St. Elizabeth HEALTHCARE

BEDSIDE SWALLOW SCREEN

Cecily Crombie, MS/CCC-SLP

BEDSIDE SWALLOW SCREEN

Biography

Cecily is a Speech-Language Pathologist at St. Elizabeth Healthcare serving the adult inpatient population for the last 6 years. Cecily completed her bachelors in communication sciences and disorders as well as her masters in speech pathology at the University of Kentucky. As an undergraduate student, Cecily minored in psychology. As a St. Elizabeth employee, Cecily currently serves on the Stroke Quality Committee. Cecily has achieved Clinical Ladder Level II specialist since 2023. She participated in the Frontline Leadership Program, cohort 13, implementing a water protocol trial. Cecily is a Modified Barium Swallow Impairment Profile (MBSImP) certified clinician and competent in Fiberoptic Endoscopic Evaluation of Swallowing (FEES). She is a multi-ASHA ACE award recipient. Cecily currently serves as the Principle Investigator for IRB ID No: 24-033, ST. ELIZABETH HEALTHCARE BEDSIDE SWALLOW SCREEN: DETECTION OF DYSPHAGIA.

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Learning Objectives

- Participants will understand the components and set-up of the St. Elizabeth nursing bedside swallow screen.
- Participants will be able to summarize research findings regarding the validity of the SEH bedside swallow screen.

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Origin

- Created in collaboration with nursing, speech language pathology, nurse educators and members of the stroke committee based on a literature review of nursing neuroscience and dysphagia journals for evidenced based screens in 2010.
- Nursing staff completed a computer based learning module for education and training.
- The screen entails a 3 ounce swallow test (DePippo et al., 1992) with additional items to identify patients who are at risk for dysphagia.
- In 2023, facial droop was added based on literature review.

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Epic Flowsheet

Bedside Swallowing Screen	
Have you reviewed the Contraindications?	
Begin Swallow Screen	
Contraindications for Swallow Screen	
Assessment Interval	
Prior to Evaluation	
Pre-Test Criteria (Must Say Proceed Prior …	
Facial Droop	
Tongue Symmetry	
Voice Quality/Speech	
Voluntary Cough	
Control Secretions	
Water Trial	
One Minute Post Water Trial Assessment	
Swallow Screen Result	

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Assessment interval:

- Admission
- Change in condition – but not if symptoms resolve. Used if there is a decline or code.
- Post extubation – *suggested*
- Pt now alert

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Prior to screen instructions:

Row Information

Prior to performing please ensure:
- Patient HOB @ 90 degrees
- Head is in a neutral position
- Patient has all necessary assistive devices
- Patient is alert, awake, & able to participate

If the ALL pre-test parameters are met, then proceed with swallow screen. If all parameters are not met, delay the swallow screen to a later time, notify the MD, and keep patient NPO.

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Contraindications to complete the screen:

Row Information

- Pt Intubated (ETT)/trach
- Decreased LOC
- Continuous Bipap
- Head of Bed restrictions <30 degrees
- Pre-existing dysphagia with prior thickened diet or tube feeding
- Already on Speech caseload
- Failed BSS at outside facility prior to transfer
- Other

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Once conditions are met:

If the following reasons were selected and are no longer applicable, the screen can be completed.

- Pt Intubated (ETT)/trach
- Decreased LOC
- Continuous Bipap
- Head of Bed restrictions <30 degrees

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Abstract

The goal of the research study was to determine the validity and reliability of the St. Elizabeth Healthcare nursing bedside swallow screen for detecting dysphagia in comparison to a formal videofluoroscopic and/or fiberoptic endoscopic evaluation of swallowing in patients status post suspected or confirmed stroke based on a retrospective chart review.

Secondary objective: Determine if cranial nerve assessment prior to 3 ounce water administration is indicative of oropharyngeal dysphagia per MBS/FEES.

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Participants

Patients with suspected and/or confirmed stroke per core measure flowsheet who received clinical care at St. Elizabeth Healthcare (Edgewood) between November, 1 2023 and November 1, 2024

Inclusion Criteria:

- **Suspected stroke**
- **Confirmed stroke**
- **Bedside swallow screen (BSS) completed**
- **MBS and/or FEES completed within the same admission as the BSS citing DIGEST severity rating scale**

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Demographics

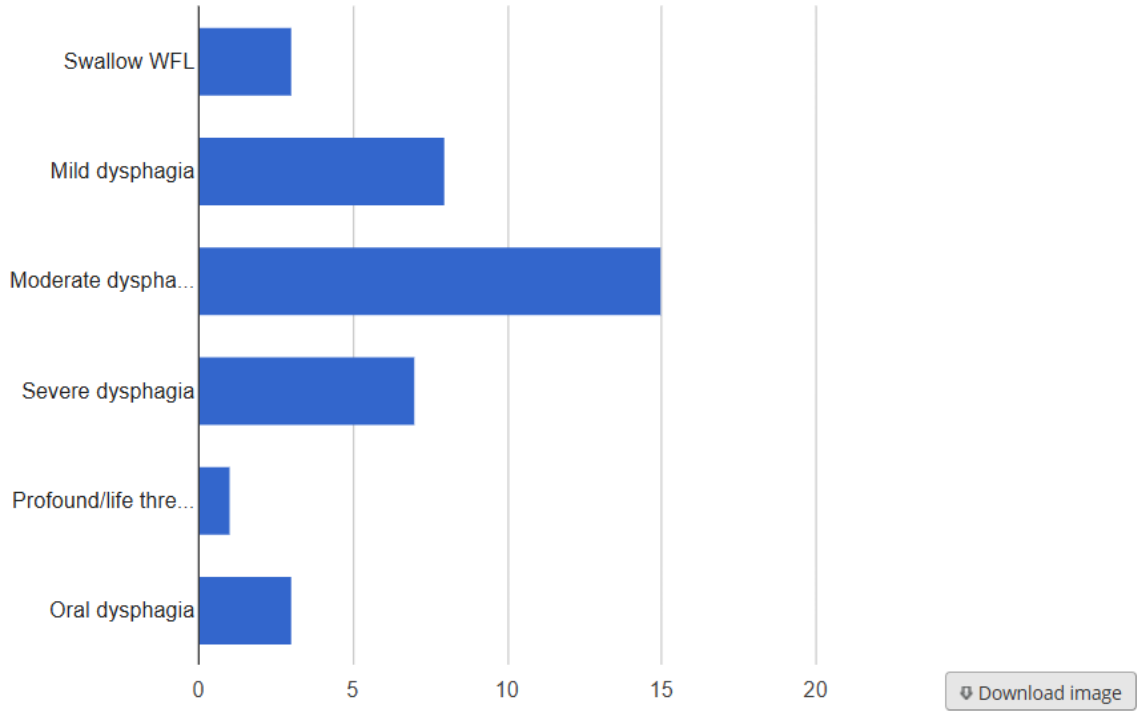
Feature	Count (%)
Gender	
Female	55 (47.83%)
Male	60 (52.17%)
Stroke	
Confirmed	86 (74.78%)
Suspected	29 (25.22%)
Screening Instrument	
FEES	42 (36.52%)
MBS	73 (63.48%)
CN Status	
Pass	58 (50.43%)
Fail – Facial Droop	34 (29.57%)
Fail – Vocal Quality/Speech	9 (7.83%)
Fail – Voluntary Cough	2 (1.74%)
Fail - Multiple	12 (10.43%)

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BSS Fail - Contraindications/Pre-swallow criteria not met *(pre_swallow_fail)* Refresh Plot |

Total Count (N)	Missing*	Unique
37	78 (67.8%)	6

Counts/frequency: Swallow WFL (3, 8.1%), Mild dysphagia (8, 21.6%), Moderate dysphagia (15, 40.5%), Severe dysphagia (7, 18.9%), Profound/life threatening dysphagia (1, 2.7%), Oral dysphagia (3, 8.1%)



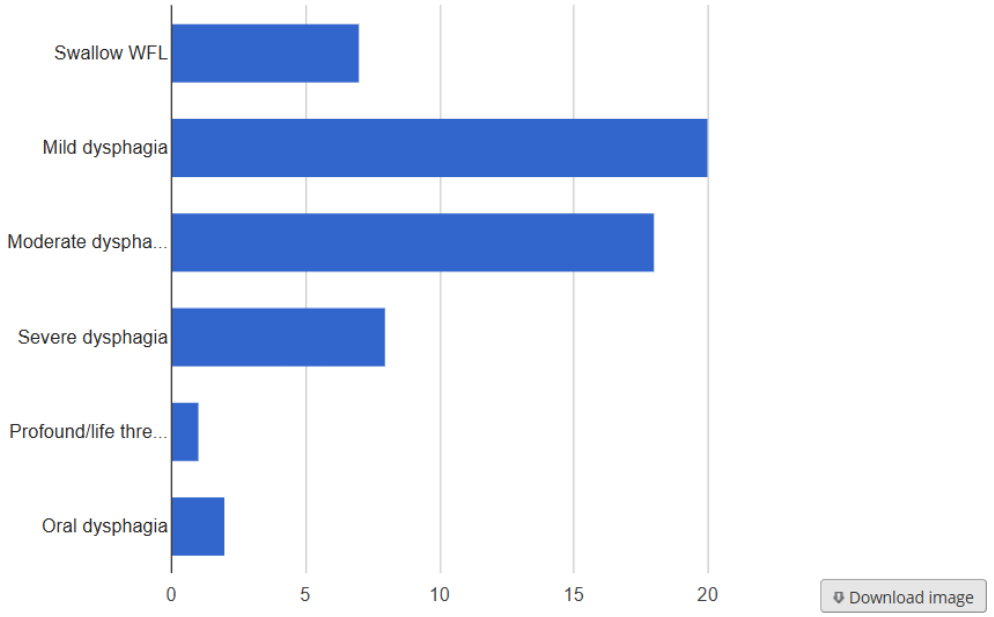
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45 fail for droop; only 7 were normal on MBS/FEES

BSS Fail - Pre-Swallow tasks (Facial droop, Tongue symmetry, Vocal quality/speech, Voluntary cough, Control secretions) *(cn_fail)* Refresh Plot | View as Bar Chart

Total Count (N)	Missing*	Unique
56	59 (51.3%)	6

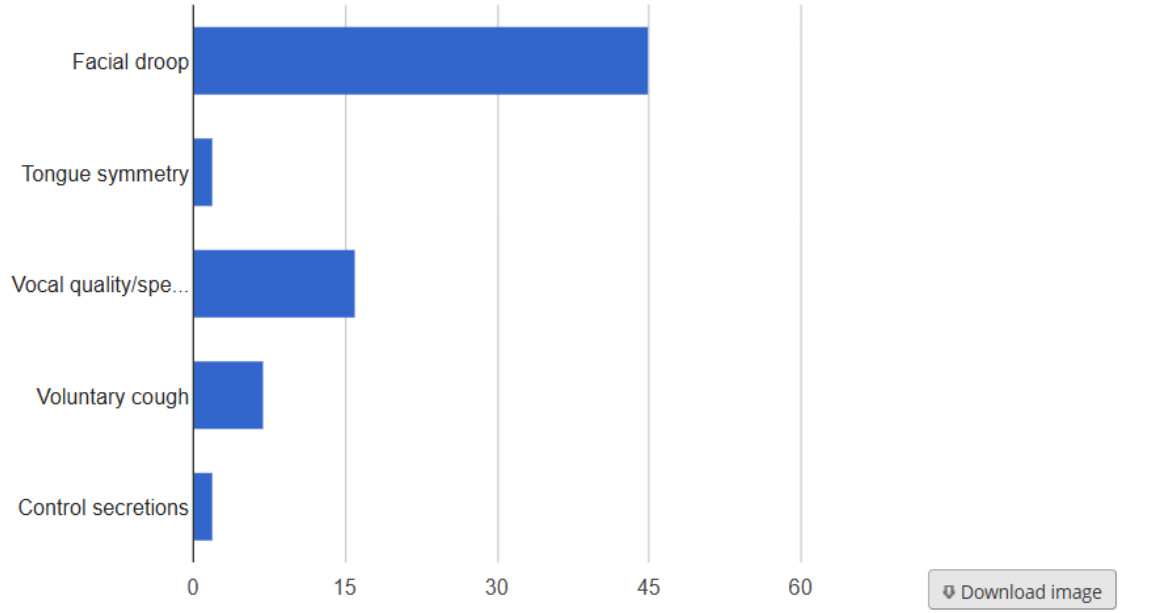
Counts/frequency: Swallow WFL (7, 12.5%), Mild dysphagia (20, 35.7%), Moderate dysphagia (18, 32.1%), Severe dysphagia (8, 14.3%), Profound/life threatening dysphagia (1, 1.8%), Oral dysphagia (2, 3.6%)



CN FAIL *(cn)* Refresh Plot

Total Count (N)	Missing*	Unique
57	58 (50.4%)	5

Counts/frequency: Facial droop (45, 78.9%), Tongue symmetry (2, 3.5%), Vocal quality/speech (16, 28.1%), Voluntary cough (7, 12.3%), Control secretions (2, 3.5%)



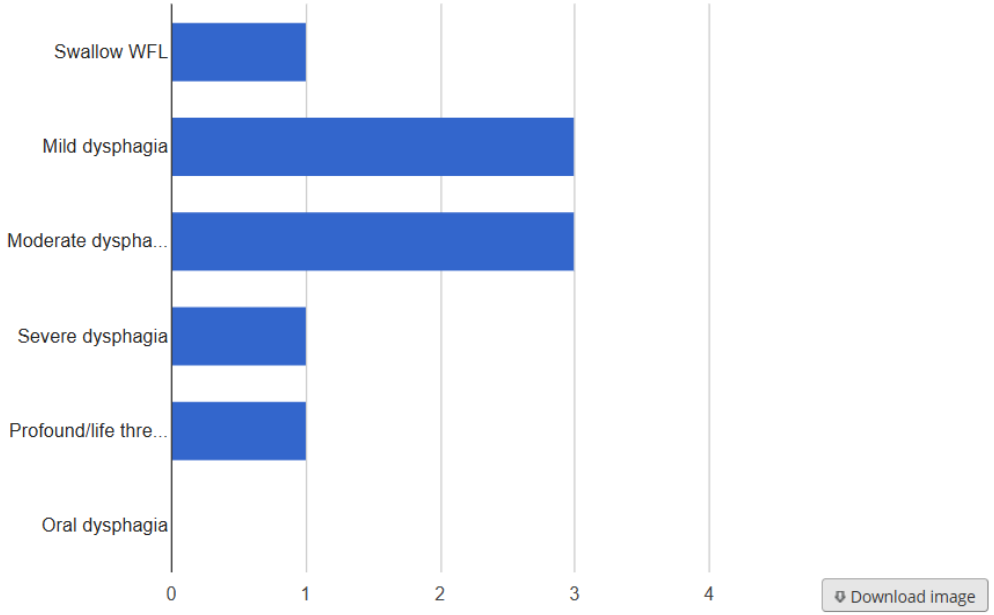
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BSS fail - 3 ounce Water trial and/or One minute post water trial assessment (

Refresh Plot | View as Bar Chart

Total Count (N)	Missing*	Unique
9	106 (92.2%)	5

Counts/frequency: Swallow WFL (1, 11.1%), Mild dysphagia (3, 33.3%), Moderate dysphagia (3, 33.3%), Severe dysphagia (1, 11.1%), Profound/life threatening dysphagia (1, 11.1%), Oral dysphagia (0, 0.0%)



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Statistical Methods

Statistical analysis and interpretations were completed with the assistance of the Northern Kentucky University Burkardt Consulting Center (Highland Heights, KY).

To address the primary research question, the Cochran-Armitage test for trend (a version of the Chi-Square Test) to look for a trend in BSS Status that differs by Dysphagia group (yes/no). And BSS Status. We follow up with a Linear-by-Linear Association Test to identify if a directional trend exists between these two ordinal variables. Both Minitab software and R software were used for various aspects of analysis.

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Results

Taken together, this suggests that failing the screen is quite meaningful, but the stage at which a patient fails the screen does not seem to make much difference.

The linear-by-linear test indicates that there is no evidence of linear trend between the stage at which a patient fails the bedside screen and the specific severity level of their dysphagia

BSS seems to be an effective screen, identifying around 90% of those with Dysphagia. There does not seem to be much separation based on categorizations of BSS Status.

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Considerations:

- History of dysphagia risk factors, intubation and advanced age were not excluded
- Timing of MBS/FEES in relation to BSS – within the same admission, otherwise not timed
- Screen marked "not indicated" but commented "slurred speech" or "facial droop"

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QUESTIONS?
THANK YOU!

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