

# Questions & Answers

Questions for Louisa Ferrara concerning the presentation –

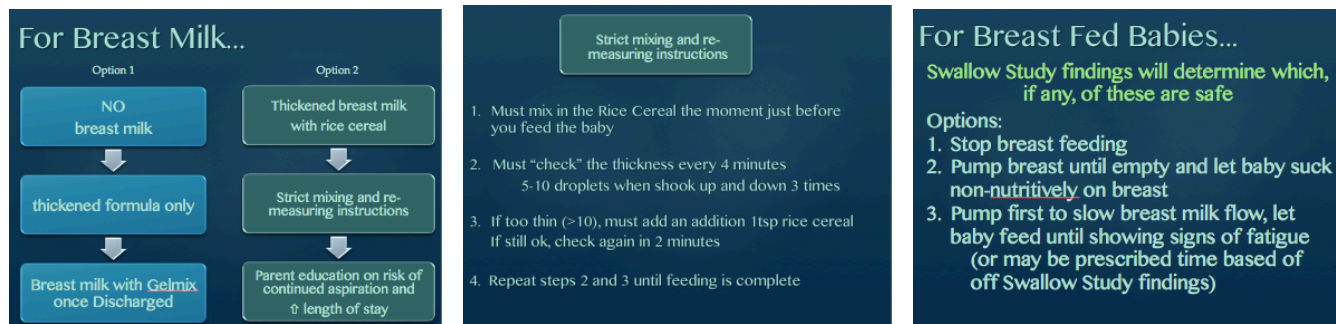
## Apneas, Bradycardias, & Desaturations during Oral Feedings in Growing Preemies: Nature vs Nurture

1. Do you consider swallow initiation normal at the level of the pyriform sinuses?

No, we never want to see material pooling in the pyriform sinuses due to its close approximation to the laryngeal vestibule.

2. If a baby is nippleing expressed breast milk and aspiration was been documented during MBS, is that baby taken off breast milk to accommodate the rice cereal (provided all other strategies do not work)?

My hospital staff (and myself) strongly urges women to breastfeed if possible. But there are instances when you have to weight out the risk and benefits to a decision. If the lungs are at risk we make them our top priority. The reason thickening breast milk with cereal is so risky, is because the amylase enzyme in breast milk breaks down the thickening agents in cereal. So at the start of the feeding you have an appropriately thickened feeding flowing from an appropriate nipple. But as the feeding thins (due to the amylase) you are now offering a thinner liquid from a faster flowing nipple, which is obviously problematic. So there are several options we offer to the families. Here are 3 slides I provide in my presentation called “To Thicken or Not to Thicken: Treatment Approaches for Neonatal Dysphagia.”



As I was providing this talk in March 2013, a few members of the audience mentioned that they have recently been mixing  $\frac{1}{2}$  breast milk with  $\frac{1}{2}$  formula, then thickening it with the cereal. The osmolality of this mix does not break down the thickening agents in the cereal as quickly. I have yet to try this for myself, but am encouraged by this new strategy and plan on doing some good data collection to share with everyone.

3. What if the physician will not order a swallow study, but wants to clinically thicken?

We never thicken without a study; there is too much uncertainty. I've seen some infants do beautifully with thickened feeds, but I've seen others have much worse dysphagia symptoms due to

weak muscular movements within the pharynx (reduced pharyngeal constriction). It also doesn't help differentiate those infants who need half-nectar, nectar or honey-thick liquids. We want to make each clinical decision as specific to that child's needs as we can.

4. I have been using the ultra preemie nipple with success. Do you have a GA base that the ultra preemie is no longer indicated vs. thickening methods?

The ultra-preemie nipple has really been a life-saver! But, just as everything other tool I've provided, make sure to judge each case on an individual basis. I've seen some infants do best with the ultra-preemie nipple until over 50 weeks corrected gestational age, and some transition off it before they are discharged. Always go by cues. If you feel they are getting frustrated, or the mother wants to try the nipple/bottle system they will be using at home, perform your nipple assessment and see if another nipple may suite their needs as they continue to mature. If altering a nipple yields satisfactory improvements for that infants' feeding, then that is a much-preferred strategy over thickening. There are lots of consequences to thickening (constipation, alterations in caloric and nutrient intake, risk of NEC, etc) that make it our least favorable option.

5. You mentioned that laryngeal inflammation can be a problem. Do you find that infants that have prolonged intubation periods consistently have greater risks for problematic feeding outcomes?

I wouldn't say "consistently" but that is certainly a trend in our NICU. It is hard to say which factor contributes more. The infants that require more prolonged intubation are usually born at earlier gestational ages, and suffer from more severe dysphagia (Lee, et al., 2011). So is it the abhorrent neural development of being a VLBW infant that causes the later feeding difficulties, or the respiratory strategies used (intubation, CPAP, NC) to keep that infant alive?

Inflammation can be caused by many things. My main 3 suspects that influence swallow safety are prolonged intubation, high flow NCPAP and GE reflux. One of my pediatric pulmonologists and myself are putting a study together assessing the swallowing mechanism in infants with and without NCPAP to see if there are any changes. We have already noted this in some infants, so once IRB goes through, I think it will provide some very useful information.