lance Procedures, *The American Journal of Maternal/Fetal Nursing,* 35, 346-354.

Stevens, B., Yarnada, J. & Ohisson, A (2013) Sucrose for analgesia in newborn infants undergoing painful procedures. *Cochrane Database: 1*, 1-144.

VI. Related Documents

Pain Assessment

Painful Procedure Guidelines