**FACT OR FICTION??**

**Urban Legends of Dysphagia**

Caroline M. Brindo, MA/CCC-SLP, BCS-S  
Clinical Manager, MBSEnvision-Ohio  
cbrindo@mbsenvision.com

Rachel Maxbauer, MA/CCC-SLP  
Lead SLP, MBSEnvision-MI  
rmaxbauer@mbsenvision.com

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**FACT**

- Dysphagia management is an evolving field
- Therapists are ethically responsible for determining the best course of treatment for patients
- EBP calls for therapists to integrate:
  - clinical expertise/expert opinion
  - external scientific evidence
  - client/patient/caregiver perspectives to provide high-quality services reflecting the interests, values, needs, and choices of the individuals we serve  
  - asha.org

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**FICTION**

- Everything you were taught in school is still true
- Everything your clinical supervisor told you about swallowing assessment and treatment is true
- SLPs are not responsible for determining the truth of what we are taught or have heard
- All published articles are well done and thoroughly examined
- If it’s on the internet, it’s accurate
Research - FACT or FICTION?

- Agency for Healthcare Research and Quality (AHRQ)
  - LEVEL 1A: Meta-analysis of multiple LEVEL 1s
  - LEVEL 1: Well designed, randomized, controlled trials
  - LEVEL 2: Well designed, non-randomized, controlled trial
  - LEVEL 3: Observational studies with controls
  - LEVEL 4: Observational studies without controls

Research - FACT or FICTION?

- Investigate
  - Number of subjects? What is their n?
  - Control group?
  - Simultaneous testing?
  - Abstract vs. full text?
  - Who is involved?
  - Where is it published?
  - Correlation vs. causation?
  - Blinded?
  - Magic bullet?

The MBS can be a pass/fail test

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The MBS can be pass/fail
The MBS should end when aspiration occurs

FEES and MBS assess dysphagia equally well

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ASPIRATION VS OROPHARYNGEAL DYSPHAGIA
Penetration is abnormal

The epiglottis is a very important structure for proper swallow function

Important to observe as possible indicator of impairment

“Patient with aspiration due to incomplete epiglottic deflection.”
UES dysfunction can be diagnosed via MBS

UES dysfuntion can be diagnosed via MBS

A runny nose and watery eyes are indicators of silent aspiration

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Pulse ox should be part of the BSE

Checking temperature fluctuations or spikes is a good way to assess for aspiration
Wet vocal quality is a good indicator of penetration, aspiration and residues

A diminished gag reflex is a good indicator of aspiration risk

Wet vocal quality is a good indicator of penetration, aspiration and residues

A diminished gag reflex is a good indicator of aspiration risk
The chin tuck makes the swallow safer

Poor PO intake is a possible indicator of dysphagia
Aspiration pneumonia is always RLL pneumonia

Aspiration pneumonia is always RLL

The Masako maneuver increases the strength of the base of tongue retraction

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If a patient is non-compliant with your recommendations, you should discharge them from caseload.

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Thicker liquids are safer.
Repeating /k/ and /g/ words with force strengthens base of tongue retraction

Producing /k/ and /g/ words with force strengthens base of tongue retraction

Esophageal dysphagia can look like pharyngeal dysphagia at bedside

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VitalStim

- www.vitalstim.com research support
  - Shaw et al., 2007
    - MBS or FEES before and after
    - 61% of patients demonstrated improvement in swallowing
    - 33% no longer required a feeding tube
    - Concluded: “VitalStim therapy seems to help those with mild to moderate dysphagia. However, the patients with the most severe dysphagia in our study did not gain independence from their feeding tubes.”
    - 18 total patients
    - No control group

VitalStim

- www.vitalstim.com research support
  - Carnaby-Mann et al., 2007
    - Meta-analysis of existing studies
    - Examined 81 existing studies, 7 accepted
    - Synthesis of the data was in favor of NMES for swallowing
    - Conclusion: “Because of the small number of studies and low methodological grading for these studies, caution should be taken in interpreting this finding. These results support the need for more rigorous research in this area.”

VitalStim

- www.vitalstim.com research support
  - Blumenfield et al., 2006
    - Two groups of patients, 40 each group
    - One group-traditional therapy (laryngeal elevation exercises, oral motor)
    - Second group- e stim only
    - Each patient received an instrumental swallowing assessment before and after, given a swallow severity rating score before and after.
    - Group that received e stim had more improvement on score, and required a fewer number of sessions.
    - Groups were not random
    - Clinicians that evaluated also provided treatment
    - Criteria for discharge not described

VitalStim

- www.vitalstim.com research support
  - Crary et al., 2007
    - Survey results
      - Group 1-received training in e-stim and currently using
      - Group 2-Members of SIG13
    - Of therapists currently using
      - Majority reported no specific criteria for using
      - Majority used varied treatment methods
      - Majority did not follow patients after treatment
      - Majority reported therapist and patient satisfaction
      - No reported treatment complications
    - Of therapists not using
      - Waiting for better outcome data
### VitalStim
- **Humbert et al, 2006**
  - Application of surface electrical stimulation during VFSS at rest and during swallowing
  - Reduced hyoid and peak laryngeal elevation during swallow, laryngeal decent at rest
- **Freed et al, 2001**
  - Compared thermal tactile stim with e stim
  - Improved swallow score with e stim group
  - Thermal tactile stim?

### DPNS
- 8,000+ therapists trained and certified
- "DPNS dysphagia treatment techniques were developed utilizing reflex stimulation through the thermal (cold) modality, first used in treatment by Margaret Rood, PT in the 1950s. The clinician practices direct, targeted reflex triggering to generate muscle group contraction. Utilizing the inherent reflex system with the muscle groups of the swallow, the therapist is now able to increase muscle strength, endurance, ROM, and, as a result, function."
- Developed 1991-1993 in Florida
- References:
  - **Teismann et al, 2009**
    - Increased cortical activity with oral thermal tactile stimulation
  - **Hamdy et al, 1998**
    - Increased responsiveness of the pharynx and upper esophagus
  - Activity and responsiveness returned to pre-stimulation levels after 60 minutes in all 8 healthy subjects

### Cervical Auscultation
- **Zenner et al, 1995**
  - “Results support the use of cervical auscultation as a highly sensitive and specific method of dysphagia assessment in long-term care.”
  - Listening to swallows and VFSS not completed simultaneously
    - Average of two weeks between BSA and VFSS
    - Examiners not blinded
  - Also completed a clinical bedside exam
  - High detection of aspiration
    - High false positive (catch everyone)
Cervical Auscultation

- Leslie et al., 2007 & Leslie et al, 2004
  - 2007: CA and endoscopy simultaneously
    - Attempted to link sounds with physiological event
    - "No individual sound component was consistently associated with a physiological event"
  - 2004: CA and VFSS simultaneously
    - Low predictive values, in the 60's%

- Stroud et al, 2002
  - High detection
  - High false positive

- Borr et al, 2006
  - "We conclude that the swallowing sounds contain audible cues that should, in principle, permit reliable classification"
  - Not simultaneous
  - Examined and completed acoustical analysis of swallow sounds
    - Compared sounds of normals with dysphagic
    - Then used same sounds and asked experts, students and laypeople to identify as normal or dysphagic
    - Rater reliability was poor
    - High detection/high false positive
  - "What does that mean for the clinical applicability of CA? With regard to the foundation we know about CA, we are viewing this method with skepticism."

SwallowStrong

- Developed by Swallow Solutions in Wisconsin, founded by JoAnne Robbins
  - 2008 paper describing its use as a measurement device and potential for strengthening
  - Madison Oral Strengthening Therapeutic Device (MOST)
  - 2013 ASHA
    - Presented findings on the decrease of gross and fine motor with age, and the different pressures generated by gross and fine motor tongue movement
    - MOST device
  - 2013 ASHA
    - Presented findings of early clinical trials of Isometric Progressive Oropharyngeal therapy and the MOST
      - Data collection on:
        - Pre and post penetration-aspiration scale
        - Swallow Quality of Life (Swal-QOL)
        - Dietary intake
  - 2014 DRS Convention
    - Presented finding on improved PAS, FOIS, QOL
  - MOST became SwallowStrong
    - Added a touch screen interface, redesigned the mouthpiece

SwallowStrong

- Recent research:
  - Rogus-Pulia et al, 2016
  - Juan et al, 2013
    - Single subject
    - 27 months post CVA, post STx-strengthening and e-stim, post esoph dilation, PEG
    - 8 weeks with MOST- increased strength, unrestricted PO intake

SwallowStrong

- Training:
  - Free videos on website on set up, use, therapy
  - www.swallowsolutions.com
It’s not my fault...

- ASHA 2013 Health care survey
  - In adult settings, 42% care provided was in dysphagia
    - voice, AAC, accent modification, aphasia, dementia, TBI, cognitive, motor speech, other
  - In general medical and LTAC-59%
- CEU
  - Dysphagia CEU requirements
  - In person: 3 in Ohio
- Education
  - ASHA suggests 60 clinical hours
  - Casual survey: 3 credit hours in dysphagia
  - Combined with: motor speech, dysarthria

References

References


