THE SLP’S ROLE IN SUPPORTING BREASTFEEDING WHEN FEEDING/SWALLOWING ISSUES ARISE

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Disclosures

- I do not have any conflict of interest
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Objectives

- Participants will identify at least three factors that might impact breastfeeding ability in infants.
- Participants will discuss how to support the breastfed infant and Mom when feeding and swallowing issues arise.
- Participants will describe three strategies to assist infants with breastfeeding difficulty.
- Participants will discuss how ankyloglossia can negatively impact BF.
Why Should an SLP Care About Breastfeeding?
WHO Statement on Breastfeeding

“Breastfeeding is the normal way of providing young infants with the nutrients they need for healthy growth and development. Virtually all mothers can breastfeed, provided they have accurate information, and the support of their family, the health care system and society at large.”
WHO and AAP Recommendations

- **WHO (World Health Organization):**
  - **Exclusive** breastfeeding for first 6 months
  - Breastmilk as primary source of nutrition for first year
  - Breastfeeding **at least** 2 years and then until mutually desired

- **AAP (American Academy of Pediatrics):**
  - Exclusive breastfeeding for first 6 months
  - Breastfeeding combined with introduction of complimentary foods until at least 12 months
  - Continuation of breastfeeding as long as mutually desired
It is estimated that optimal breastfeeding practices could avert 13% of the 10.6 billion deaths of children under age five occurring globally each year.

And…

If 90% of US families exclusively breastfed 6 months, $13 billion reduction in healthcare costs (reduced ear infections, gastrointestinal infections, WIC funding for formula, etc) and 900 infant deaths could be prevented.

Incidence of Feeding Difficulty in Infants

- 40,000 babies/year have congenital heart defects (9 per 1000 live births)
- 10,000 babies/year have heart surgery
  - 84-100% of these infants have feeding difficulty; 23% have a feeding tube

- Estimated 3.5% of all newborns have feeding problems; 26% of preemies have feeding problems; 7 fold if born VLBW

- NICU graduates: 20.4% with prolonged NG tube feedings a risk factor

- Extremely Preterm infants: 19-80% incidence
  - (Catherine Shaker, 2017)
What Populations Might We See?

- Premature/Preterm < 37 wks
- IUGR/SGA
- Complications from a traumatic birth
- Neurological involvement

- Nerve injury (LRN. Vagus nerve)
- Genetic disorders
- Laryngo/Tracheomalacia
- Laryngeal stenosis
Populations (Continued)

- Cardiac defects (PDA, aortic stenosis, etc...)
- Pulmonary involvement (BPD, PPHN, etc)
- Tongue Tie
- Cleft lip and/or palate and other facial anomalies
- Torticollis and asymmetries
- Reflux and other GI issues
- Food allergies
- Cystic Fibrosis (CF)
- And more.....
Why Are These Infants More Likely to Have Feeding Issues?

- Immature cardiac, respiratory or nervous system
- Airway protection; “Breathing trumps feeding”
- Underdeveloped buccal pads
- Low tone

- Neurological involvement
- Structural issues
- Pain; not feeling well enough to eat
- CNS immaturity; not fully developed
- Comorbidities
This Can Cause…

- Arching or fussiness while breast or bottle feeding
- Breast or bottle refusal
- Weaker suck
- Short sucking bursts
- Increased WOB
- Discoordination of SSB

- Coughing, choking or vocal quality changes (Dysphagia)
- Stridor
- Bradycardia, apnea
- Increased congestion during feeding
- Vomiting or excessive spitting up
Which Can Lead to…

- Fatigue when feeding
- Prolonged and inefficient feedings
- Poor weight gain/growth
- Dehydration
- Chronic lung disease or recurrent pneumonia
- Difficulty transitioning to solids
- Oral aversions
“Sucking & swallowing are not simple reflexes; they encompass complex, highly orchestrated sensory and motor events that are under both voluntary and involuntary control.”
For Infant to Feed Well…

He must have adequate:

- Alertness
- Sensory and motor integration
- Coordination of SSB
- Airway protection
- Self-regulation
What To Do if Breastfeeding Problems Arise?
Is That Our Job?
Yup!
If an infant has a breastfeeding problem, it IS a FEEDING problem. As SLPs, it is our professional obligation to help these infants feed optimally. If we don’t know how, find someone who can.
What Can We Do As SLPs?

- Work closely with an IBCLC and learn
- Assess feeding and swallowing at the breast!
- Breastmilk feedings via bottle are not the same as direct BF. Behavior and skill on breast may look very different and vice versa.
- Our job is to preserve Mom and Baby’s breastfeeding relationship as best we can.
- Gaining weight while continuing to BF are not mutually exclusive.
- Our job is to also support and empower Mom (whether she is BF or not!)
Support Mom and Baby

- Support support support!
- What are Mom’s BF goals?
- What you say matters!
- Listen!
BF Success May Look Very Different
“People will forget what you said, people will forget what you did, but people will never forget how you made them feel.”

— Maya Angelou
### Baby Not Gaining Weight…Mom Told…

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<tr>
<td>To supplement baby with formula</td>
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<td>She’s probably not producing enough milk</td>
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<td>Plenty of babies do just fine on formula</td>
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<td>She should just wean</td>
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What Does Mom Hear…

I’m a bad mother

I’m a failure

My breastmilk isn’t good enough

I should just wean
How Can We as SLPs Help Her Baby Feed Optimally While Preserving BF?

- Get a thorough hx/Ask questions
  - Do a full assessment on baby
    - Observe BF
  - Come up with a plan consistent with BF goals
    - Do an oral mechanism and suck exam
  - Parent education and support is key!
Management Will Depend on Several Factors: Your Assessment

- Keep in mind:
  - Thorough hx taking is essential
  - Ask open ended questions
  - Get entire picture: Mom and Baby
  - Maternal hx integral part: medical and BF hx
  - Maternal goals

- Maternal breast anatomy (IBCLC can help with this)

- Assess Baby:
  - Observe entire BF session if possible
  - “Weighted Feeds” valuable tool; milk transfer/volume
  - Don’t just focus on numbers. Look at whole baby, whole picture
  - Quality of Feed just as important
  - What modifications improve fx, safety, milk transfer, and overall efficiency

- Oral motor fx:
  - NNS and NS (strength and coordination)
  - Mobility of tongue
  - Oral structures: intact?

- Plan:
  - Based on findings and maternal goals
  - May involve supplementation and/or alternative feeding method
  - Try to preserve BF as best you can
“Tools in Toolbox”

- Positioning techniques
- “Hands On”:
  - SNS, syringe, nipple shield, cup feeder, finger feeder, supplemental bottles, special needs feeder (Haberman, Dr. Brown’s)
- Suck training
- Pumping
- Growth charts
- Bodywork
- PT/OT
- RD
- Referral to Specialist (GI, frenotomy consult, etc…)
- Galactagogues: herbs and/or medications
  - Remember that anything you use/do may have potentially negative consequences
How Do We Support and Help the BF Infant? Case Study: L.B.

- Referred for: Slow Weight Gain. Pediatrician wanted Mom to supplement with formula.
- My Assessment:
  - Complete Hx from Mom
  - Observe infant at breast
  - Oral motor/suck exam
  - Other observations:
    - Tone, coloring, reflexes, state, movement
  - Assess Mom and Goals
- Impression:
  - Ankyloglossia
  - Weak suck
  - Nipple shield dependency leading to reduced milk transfer (weighted feeds/observations)
- Plan:
  - Work towards weaning off nipple shield
  - Maintain Mom’s supply: pumping
  - Supplement baby via bottle with Mom’s EBM until able to transition to full BF
  - Frenotomy
  - Suck training
Support is Crucial!

Before…

After…
Case Study: L.B.
Typical Breastfeeding
Atypical BF
Don’t Assume Anything
Breastfeeding causes infant to expend more energy over bottle feeding. Therefore, initial feeds should be via bottle until the infant’s cardio-respiratory system matures.
The Facts...

When an infant breastfeeds:

- Physiological stability increases
  - Improved O2 sats and Respiratory Rate
  - Stable heart rate
  - Body temp
- Work of breathing reduced over bottle feeding
- Improved coordination of SSB
- More consistent weight gain
References: Energy Expenditure
Breast vs. Bottle

- Blaymore Bier JA et al (1997) Breastfeeding Infants who were extremely low birth weight. Pediatrics Dec; 100(6):E3
# Biomechanical Differences: Bottle vs. Breast

## Bottle:

- EMG studies show muscle activation is different with bottlefeeding:
  - Increased use of buccinator and orbicularis oris muscles
  - Reduced use of mentalis and masseter muscles
- Bottlefed infants change from suckling (wavelike motion in tongue - front to back) to sucking (up and down pattern of tongue) at around 3 months (Iwayama & Eishima, 1997)

  Catherine-Watson Genna (Supporting Sucking Skills in BF infants; 2013)

## BF:

- Help prep the orofacial musculature for speech and chewing; dynamic process (Elad et al., 2014)
  - Ant. tongue b/t nipple-areolar complex and lips; slightly outside the mouth as mandible drops; oscillates against the palate
  - Tongue continually moves ant-pos t/o feeding in response to mandibular movements
  - Infant extends nipple to hard/soft palate juncture; pos tongue undulates to form/propel bolus and facilitate swallowing/breathing coordination
  - Pressure cycles (intraoral negative pressure) and MER → milk extraction
- Breastfed infants use the same sucking pattern no matter how long they nurse
Video

Mechanics of Breastfeeding
Suck-Swallow-Breathe Coordination

- Wolf and Glass, “Feeding and Swallowing Disorders in Infancy: Assessment and Management” (1992)
What if the Breastfed Baby Has a Swallowing Disorder?
Look at the Whole Picture
Ask Yourself…

- If aspiration is suspected, should we perform MBSS or FEES?
  - If MBSS is performed, most likely only observing bottlefeeding. Will results translate to BF safety and efficiency?
- Is dysphagia potentially causing respiratory or other negative health consequences in this infant?
  - Bronchoscopy
  - x-rays
- Is dysphagia potentially causing weight gain issues or causing baby to refuse to eat?
- Do we recommend thickening?
  - If so, do the risks of thickening breastmilk outweigh the risk of continuing to BF?
To Thicken or Not to Thicken…

- Pros:
  - Can potentially improve swallow safety for some babies; may reduce risk of aspiration
  - Can use Gelmix to thicken breastmilk
  - If baby has reflux, may vomit less
Cons:

- Disrupts the BF relationship
- And…
  - Recall SimplyThick®
  - FDA warning against use in any infant < 1 yr; linked to necrotizing enterocolitis (NEC) even in full term infants.
  - NEC-inflammation and death of intestinal tissue-can cause permanent health issues and even death
  - Rice Cereal and ThickIt® broken down by breastmilk enzymes; doesn’t maintain thickness
  - Concerns have led to changes in hospital protocols (e.g., No thickener under 42 wks PMA)
  - Thickening often recommended for reflux control, but not shown to be effective-“silent reflux”
  - Masks reflux-still refluxing but not spitting up
  - Thickening can cause motility issues in gut
  - Hydration concerns (honey thick, etc..)
  - Early introduction of rice cereal linked to Type 1 Diabetes, obesity and allergies
  - Not BF has been linked to increased ROM, URI, GI infections, SIDS, childhood cancers, DM, colitis, pneumonia, RA, etc…
What We Do Know…

- Chronic aspiration typically causes adverse health outcomes; lungs weaken and become more vulnerable.
- Children who have a hx of lung damage ( prematurity, bronchopulmonary dysplasia, respiratory distress syndrome) are more susceptible to complications from aspiration.
- Children with respiratory involvement have increased difficulty coordinating SSB and have an increased risk for aspiration.
- Food or liquid containing fat molecules (milk, meat, yogurt, etc…) has increased potential for harm with increased risk for pneumonia vs. foods/liquids with higher water content (fruits, vegetables) as water is released from the lungs more easily.
Breastmilk is species specific
Human milk is a living tissue, very much like blood
IgA antibodies provide specific protection against pathogens in mother/baby environment
Hundreds of “innate” immune factors in milk

For example, Oligosaccharides specifically prevent attachment of *Haemophilus influenzae*, *Streptococcus pneumoniae*, *E. coli*, and rotavirus

[http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2812877/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2812877/)

Allison Stuebe article

We don’t know if aspiration of breastmilk actually causes harm to the lungs
What’s the Evidence?

- We are lacking in empirical evidence when it comes to aspiration of breastmilk.
- There are currently no studies (animal or human) that link increased lung disease with aspiration of breastmilk while swallowing.
- Majority of studies are done on formula or cow’s milk.
- What this tells us is...more research needs to be done.
What’s a Speech Pathologist to Do?
Can We Manage BF Differently?

- Yes!
- Slow Flow
  - Pumping before BF
  - Positional changes (side lying, head extension, prone, etc..)
  - Pacing
  - Bottle modifications if bottlefeeding
- Underlying cause that can be treated? (eg. ankyloglossia or other structural abnormality)
- Suck training/finger feeding
- Time and maturity
- In meantime, watch baby closely
- Be creative!
Positioning Modifications
ANKYLOGLOSSIA
How Does a Tongue-Tie Impact BF?

- Restricts tongue movement
- Tongue-ties can and do impact breastfeeding.
  - Nipple pain
  - Damaged nipples
  - Poor milk transfer
  - Low milk supply
  - Early cessation of breastfeeding
  - Failure to thrive
  - Dysphagia
  - Difficulty transitioning to solids
  - Dental issues
  - etc…
The AAP released a statement in 2004 in support of identification of tongue tie and frenotomy for breastfeeding babies.

Frenotomy is a safe and effective procedure for improving tongue function and breastfeeding outcomes (Cho, 2010).

Two categories of s/s that indicate possible frenotomy and/or presence of tongue tie (Hogan, 2005):

- Nipple trauma and pain
- Ineffective breast emptying and low infant intake
The Evidence

- There is evidence to support frenotomy for breastfeeding babies, and these studies have been endorsed by the AAP and Nutrition Academy of Pediatrics. (AAP article).

- A recent study (2014) that included 264 mother/baby dyads concluded that there are “favorable long-term effects of frenotomy on breastfeeding.” The researchers also stated that although it does not help every baby every time, it rarely worsens breastfeeding and is a minimally invasive procedure that can help breastfeeding dyads (2014 study).

- Berry, Griffiths and Westcott study (J Pediatr Surg 2006)
  - RCT
  - Showed real, immediate improvement in breastfeeding following frenotomy
  - 60 breastfed babies
  - 78% immediate benefits
  - 91% reported benefits at 3 months

- Buryk, Bloom, & Shope (Pediatrics 2011)
  - RCT
  - 58 babies
  - Showed significant improvement in breastfeeding scores and maternal nipple pain scores
Tongue-Tie Images

Classic tongue-tie

“sneaky” tongue-tie

-Genna Photos with permission from Catherine Watson©
“Lip-Tie”

May impact BF
Need additional research

Photos with permission by Lawrence Kotlow, DDS 2010, and Dr. Yardzi, DDS
Often Genetic
Frenotomy

Photos with permission by Laila Hishaw, DDS, 2013 ©
Baby’s Latch: Before and After Frenotomy

Photos by Nina Isaac, MS, CCC-SLP, IBCLC 2011
Tongue Ties and Weight Gain

Y.G. vs A.G.

Weight Gain Chart

- Y.G.
- A.G.

Comparison of weight gain patterns for Y.G. and A.G. showing different trajectories.
What Additional Information Can We Give Parents?

- Follow up appt and weight checks
- Support, support, support! Encouragement!
- Handouts? Which ones do you currently give?
- Resource list?
  - Outpatient Lactation Support (IBCLCs)
  - La Leche League
  - Other BF support groups in area
  - Phone support (LLL, hotline, LCs)
- Get to know your LCs
- Family and spousal support also integral part; “buy-in”
So, Where to Go From Here...

Think of Infant and Mom as a Dyad!
Continuing education related to infant feeding and breastfeeding
Get to know your local IBCLCs and learn from them
THANK YOU!

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Questions?