NeuroNICU 5 Minute Friday: Using Thickened Liquids to Improve Swallowing Safety

Kelly Andrasik OTR/L, MOT

Friday April 8th, 2016
Thickener Background Information

- **Dysphagia**
  - Difficulty or inability to swallow
- **Impacts 25-55% of premature infants**
  - (Mercado-Dean, et al. 2001)
- **60% of infants with developmental issues**
  - (Giudice, et al. 1999)
- **Texture and viscosity modifications are considered a cornerstone of dysphagia management**
  - Slows flow of liquid
  - Improves cohesiveness of the bolus
  - Improves sensation/feedback
History of Thickeners

- Pre- 2011
  - no regulations on thickeners with NICU population

- Post- 2011
  - FDA puts out warning against Simply Thick for preemies (May 2011)
  - Vague guidelines expanded to other thickening agents, especially for ex-preterm infants
  - FDA expands warning to term infants (May 2012)

- LPCH Policy Update 2014
# Thickeners for Formula

Rice Cereal
(NO breast milk)

<table>
<thead>
<tr>
<th>Patient Age</th>
<th>Recommended Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premature infants (no h/o NEC)</td>
<td>Limited, recreational feedings up to 10 mL BID, if cleared by primary MD once baby is 44 weeks PMA or older</td>
</tr>
<tr>
<td>FT infants 0-4 months</td>
<td>Limited, recreational feedings up to 10 mL BID, if cleared by primary MD</td>
</tr>
<tr>
<td>4 months and older</td>
<td>Full thickened oral feeds, if deemed appropriate by feeding therapist and primary MD</td>
</tr>
</tbody>
</table>

Thick-It
(NO breast milk)

<table>
<thead>
<tr>
<th>Patient Age</th>
<th>Recommended Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premature infants (no h/o NEC)</td>
<td>May be used for full oral feeds, if deemed appropriate by feeding therapist and primary MD once baby is 44 weeks</td>
</tr>
<tr>
<td>FT Infants 0 months</td>
<td>Full thickened oral feeds, if deemed appropriate by feeding therapist and primary MD</td>
</tr>
</tbody>
</table>
## Thickeners for Breast Milk

### Simply Thick

<table>
<thead>
<tr>
<th>Patient Age</th>
<th>Recommended Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any infant 0-12 months</td>
<td>May not be used</td>
</tr>
<tr>
<td>12 months &amp; older, including premature infants (no h/o NEC)</td>
<td>Full thickened oral feeds, if deemed appropriate by feeding therapist and primary MD</td>
</tr>
<tr>
<td>Infant with h/o NEC</td>
<td>May be only used once child is greater than 12 years of age</td>
</tr>
</tbody>
</table>

### Gelmix

<table>
<thead>
<tr>
<th>Patient Age</th>
<th>Recommended Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premature infants (no h/o NEC)</td>
<td>May be used for full oral feeds, once baby is 44 weeks PMA and 6 pounds</td>
</tr>
<tr>
<td>All other infants and older children</td>
<td>May be used for full oral feeds, once baby is 44 weeks PMA and 6 pounds</td>
</tr>
</tbody>
</table>
Why We Love Thickeners

• Can facilitate safer feeding for our patients with dysphagia and swallowing difficulties
  • Keeps oral feeding as an infant occupation
  • Faster transition to full oral feedings
• Decreased incidence of oral aversion
• Baby and parent bonding opportunities via feeding
Why We Love to Hate Thickeners

- No perfect thickening options
  - Limited use in MBM
- Added cost
- Infection risks from additives
- Difficult family carry over
- Increases demands on baby
  - Can be difficult to meet nutrition & hydration orally
  - Taxing endurance-wise
  - Changes nutritional value of feeding
Thank you!  
Questions?

Kelly Andrasik, OTR/L, MOT, SWC  
kandrasik@stanfordchildrens.org
References


Beal, Silverman, Bellant, Young, Klontz. Late Onset Necrotizing Enterocolitis in Infants following Use of Xantham Gum-Containing Thickening Agent. The Journal of Pediatrics, August 2012.


Clinical tube weaning supported by hunger provocation in fully-tube-feed children; J Pediatric Gastroenterol Nutrition; April 2015; 60(4); Page 538-43.

FDA expands caution of use to all infants, September 18, 2012: http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm256250.htm


Initial FDA warning June 5, 2011: http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm256253


Late Onset Necrotizing Enterocolitis in Infants following Use of Xanthan Gum-Containing Thickening Agent; The Journal of Pediatrics; 11 May 2012; pgs 354-356.


Mercado-Deane M-G, Burton EM, Harlow SA, Glover AS, Deane DA, Guill MF, Hudson V. Swallowing dysfunction in infants less than 1 year of age. Pediatric Radiology 2001; 31: 423-428
References


Prevention of Invasive Cronobacter Infections in Young Infants Fed Powdered Infant Formula; American Academy of Pediatrics; 8 October, 2012:http://pediatrics.aappublications.org/content/130/5/e1076.full.html


Swallowing Function and Medical Diagnoses in Infants Suspected of Dysphagia, American Academy of Pediatrics; 2001:http://pediatrics.aappublications.org/content/108/6/e106.full.html


Warning Too Late for Some Babies, February 4, 2013:well.blogs.nytimes.com/2013/02/04/warning-too-late-for-some-babies/