Instrumental Evaluations of Swallowing

NeuroNICU: Five Minute Friday

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Feeding Overview

One of the primary developmental tasks

- Begins in utero
- Swallowing difficulties can be:
  - Structural
    - EA, TEF, cleft lip/palate, laryngeal cleft
  - Maturational
    - Preterm infants
  - Neurological
    - CNS malformation, seizures, neuromuscular disorders, stroke
  - Other
    - Decreased arousal, medication effects
Signs of Swallowing Dysfunction

Symptoms

• Coughing, choking
• Red watery eyes
• Upper airway congestion
• Instability of vitals while feeding
• Prolonged apnea with feeding
• Uncoordinated swallows

However, with infants, aspiration is silent between 65-85% of the time!
Swallowing Evaluation

First step: OT Bedside Feeding Evaluation

Videofluoroscopic Swallow Study (VFSS)
aka: Modified Barium Swallow (MBS)

Fiberoptic Endoscopic Eval of Swallow (FEES)
Swallowing Dysfunction

Penetration: Entry of foreign material into the laryngeal vestibule above the VCs

• Regular and severe/deep penetration can mean a patient is at high risk for ultimately aspirating.

Aspiration: Entry of foreign material into the airway below the VCs
Videofluoroscopic Swallow Study

Test completed in radiology

- Visualize ALL stages of swallowing
- Examination of orpharynx and prox esophagus
- Patient drinks barium
  - Can change consistency, nipple, position

Limitations

- Moment in time
- Radiation exposure
- No sequential studies
Normal Swallow: https://www.youtube.com/watch?v=3Ql8GrGzP5A
Fiberoptic Endoscopic Evaluation of Swallow

Test completed at the bedside
   • ENT manages laryngoscope
   • Laryngoscope is positioned above the hard palate
   • Superior view of epiglottis, VC, larynx
   • Can visualize internal structures/anatomy

Limitations
   • Moment in time
   • “White out” during the swallow
   • Cannot visualize aspiration DURING swallow
      – This is when most neonates aspirate
   • Can be difficult to replicate typical feeding
   • Seen as more invasive from infant/family perspective
Normal Swallow: https://www.youtube.com/watch?v=l8eICovpb28
Thank you! Questions?

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