ABSTRACT
To be effective, treatment strategies must be customized to target the particular characteristics of an individual patient’s dysphagia. Further, accurate assessment of these swallowing characteristics often incorporates videofluoroscopy, the most widely available instrumental assessment and one that involves shared responsibility for implementation and interpretation between radiologists and SLPs. In this interactive session, we will consider the relationships between clinical manifestations of dysphagia and their underlying physiology, as well as the relationships between sensory and motor aspects of swallowing. Additionally, we will discuss strategies to build collaboration with radiology for standardized and evidence-based VFSS procedures. Finally, we will consider the effects of these approaches in supporting patient-centered and evidence-based practice.

LEARNING OBJECTIVES
After participating in this seminar, learners will be able to:
1. summarize general principles of deficit-based dysphagia management.
2. describe symptoms and signs of sensory- and motor-based dysphagia across patient populations.
3. list therapeutic exercises for sensory- and motor-based swallowing disorders.
4. explain ASHA guidelines for VFSS and identify potential inconsistencies at their facilities.
5. describe factors that may influence study protocol and interpretation across the key disciplines involved in VFSS.
6. identify strategies for building a collaborative relationship between SLPs and radiologists.

INTRODUCTION
- Dysphagia management has some unique challenges compared to other types of rehab services
- Symptoms, signs, impairments, and deficits are different but related

DEFICIT-DRIVEN DYSPHAGIA MANAGEMENT
Assessment
- The nature of the deficit determines the management approach
  - Developmental vs. acquired, acute vs. chronic, single-incident vs. degenerative, sensory vs. motor vs. sensorimotor vs. other
- Accurate identification of impairments and deficits is critical for treatment selection
- Indications of sensory, motor, and sensorimotor impairments (see activity worksheet)

Compensatory Strategies
- Immediate effects regarding bolus flow and/or airway protection, a bolus is present
- Some consideration of how strategies fit impairments, but not necessarily deficits
- Test (instrumentally) to determine whether they successfully reduce risks associated with impairments

Rehabilitative Treatment
- Longer-term effects on swallowing physiology even when technique not being performed, often performed when bolus is not present
- Principles of exercise and neuroplasticity – specificity, intensity, load/resistance
  - Treatment selection should be specific to the deficit(s) identified
Range of rehabilitative strategies currently used (see activity worksheet)
  o What does each target (often some overlap)?
  o Consider types and quality of evidence in selecting strategies

**VIDEOFLUOROSCOPY PARTNERSHIPS**

Potential problems:

- Neither Radiologists nor SLPs are solely responsible for interpretation of VFSS
  o Radiologist and SLP present throughout image acquisition
- Different backgrounds, different goals, and different reporting styles can lead to false dichotomy (see activity worksheet)
  o Shared GOALS: accurate diagnosis of swallowing anatomy and physiology, best possible patient-centered care
- Critical balance between obtaining adequate images for assessment and minimizing radiation dose

Strategies:

- Build a team with shared priorities
  o View SLPs, radiologists, rad. techs as members of the same team, everyone is bringing expertise
  o Avoid “us vs. them” mentality by focusing on shared goals/motivations
- Review each discipline’s practice guidelines and relevant literature
  o SLP: ASHA Guidelines for VFSS, Knowledge and Skills for VFSS
  o Radiology: American College of Radiology and the American Association of Physicists in Medicine
- Define specific approaches, goals, and outcome measures
  o Know and communicate each discipline’s roles and priorities
  o Clarify common language/terms such as “frame rate” versus “pulse rate” and desired field of view
  o Consult the research to determine best practices
- Establish education/communication between disciplines outside the VFSS suite
  o Routine interactions, both formal and informal: in-services, luncheons, happy hours, emails to share literature
  o Teaching hospitals: regular teaching via resident didactic schedule
- Collect, analyze, and share data regarding outcomes to guide revision of strategies as needed
  o Consider joint, formalized QA program
  o Joint research between disciplines with goal of dissemination

**Presenter.** Dr. Dietsch is an Assistant Professor at University of Nebraska-Lincoln. Prior to pursuing a Ph.D. from the University of Kansas, she worked for more than a decade as a medical speech-language pathologist and manager in acute care and rehabilitation settings. This clinical background drives her research and teaching strategy, including fostering partnerships that incorporate cutting-edge analysis methods to advance the science of patient care across disciplinary and geographical boundaries. Her research explores sensorimotor integration and neural control for speech, voice, and swallowing function across the age and health spectrums, including the establishment of a strong evidence base for clinically relevant treatments.

**Acknowledgments.** Collaborators throughout my career have shaped the information presented here. In particular, K. Dietrich-Burns, W.J.B. Lewis, M.Logan, K.Tippin, and G.Wilder contributed to the curation of information included here.

**Disclosures.** AMD receives salary from University of Nebraska-Lincoln for her full-time position as an Assistant Professor.
<table>
<thead>
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<th>Symptom</th>
<th>Sign</th>
<th>Impairment</th>
<th>Deficit</th>
<th>Sensory, Motor, Both, Other</th>
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# Worksheet for Small-Group Activity #2
Dysphagia Management Strategies

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### Worksheet for Small-Group Activity #3
Videofluoroscopic Swallow Study Professional Roles

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<td>Time demands</td>
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<td>Post-assessment responsibilities</td>
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**GOAL OF VFSS**
REFERENCES AND RESOURCES

This is not a comprehensive list of all resources on these topics, just those mentioned in this NSHA presentation.

Rehabilitation Strategies


Dysphagia Assessment and Videofluoroscopy Partnerships


Hernanz-Schullman M, Strauss K, Bercha IH. Fluoroscopy and radiation safety content for radiologists. Downloaded from pedrad.org.

International Atomic Energy Agency, Radiation protection of patients: fluoroscopy. Downloaded from rpop.iaea.org.


