Dysphagia Management:

Real Examples of the Clinical-Research Dynamic in an Acute Care Setting

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Abstract: There is often an artificial dichotomy between researchers and clinicians. This presentation will demonstrate the importance and effectiveness of a partnership between these professionals. Through clinical case studies and first-hand experiences the presenters will demonstrate how clinical questions can lead to better care, relevant research and necessary collaboration.

Learning Objectives:

- The participants will be able to explain the potential benefits of clinic-research collaboration on patient care and development of practice evidence.
- The participants will be able to identify strategies for building a collaborative relationship between clinicians and researchers in various settings.
- The participants will be able to describe factors that may influence study protocol and interpretation across the key disciplines involved in videofluoroscopic swallow studies.

I. WRNMMC: The Basics

a. Walter Reed at Bethesda is known as America's Health Campus as it is composed of the Uniformed Services University of the Health Sciences (USU), the National Intrepid Center of Excellence (NCoE) and Walter Reed National Military Medical Center (WRNMMC)
b. WRNMMC serves nearly 1 million beneficiaries per year; 345 beds, 2.4 million square feet
c. SLP at WRNMMC is a part of the National Military Audiology and Speech Pathology Center
   i. It is composed of three sections: Scientific and Clinical Studies, Speech Pathology and Audiology
   ii. It serves active duty personnel, their dependents, retirees and their dependents, the President and additional national leaders
   iii. The mission of the WRNMMC Speech Pathology Clinic is to provide high-quality, patient-centered consultations, evaluations and treatment of speech / language / cognitive disorders, voice disorders and swallowing / feeding disorders for adult and pediatric patients
iv. WRNMMC SLP faces the same challenges as other acute care settings

II. Wounded Warriors
   a. Coordination of care from the battlefield to the bedside at WRNMMC is complex, but an extremely coordinated process
      i. Results in patients being seen by SLP staff within days of a patient's injury (as low as three days)
   b. Clinical Case Study 1: An example that leads to larger study to answer clinical questions
      i. Wounded Warrior with polytrauma with severe dysphagia and dysarthria
         1. This illustrates the complexity of combat-related injuries and the rehabilitation process. It also gives some sense of the amount of data that can be obtained from a single case.
         2. Research project to evaluate management of dysphagia due to combat-related trauma; 200 records in database
      ii. Result = true clinical research, requires a close working relationship between the researchers and clinicians
         1. Database: complete medical history incl. dysphagia-related
         2. Interventions: Sensory and/or motor
         3. Clinical Impact: potential effects on dysphagia management
            a. Predicting which compensatory strategies might be most beneficial to a particular patient
            b. Evidence-based estimates of recovery landmarks
            c. Identify relationships between medical treatment decisions and swallowing (e.g. repeated vs. prolonged intubation for person requiring multiple surgeries)
            d. Focus clinical investigations on factors and relationships that appear to be key to swallowing outcomes
         4. Biomechanical analysis: Quantify swallowing physiology across various conditions
         5. Computer modeling: Simulate treatment options through individualized computer models
   III. Clinical Case Study 2: Bickerstaff Brainstem Encephalitis
      a. Limited cases; rare condition
         i. Opportunity for case study
         ii. Research partnership provides
            1. Background
            2. Data collection methods
            3. Interpretation
4. Publication/presentation for greater understanding

IV. Clinical Case Study 3: Pediatric VFSS
   a. Initial interpretation based on limited study as a result of low frame rate
   b. Research partner provides education on latest research
      i. Continuous flow rate needed given aspiration can occur on as low as one frame
   c. Second review of VFSS on pediatric patient showed aspiration on two frames
      i. Altered interpretation and treatment
      ii. Changed workflow
      iii. QI project with Radiology
         1. Pulse rate matters significantly

V. A Return to Clinical Case Study 1
   a. Pt NPO but with desire to taste foods again
      i. Several potential benefits
         1. Quality of life
         2. Rehabilitation: Motor and enhanced neural activation

VI. The Clinic-Research Cycle: Building Relationships
   a. Cycle: Evidence-based practice → clinical observations → research protocols → standardization of care
      i. Clinical practice: utilize established treatments to ameliorate symptoms in a particular patient
      ii. Clinical research: collect evidence to establish the efficacy of a treatment in a population
   b. Fostering Clinical Practice/Research Relationships
      i. Collaborate
         1. Show respect for what each can contribute
         2. Create opportunities for regular interaction
      ii. Standardize
         1. Implement evidence-based practices that emphasize safety and quality of care
         2. Facilitate clinical tracking and development of research projects
      iii. Inspire
         1. Projects rooted in clinical problems have direct impact on service delivery
      iv. Benefits
         1. Develop clinically relevant research projects
         2. Enhance SLP clinicians’ ability to select appropriate evidence-based management strategies for patients
3. Stimulate interest in *multidisciplinary* collaborations for clinical and research purposes
4. Maximize efficiency of all personnel by utilizing each other’s strengths
5. Foster creative problem-solving to support best patient outcomes
References

**Dysphagia risk factors, biomechanics, and modeling**


**Bickerstaff Brainstem Encephalitis**


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**Videofluoroscopic swallowing studies**


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Hernanz-Schullman M, Strauss K, Bercha IH. Fluoroscopy and radiation safety content for radiologists. Downloaded from Society for Pediatric Radiology website (pedrad.org)

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**Taste manipulation and dysphagia/xerostomia**


Dietsch AM, Pelletier CA, Solomon NP. The effect of taste strips on saliva production and taste enjoyment. Podium Presentation at Dysphagia Research Society Annual Meeting, 2015 (Mar), Chicago, IL.


