

## **Sensory and Motor Disorders of Neonatal Sucking: Non-nutritive and Nutritive**

Presented by Marjorie Meyer Palmer, M.A.  
Speech Pathologist  
Neonatal and Pediatric Feeding Specialist

### **Motor Disorders**

#### **Non-nutritive suck:**

- \*jaw clenching - infant closes his mouth on the nipple and does not open
- \* open mouth, unresponsive - infant does not close mouth to latch onto nipple
- \*lack of fluid movement

**Nutritive suck** is dysfunctional and there is an "interruption of the successful sucking activity by abnormal movements of the tongue and jaw" (Palmer, 1983)

#### **Characteristics of a dysfunctional suck:**

- **excessively wide excursions** of the jaw- jaw depression is so wide that the tongue is pulled off the nipple, breaking the anterior seal
- **jaw clenching** - there is a restriction of movement at the temporomandibular joint preventing the mandible from depressing adequately
- **flaccid tongue** - central tongue groove is absent for duration of nutritive suck
- **retracted tongue** - posterior portion of tongue is humped up against palate and pulled back
- **lack of rate change** between non-nutritive and nutritive suck

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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

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**Clinical symptoms of sensory-based oral feeding problems:**

In the infant under three months indicative of an “altered sensory system”

**Poor adaptability:** unable to make a modification in response or behavior to changing circumstances i.e., difficulty with feeding transitions, taste perception, and flow rate, nipple, and/or position changes as well as other environmental changes.

**Habituation:** the ability of the infant to respond only to a novel stimulus; once the novelty has diminished the infant no longer perceives its presence and activity ceases.

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

In the infant nearing or over three months: (visceral hyperalgesia)

- closing the mouth
- turning away
- pushing away the bottle or breast
- gagging or vomiting
- crying
- arching backward
- limiting volume intake
- refusing feeds

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