

# Sensory Aspects of Neonatal Sucking

Presented by Marjorie Meyer Palmer, M.A.,CCC-SLP  
Speech Pathologist  
Neonatal Feeding Specialist  
Founder/Director, NOMAS International

Infants predisposed to sensory-based feeding disorders:

- 1) infants with **bronchopulmonary dysplasia/chronic lung disease**: characterized by difficulty breathing, difficulty coordinating suck/swallow with respiration, open mouth, tongue postured forward, aversive to having airway occluded
- 2) infants with **cardiac defects**: difficulty coordinating suck/swallow with respiration, fatigue easily, require more calories per kilogram of weight to grow
- 3) infants with **drug exposure**: sensory integration issues, poor adaptability, habituation, perseveration with feeds
- 4) infants with **gastrointestinal issues**: gastroesophageal reflux, tracheo-esophageal fistula, esophageal atresia, delayed gastric emptying, pyloric stenosis, dysmotility, etc.
- 5) infants who have been **intubated** or **suctioned** over prolonged periods, medically fragile, chronically ill, on ECMO, oral gavage, nasogastric tube feeds

# **Sensory Aspects of Neonatal Sucking**

Presented by

Marjorie Meyer Palmer, M.A., CCC-SLP

Neonatal/Pediatric Feeding Specialist

Founder/Director, NOMAS® International

## Clinical Symptoms of sensory-based oral feeding problems:

In the infant under three months:

**Habituation:** The infant is only able to respond to a novel stimulus. Once the novelty has diminished the infant no longer perceives its presence and the activity ceases. Also referred to as "sensory integration" and this is never normal when associated with oral feeding.

**Perseveration:** When a motor response to a sensory stimulus persists even once the stimulus has been removed.

**Poor Adaptability:** The infant is unable to transition easily and does not manage any changes in caregivers, positioning, bottle nipples, or breast to bottle feeding.

In the infant over three months: (visceral hyperalgesia)

Closing the mouth

Turning away

Pushing away the bottle or breast

Gagging or vomiting

Crying

Arching backward

Limited volume intake

Refusing feeds

Copyright © 2015, Marjorie Meyer Palmer

## NOMAS® International

1528 Merrill Road  
San Juan Bautista, CA 95045



Telephone: 510-651-2285

FAX: 831-623-9007

Email: [Marjorie@nomasinternational.org](mailto:Marjorie@nomasinternational.org)

### Reference List

#### Evaluation and Treatment of Sensory-Based Feeding Aversion

Abadie, V., Andre A., et.al., "Early feeding resistance: a possible consequence of neonatal oro-oesophageal dyskinesia," **Acta Paediatr**, 90(7), July 2001, p. 738-745.

Ariagno, RL, Kikkert, MA, et.al., "Cisapride decreases gastroesophageal reflux in preterm infants," **Pediatrics**, 107(4), April 2001, p. E58.

Barr, RG, Quek, VSH, et.al., "Effects of intra-oral sucrose on crying, mouthing and hand-mouth contact in newborn and six-week old infants," **Developmental Medicine and Child Neurology**, Vol. 36, No. 7, July 1994, p. 608-618.

DeMatteo, C., et. al., "Comparison of clinical and videofluoroscopic evaluation of children with feeding and swallowing difficulties," **Developmental Medicine and Child Neurology**, 2005, 47, 149-157.

Dubignon, J., and Cooper, D., "Good and poor feeding behavior in the neonatal period," **Infant Behavior and Development**, 1980, 3, 395-408.

Gewolb, IH, Bosma, JF., et. al., "Integration of suck and swallow rhythms during feeding in preterm infants with and without bronchopulmonary dysplasia," **Developmental Medicine and Child Neurology**, 2003, vol. 45, No. 5, 344-348.

Hyman, PE., "Gastroesophageal reflux: One reason why baby won't eat," **The Journal of Pediatrics**, 1994, 125, S103-S109.

Lipsitt, LP, "The study of sensory and learning processes of the newborn," **Clinics in Perinatology**, Vol. 4, No. 1, March 1977, p. 163-186.

Martinez de Haro, et. al., "Correlation between esophageal motility and 24-hour pH recording of gastroesophageal reflux," **American Journal of Gastroenterology**, 1993, 88, 525-529.

Mayer, EA, and Gebhart, GF, "Basic and clinical aspects of visceral hyperalgesia," **Gastroenterology**, 1994, 107, 271-293.

Monahan, P., et. al., "Effect of tube-feeding on oral function. **Developmental Medicine and Child Neurology**, 1988, Annual meeting abstracts, 7.

Palmer, MM, "Weaning from gastrostomy tube feeding: Commentary on oral aversion," **Pediatric Nursing**, Sept/Oct 1998, vol. 23, no. 5, 475-478.

Palmer, MM. and Heyman, MB., "The effects of sensory-based treatment of drooling in children: a preliminary study," **Physical and Occupational Therapy in Pediatrics**, 1998, vol. 18, (3/4), 85-95.

Palmer, MM., "Ages and Stages," in **Parenting Magazine**, February 1995, 123-124.

Palmer, MM., and Heyman, MB., "Assessment and treatment of sensory-versus motor-based feeding problems in very young children," **Infants and Young Children**, October 1993, 6(2), 67-73.

Palmer, MM., (2014) Chapter 5: Feeding in the NICU. In F. Redstone (Ed), **Effective SLP Interventions for Children with Cerebral Palsy**, (p. 131-163) .San Diego, CA: Plural Publishing Inc.

Palmer, MM., (2012) Chapter 12: Approach to Sensory-Based Feeding Disorders. In K. VanDahm (Ed), **Pediatric Feeding Disorders** (p. 277-298) Therapro Inc., Framingham, MA: Therapro Inc.

Weiffenbach, JM (ed) **Taste and Development: The Genesis of Sweet Preference**, Bethesda, MD: DHEW Publication No. (NIH) 1977, p. 77-1068.

Compiled by Marjorie Meyer Palmer, M.A., CCC-SLP, January 2015