

# Early Identification and Remediation for Infants with Poor Suck

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# Stressors which may result in reduced durational muscle strength for the infant:

Stressors that may impact efficiency of nursing for babies – some of the 175 identified in the Beckman Baby Study thus far:

- Maternal Health Concerns: Group Beta Strep, Preeclampsia, Gestational Diabetes, Placenta Previa, Preterm labor
- Labor Concerns: Pitocin longer than 4 hours, labor longer than 12 hours, heart rate fluctuations mom or baby, need for oxygen mom, nuchal cord, vacuum extraction, forceps extraction
- Following birth: need for oxygen, poor temperature regulation, low blood sugar, jaundice longer than 3 days, no BM two or more days, reflux, poor weight gain, sleepy baby

# Identification:

Screening for mechanical oral motor concerns using the MOMBEST (Manual Oral Motor Breast-feeding Evaluation Screening Tool)

- Durational jaw movement of at least 10 vertical movements in 10 seconds on left and right
- Midblade tongue elevation to palate 3 out of 3 trials
- If failure for either, refer to therapist for full Beckman Oral Motor Assessment Protocol

# Refer to therapist trained in Beckman Oral Motor Protocol

- Only oral motor protocol quantified to assess minimal competencies for range and strength for the lips, cheeks, jaw, tongue and soft palate with infants (see attached references)
- Provides more detail following other sucking assessments
- Results are not state related
- Requires no equipment
- Can be completed in under 7 minutes
- Results in prescriptive interventions for each infant
- Interventions can easily be carried out by the care giver or nurse
- Improvement can occur within hours if referred within first 48 hours of birth

# Impact of positioning on oral movement:

For babies under 3 months, inclined sidelying (ear toward the floor) is best due to the following mechanical advantages: (Angled baby bottles best; e.g., Playtex<sup>®</sup> Venteaire<sup>®</sup>)

- Easier breathing (more A-P rib cage movement)
- Better head and trunk alignment
- Less gravity load during jaw and tongue movement
- Automatic overflow outlet (excessive fluid drains out of the mouth from the lower cheek)
- Increased subglottic air pressure for airway protection

# Impact of positioning on oral movement:

For babies under 3 months, supine position (nose toward the ceiling) places the infant at a mechanical disadvantage, including the following:

- More shallow breathing (less A-P expansion in this position)
- Head extended or hyperextended out of alignment with the trunk, making coordination of sucking, swallowing and breathing more difficult
- Gravity and the weight of the bottle press down on the jaw, adversely affecting controlled movement. Gravity also pulls the tongue into a more retracted position, adversely affecting the coordination of suck/swallow/breathe.
- Excess fluid pools behind the back of the tongue in the pharynx, causing choking, gagging, and possible aspiration.
- Healthy babies can usually adapt to changes in position. Weak babies cannot adapt.

*\*for more considerations for nursing, please see attached handout pages 49-50.*

# Beckman Bottle feeding in side lying



<http://youtu.be/5e1KBtjYYns>

# Happy Baby Burping Position



<http://youtu.be/VSmUzPGBgEo>

# Impact of Early Feeding and Health Problems on Speech and Language

## Impact of Health Concerns on Speech From Birth to 5 Years



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### ABSTRACT

Many health concerns can impact speech development, especially during the period of birth to 5 years. How significant are factors such as reflux, oral sensitivity, feeding difficulties, bruxism, drooling and premature birth, on speech development at this early age?

This poster reports the results of statistical analysis of an inclusive retrospective study comparing these factors and speech development for 142 children seen over a 14 month period in a community based therapy clinic.

### METHODS

#### 142 Participants

#### Inclusion Criteria:

- \* Referral due to developmental concerns
- \* Age at treatment birth to 5 years
- \* Background intake form completed between 01/01/06 and 03/01/07

#### Diagnoses:

- \* 14 Trisomy 21
- \* 113 Dysarthria
- \* 25 Language delay
- \* 16 Non oral Intake
- \* 22 Speech delay
- \* 7 Cerebral Palsy
- \* 5 Hypotonia
- \* 4 PDD
- \* 4 Otitis Media
- \* 25 additional diagnoses

#### Procedures

#### Chart review identifying the following:

- \* Date of birth
- \* Prematurity
- \* Feeding difficulty
- \* Drooling
- \* GERD
- \* Bruxism
- \* Oral sensitivity
- \* Speech difficulties

#### Testing

- \* Client Background Information Form
- \* Rosetti Infant Toddler Language Scale - 2005
- \* Beckman Oral Motor Protocol - 2006
- \* Photo Articulation Test - 3rd Edition (PAT-3)
- \* Preschool Language Scale - 4th Edition (PLS-4)

*Note of Interest*  
 Of the 142 Participants, 110 had more than 1 diagnosis.

*Note of Interest*  
 More than 50% of children with feeding problems had speech difficulties

*Note of Interest*  
 There was a strong co-occurrence between feeding and speech difficulties

Factors (Total N=142)	Premature		Feeding Difficulties		Drooling		GERD		Bruxism		Oral Sensitivity		Speech Difficulties	
	N=27		N=96		N=33		N=46		N=19		N=58		N=107	
Premature	27/27	100%	25/96	26%	4/33	12%	13/46	28%	2/19	11%	10/58	17%	18/107	17%
Feeding Difficulties	25/27	93%	96/96	100%	28/33	85%	42/46	91%	18/19	95%	10/58	17%	70/107	65%
Drooling	4/27	15%	28/96	29%	33/33	100%	14/46	30%	0/19	0%	24/58	41%	24/107	22%
GERD	13/27	48%	42/96	44%	14/33	42%	46/46	100%	6/19	32%	20/58	34%	31/107	29%
Bruxism	2/27	7%	18/96	19%	0/33	0%	6/46	13%	19/19	100%	17/58	29%	14/107	13%
Oral Sensitivity	10/27	37%	52/96	54%	24/33	73%	20/46	43%	17/19	89%	58/58	100%	41/107	38%
Speech Difficulties	18/27	67%	70/96	73%	24/33	73%	31/46	67%	14/19	74%	41/58	71%	107/107	100%

### SUMMARY

This was a large sample size of 142 cases that was inclusive for all referrals to a developmental clinic for a 14 month period. Of all the referrals, 110 had more than one health concern factor.

As detailed in the comparison chart, two factor co-occurrence was greater than 50% when looking at all children with feeding problems who also showed speech problems 73% (70 out of 96) and of all children who had speech difficulties 65% (70 out of 107) also had feeding problems.

- \* In comparison with other health concerns,
- \* 67% of children with prematurity (18 out of 27) had speech difficulties
- \* 73% of children with drooling (24 out of 33) had speech difficulties
- \* 67% of children with GERD (31 out of 46) had speech difficulties
- \* 74% of children with bruxism (14 out of 19) had speech difficulties
- \* 71% of children with oral sensitivity (41 out of 58) had speech difficulties

### IMPLICATIONS

Feeding difficulties and speech difficulties may have a significant co-occurrence.

In general practice more detailed background information is needed during intake regarding early feeding history as well as other health concerns.

In general practice a quantified assessment of oral motor skills is needed to determine if a motor deficit exists, which may impact speech production.

Further research is needed to better define the relationship between feeding difficulties and later speech development.

\* Additional information available from [info@beckmanoralmotor.com](mailto:info@beckmanoralmotor.com)

*This study is dedicated to the memory of  
 Evan Ascherblom*

# Articles Citing Beckman Oral Motor Intervention

Beckman, D., Neal, C., Phirsichbaum, J., Stratton, L., Taylor, V., & Ratusnik, D., (2004). Range of movement and strength in oral motor therapy: A retrospective study. *Florida Journal of Communication Disorders*, 21, 7-14

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Rocha, A. D., Moreira, M. E. L., Pimenta, H. P., Ramos, J. R. M , Lucena, S. L. A., (2007). A randomized study of the efficacy of sensory-motor-oral stimulation and non-nutritive sucking in very low birth weight infant. *Early Human Development*, 83(6), 385-388.