THE MODIFIED BARIUM SWALLOW STUDY IS NOT A FOOD TEST:

Why we shouldn't have Taco Tuesdays in Radiology

Caroline M. Brindo, MA/CCC-SLP, BCS-S

Director of Clinical Services and Education

Patheous Health (formerly MBS Envision)

cbrindo@patheoushealth.com

Disclosures

- Financial: Caroline is the Director of Clinical Services and Education with Patheous Health and receives a salary for her work, which includes the development of this course.

- Non-financial: Caroline is a mentor for the American Board of Swallowing and Swallowing Disorders and the ASHA Leadership Program. She is the Director of Donor Care with the Dysphagia Outreach Project. She volunteers for her local library… and you should too.

- **Bio**: Caroline M. Brindo, MA/CCC-SLP, BCS-S, is a Board Certified Specialist in Swallowing and Swallowing disorders with over 20+ years of experience in dysphagia management. She is the Director of Clinical Services and Education with Patheous Health, formerly MBS Envision, a provider of on-site dysphagia services. She has presented on dysphagia at the local, state and national level. She volunteers as a mentor for the American Board of Swallowing and Swallowing Disorders as well as the ASHA Leadership cohort. Caroline also volunteers as a Director with the Dysphagia Outreach Project and her local library. She writes the blog "Modified Monday" and creates educational cat memes on dysphagia.

Attendance Code

mc3310

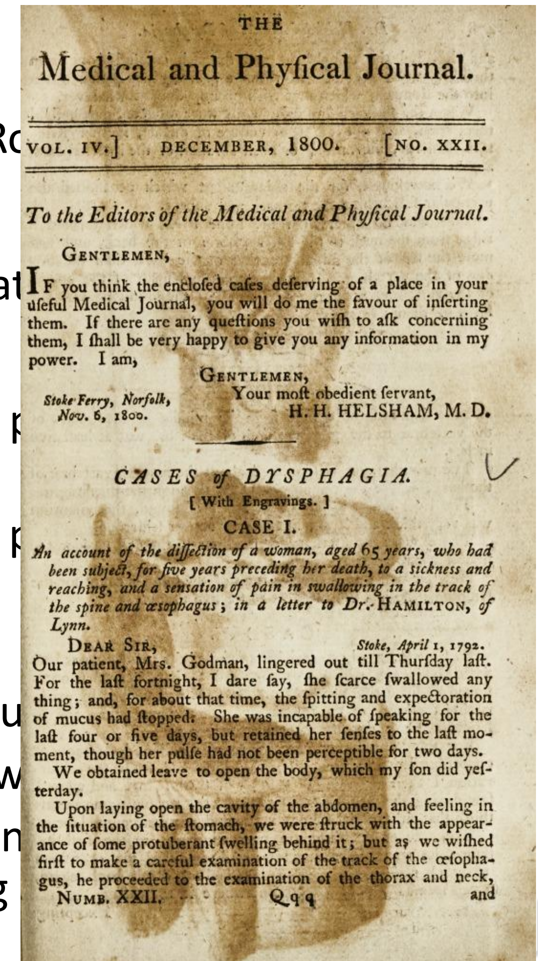
Patheous Health, Inc Confidential

Patheous Health, Inc Confidential

History of the Modified Barium Swallow study

(with some bonus content)

- 1895 – first dynamic fluroroscopic imaging by Wilhelm Ro
- Fluoroscopy began to be used in healthcare, surgeries
- Videofluoroscopy-dynamic continual video of events that
- Early 70's
  - Dr. Jeri Logemann completing research on speech in p Parkinson's using VF
    - Began to recognize that this population also had p swallowing
    - Published in JAMA in 1975
    - Presented in 1976 to the ASHA convention in Hou
    - Began calling her assessment the "cookie swallow
    - Published in 1983 a description of the SLPs role in advocated this "cookie swallow" before initiating



THE

Medical and Phyfical Journal.

VOL. IV.] DECEMBER, 1800. [NO. XXII.

To the Editors of the Medical and Phyfical Journal.

GENTLEMEN,

IF you think the enclofed cafes deferving of a place in your ufeful Medical Journal, you will do me the favour of inferting them. If there are any queftions you wifh to afk concerning them, I fhall be very happy to give you any information in my power. I am,

GENTLEMEN,
Your moft obedient fervant,
H. H. HELSHAM, M. D.

Stoke Ferry, Norfolk, Nov. 6, 1800.

CASES of DYSPHAGIA.

[With Engravings.]

CASE I.

An account of the diffection of a woman, aged 65 years, who had been subject, for five years preceding her death, to a sickness and reaching, and a sensation of pain in swallowing in the track of the spine and œsophagus; in a letter to Dr. HAMILTON, *of Lynn.*

DEAR SIR, *Stoke, April 1, 1792.*

Our patient, Mrs. Godman, lingered out till Thurfday laft. For the laft fortnight, I dare fay, fhe fcarce fwallowed any thing; and, for about that time, the fpitting and expectoration of mucus had ftopped. She was incapable of fpeaking for the laft four or five days, but retained her fenfes to the laft moment, though her pulfe had not been perceptible for two days.

We obtained leave to open the body, which my fon did yefterday.

Upon laying open the cavity of the abdomen, and feeling in the fituation of the ftomach, we were ftruck with the appearance of fome protuberant fwelling behind it; but as we wifhed firft to make a careful examination of the track of the œfophagus, he proceeded to the examination of the thorax and neck,

NUMB. XXII. Qq q and

ACR Opinion…

- American College of Radiology:
  - The videofluoroscopic study should be performed by the speech-language pathologists for "both diagnosis and assessment of therapy to promote swallowing without aspiration" (p. 4). The evaluation should include:
    - assessment of the oral preparatory phase, the oral transfer phase and the pharyngeal phase of swallowing,
    - assessment of various bolus viscosities and volumes based on the clinical judgement of the speech-language pathologist or radiologists and the individual's presenting symptoms, and
    - assessment of the individual's response to aspiration (e.g., ability to clear aspirated material, effectiveness of therapeutic maneuvers).

ASHA Opinion…

- ASHA
  - The VFSS shows the characteristics of the swallow and the patterns of bolus movement, including, but not limited to, initiation of the swallow, nasopharyngeal reflux, pharyngeal clearance, and laryngeal penetration and aspiration.
  - ASHA Preferred Practice Guidelines: Purpose of the MBS
    - Assess anatomy and physiology
    - Evaluate airway protection
    - Evaluate effectiveness of posture, maneuvers, strategies
    - Determine optimum delivery of nutrition/hydration
    - Determine therapeutic techniques
    - Gain information for collaboration

Why does the food matter (or not)?

- Some foods require a different physiology to manage!
  - Ex: liquids require more oral control, solids require more pharyngeal contraction
- Assessing different conditions of same bolus types that require different physiology
  - Self feeding
  - Continual swallows
    - Respiration
  - Straws
    - Coordination of negative pressure to positive pressure
  - Large bites
  - Mixed consistencies-maybe?

One moment In time (or not)?

- We can’t test everything…can we?
  - This is why a TRAINED SLP needs to complete the study!
  - CLINICAL JUDGEMENT
- It’s not really all about just that one moment
  - Assess the physiology and use that information to create a plan
  - Critically assess the patient with the data gathered from the MBS

Am I skilled or unskilled?

- What makes us skilled?
  - What do we evaluate that sets us apart?
    - Anatomy
      - Structures of swallowing, cranial nerves
    - **Normal physiology**
    - Disordered physiology and corresponding compensatory strategies and treatment
    - Evidenced based treatment
- What’s the unskilled part?
  - Did they aspirate on this food or liquid or not?

What makes the MBS not a screening?

SCREENING

- Pass/Fail
- Determines need for further evaluation
- Not necessarily skilled

EVALUATION

- Comprehensive look at anatomy and physiology
- Directs treatment
- Definitely skilled

Sooo… if the MBS is "Patient aspiriated with thin, recommend nectar and puree with SLP to assess for meal tolerance" is this a screening?????

What is my primary purpose?

- WHAT IS THE POINT OF YOUR MBS???
  - What makes it skilled?
  - What are your questions?
  - What information do you need that you can't get anywhere else??

It is not a feeding assessment. You can't simulate everything on a patient's tray in a modified barium swallow study. That's not it's purpose. It's purpose is to capture impairment and predict how a patient is going to do with various textures, knowing the physiology.

-Dr. Bonnie Martin-Harris, MBSImp

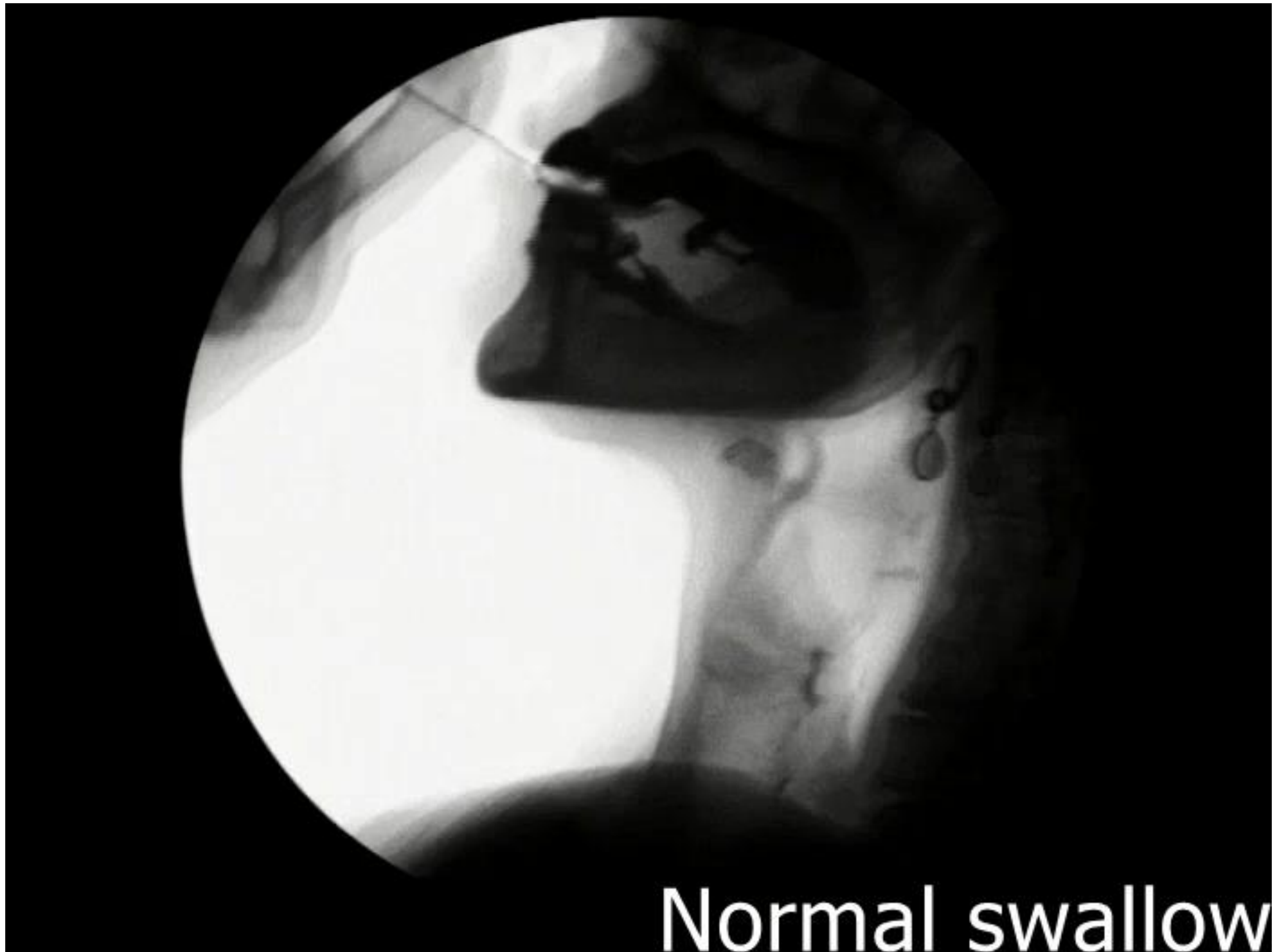
Why do we look at the food so much??

- What do we learn about physiology?
  - Normal vs disordered
  - 15% of clinical hours/5% of curriculum VS 55% of our time in medical setting
- Do we see normal????
  - Maybe not enough….
- My own personal theory

What physiology?

- Oral
  - Important to visualize as part of the MBS
  - Assess
    - Timing of mastication onset
    - Adequacy of mastication
    - Formation, control and transfer of bolus
- Oropharyngeal
  - Transfer
- Pharyngeal
  - Base of tongue retraction
  - Hyolaryngeal movement
  - Airway closure
  - Residues
- Esophageal
  - Clear or not?

Patheous Health, Inc Confidential


Normal swallow

How do we choose food?

- MBSImp
    - Each presentation should give unique information
        - Consider type/size/mode of presentation
- Normal physiology
    - Bolus prep?
        - Thin-very little
        - Dry cookie-quite a bit
    - Bolus control
        - Mixed consistency with thin-quite a bit
        - Chocolate pudding-not so much

During the development of the MBSImp, 5 mL thin and 5mL nectar contributed to clinical identification of every single impairment except bolus prep/mastication.

Where does clinical judgement come in?

- Flowchart vs narrative
- Clinical judgment examines all aspects of a patient to create plan
  - Clinical assessment
    - Behavior
    - Status
    - Patient perspective
  - Instrumental assessment
    - Physiology
    - Response of patient
    - Anatomy
  - Medical history
    - How will care of dysphagia affect the person medically

Do I need a protocol?

- Benefits to implementing a protocol
  - Takes focus from bolus to physiology
  - Assess variables independently
    - Bolus size, presentation, strategies, bolus type, etc.
  - Maximizes information gathered from the study
  - Comparison
    - Inter and intra rater reliability
    - Improvement? Decline?
- Drawbacks to a protocol
  - Might give the radiologist the impression that you are OCD

Where do we start?

- What do we know about physiology before that first presentation?
  - Bolus control? Manipulation? Airway protection? Pharyngeal contraction? Timeliness?
    - Hint: none of the above… probably
- If they don't have the physiology to handle the first bolus, how will that affect the other things I want to look at?
  - Residues? Difficulty in clearing residues?
- Critically think about what type of bolus requires the least of these physiologies and is least likely to mess with the rest of the test
    - Thin? Honey? Puree? Solids?

Documentation

- What you report is what happened
  - If it's not documented, it never happened
- Who are you writing for?
- The bolus is not important, it's the physiology

Why can’t we have Taco Tuesday?

- What information do we gain?
  - Cookie/cake/chicken example
  - Critical, skilled thinking
- Radiation
  - ALARA
- Where do we draw the line?

Patheous Health, Inc Confidential

Exceptions? (What about margaritas?)

- Compliance/participation
- Education

Take Out

- What information do we need to provide after an MBS?
    - Skilled or unskilled?
- How do we choose stimuli that will challenge physiology?
- What new information will that next bite or sip get me?
- If I’m not using a protocol, why not?
- Am I documenting enough?

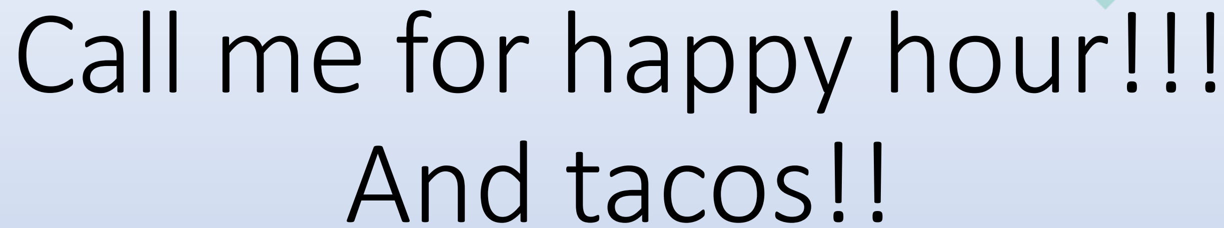
Patheous Health, Inc Confidential

Attendance Code

mc3310

References

- American College of Radiology. (2014).
  Reston (VA): American College of Radiology, (Resolution 39), 1-8.
- American Speech Language and Hearing Association Practice Portal, "VFSS". Asha.org. Last accessed 3-29-2022.
- American Speech Language and Hearing Assoiciation Practice Portal, "Adult Dysphagia". Asha.org. Last accessed 3-29-2022
- Blonsky ER, Logemann JA, Boshes B, Fisher HB: Comparison of speech and swallowing function in patients with tremor disorders and in normal geriatric patients: a cinefluorographic study. *J Gerontol 30*:299–303, 1975
- Daniels, SK, Foundas, A. (2001). Swallowing physiology of sequential straw drinking. *Dysphagia* 16(3): 176-82.
- Groher, M. (2016). "The Historical role of the SLP in dysphagia management." *Dysphagia* Café. Last accessed 1-14-2019.
- Martin-Harris B, Brodsky MB, Michel Y, et al. MBS measurement tool for swallow impairment--MBSImp: establishing a standard. *Dysphagia*. 2008;23(4):392-405.
- Murray, Joseph (1999). Manual of Dysphagia Assessment in Adults. Delmar. Logeman, J. (1983). Evaluation and Treatment of Swallowing Disorders. Pro-Ed.
- Logemann JA, Blonsky ER, Boshes B. Dysphagia in Parkinsonism. *JAMA.* 1975;231(1):69–70. doi:10.1001/jama.1975.03240130051031
- Ouahchi, Y., Ben Salah, N., Mjid, M., Hedhli, A., Abdelhedi, N., Beji, M., Toujani,S., Verin, E. (2018). Breathing pattern during sequential swallowing in healthy adult humans. *Journal of Applied Physiology.*



Caroline M. Brindo, MA/CCC-SLP, BCS-S

cbrindo@patheoushealth.com

330-414-3436

Patheous Health, Inc Confidential