

Are you hungry? The research and rationale of a Nursing Swallow Screen

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Objectives

Participants will:

- Review the research and rationale supporting swallow screens for stroke patients
- Understand how strokes can affect swallowing function
- Be able to identify signs and symptoms of potential silent aspiration
- Recognize the difference between a Nursing Swallow Screen and an SLP Swallow Evaluation

Thank you!

Definitions

- Dysphagia – difficulty swallowing
- Penetration – material entering laryngeal vestibule, but not going below vocal cords
- Aspiration – material going below vocal cords
- Silent aspiration – aspiration that doesn't elicit a cough or visible sign of difficulty

Definitions (continued)

- Screening – "Swallowing screening is a pass/fail procedure to identify individuals who require a comprehensive assessment of swallowing function or a referral for other professional and/or medical services" (ASHA, 2004)
- Sensitivity – does the screening tool capture the patients it's intended to capture (those at risk for dysphagia/aspiration)?
- Specificity – does the screening tool rule out patients who don't have the problem (dysphagia/aspiration)?

Statistics

- Aspiration pneumonia (AP) is 5th leading cause of death in US
- 4th most frequent cause of death in the elderly
- Not all patients who aspirate develop AP – aspiration is necessary, but not solely sufficient to cause AP
- Aspiration of small amounts of saliva occurs during sleep in almost half of normal subjects

Statistics (continued)

- 42-67% of patients present with dysphagia within 3 days of CVA
- 30-50% of these patients aspirate
- 1/3 - 1/2 of aspirators are silent aspirators
- 1/3 of patients who aspirate develop pneumonia that requires treatment
- Swallowing abnormality is associated with a three-fold increase in mortality rate

Risk Factors for Aspiration post CVA

- Brainstem stroke
- Difficulty managing oral secretions
- Coughing/throat clearing
- Wet, gurgly vocal quality
- Weak voice (dysphonia)
- Recurrent lower respiratory infections
- Low-grade fever
- Lower lobe congestion
- Immunocompromised state

JCAHO

In 2010 JCAHO removed swallow screening from their “Get with the Guidelines” for stroke center certification, as no standards existed for what constituted a valid screening tool.

There is concern that hospitals will omit dysphagia screening, leading to worse patient outcomes. The lack of a standard, however, has not prevented the search for an effective screening tool.

Influencing factors

Statistically significant influencing factors in the development of AP include:

- Poor mobility
- Nil per os (NPO) status
- Age
- Dependency for feeding
- Number of medications
- COPD
- Number of medical conditions/co-morbidities
- Stroke
- ETOH abuse
- + in UK: Dysphagia, only oral intake, bedfast, male

Features of a good screening instrument

- Validity
- Reliability (inter- and intra-rater)
- Sensitivity
- Specificity
- Scoring system meets purpose of identifying dysphagia & aspiration risks (pass/fail)
- Allows for serial screening/rescreening
- Feasibility:
 - easy to use
 - quick (15-20 mins max)
- Minimally invasive
- Poses little risk to the patient
- Appropriate screeners & level of training identified

Examples of swallow screens – MetroHealth Dysphagia Screen

1. Is alertness level insufficient to remain awake for 10 minutes while sitting upright?
2. Is voice weak, wet, or abnormal in any way? (If cannot speak, circle yes)
3. Does the patient drool?
4. Is speech slurred?
5. Is the patient's cough weak or inaudible? (If cannot cough, circle yes)

One or more "yes" answers are considered a positive screen for possible dysphagia

2011 – Shrock, et al.

Modified Mann Assessment of Swallowing Ability

Alertness	1)Alert	2)Drowsy/flushing and/or excessive head	3)Difficult to arouse by speech or touch	4)Coma or non-responsive	
Cooperation	1)Cooperative	2)Frustrating cooperation	3)Refuses cooperation	4)No cooperation/ response	
Respiration	1)Chest clear	2)Gurgles in upper airway	3)No head protrusion	4)Chests head protrusion	5)Respirated infection/ freq. and/or respiratory dependent
Expressive Dysphasia	1)No abnormality	2)Mild wording finding difficulty	3)Expresses self in limited manner	4)No functional speech	5)Unable to assess
Auditory Comprehension	1)No abnormality	2)Follows ordinary conversation with full efficacy	3)Follows simple conversation	4)Occasional response	5)No response
Dysarthria	1)No abnormality	2)Clear with occasional hesitation	3)Speech intelligible but labored	4)Speech unintelligible	5)Unable to assess
Saliva	1)No abnormality	2)No oral/extraoral in sup	3)Choking at times	4)Some drool consistently	5)Excess drooling
Tongue Placement	1)Full R.O.P.	2)Not retracted	3)Incomplete retraction	4)Partial retraction	5)No retraction
Tongue Strength	1)No abnormality	2)Normal weakness	3)Obvious unilateral weakness	4)Gross weakness	
Gig	1)No abnormality	2)Normal laterality	3)Decreased laterality	4)Marked unilateral	5)No gag response
Cough Reflex	1)No abnormality	2)Strong, unobstructed but force in quality	3)Average, unobstructed	4)No aspirated/irritable to perform	
Palate	1)No abnormality	2)Slight asymmetry	3)Moderately weak	4)Marked weakness	5)No movement

In 2012 – Edmiston

Asante Health System NSS

1. Is patient awake?

2. Can patient swallow a small amount of liquid (e.g., water, juice, or soup)?

3. Can patient swallow a small amount of solid (e.g., bread, toast, or apple)?

4. Is there any coughing or choking during the swallow?

5. Does the patient have any difficulty breathing during the swallow?

6. Does the patient have any difficulty speaking during the swallow?

7. Does the patient have any difficulty moving the tongue to the roof of the mouth during the swallow?

8. Does the patient have any difficulty moving the tongue to the back of the mouth during the swallow?

9. Does the patient have any difficulty moving the tongue to the side of the mouth during the swallow?

10. Does the patient have any difficulty moving the tongue to the front of the mouth during the swallow?

11. Does the patient have any difficulty moving the tongue to the middle of the mouth during the swallow?

12. Does the patient have any difficulty moving the tongue to the bottom of the mouth during the swallow?

13. Does the patient have any difficulty moving the tongue to the top of the mouth during the swallow?

14. Does the patient have any difficulty moving the tongue to the left side of the mouth during the swallow?

15. Does the patient have any difficulty moving the tongue to the right side of the mouth during the swallow?

16. Does the patient have any difficulty moving the tongue to the center of the mouth during the swallow?

17. Does the patient have any difficulty moving the tongue to the back of the throat during the swallow?

18. Does the patient have any difficulty moving the tongue to the front of the throat during the swallow?

19. Does the patient have any difficulty moving the tongue to the middle of the throat during the swallow?

20. Does the patient have any difficulty moving the tongue to the bottom of the throat during the swallow?

21. Does the patient have any difficulty moving the tongue to the top of the throat during the swallow?

22. Does the patient have any difficulty moving the tongue to the left side of the throat during the swallow?

23. Does the patient have any difficulty moving the tongue to the right side of the throat during the swallow?

24. Does the patient have any difficulty moving the tongue to the center of the throat during the swallow?

25. Does the patient have any difficulty moving the tongue to the back of the head during the swallow?

26. Does the patient have any difficulty moving the tongue to the front of the head during the swallow?

27. Does the patient have any difficulty moving the tongue to the middle of the head during the swallow?

28. Does the patient have any difficulty moving the tongue to the bottom of the head during the swallow?

29. Does the patient have any difficulty moving the tongue to the top of the head during the swallow?

30. Does the patient have any difficulty moving the tongue to the left side of the head during the swallow?

31. Does the patient have any difficulty moving the tongue to the right side of the head during the swallow?

32. Does the patient have any difficulty moving the tongue to the center of the head during the swallow?

33. Does the patient have any difficulty moving the tongue to the back of the neck during the swallow?

34. Does the patient have any difficulty moving the tongue to the front of the neck during the swallow?

35. Does the patient have any difficulty moving the tongue to the middle of the neck during the swallow?

36. Does the patient have any difficulty moving the tongue to the bottom of the neck during the swallow?

37. Does the patient have any difficulty moving the tongue to the top of the neck during the swallow?

38. Does the patient have any difficulty moving the tongue to the left side of the neck during the swallow?

39. Does the patient have any difficulty moving the tongue to the right side of the neck during the swallow?

40. Does the patient have any difficulty moving the tongue to the center of the neck during the swallow?

41. Does the patient have any difficulty moving the tongue to the back of the chest during the swallow?

42. Does the patient have any difficulty moving the tongue to the front of the chest during the swallow?

43. Does the patient have any difficulty moving the tongue to the middle of the chest during the swallow?

44. Does the patient have any difficulty moving the tongue to the bottom of the chest during the swallow?

45. Does the patient have any difficulty moving the tongue to the top of the chest during the swallow?

46. Does the patient have any difficulty moving the tongue to the left side of the chest during the swallow?

47. Does the patient have any difficulty moving the tongue to the right side of the chest during the swallow?

48. Does the patient have any difficulty moving the tongue to the center of the chest during the swallow?

49. Does the patient have any difficulty moving the tongue to the back of the abdomen during the swallow?

50. Does the patient have any difficulty moving the tongue to the front of the abdomen during the swallow?

51. Does the patient have any difficulty moving the tongue to the middle of the abdomen during the swallow?

52. Does the patient have any difficulty moving the tongue to the bottom of the abdomen during the swallow?

53. Does the patient have any difficulty moving the tongue to the top of the abdomen during the swallow?

54. Does the patient have any difficulty moving the tongue to the left side of the abdomen during the swallow?

55. Does the patient have any difficulty moving the tongue to the right side of the abdomen during the swallow?

56. Does the patient have any difficulty moving the tongue to the center of the abdomen during the swallow?

57. Does the patient have any difficulty moving the tongue to the back of the pelvis during the swallow?

58. Does the patient have any difficulty moving the tongue to the front of the pelvis during the swallow?

59. Does the patient have any difficulty moving the tongue to the middle of the pelvis during the swallow?

60. Does the patient have any difficulty moving the tongue to the bottom of the pelvis during the swallow?

61. Does the patient have any difficulty moving the tongue to the top of the pelvis during the swallow?

62. Does the patient have any difficulty moving the tongue to the left side of the pelvis during the swallow?

63. Does the patient have any difficulty moving the tongue to the right side of the pelvis during the swallow?

64. Does the patient have any difficulty moving the tongue to the center of the pelvis during the swallow?

65. Does the patient have any difficulty moving the tongue to the back of the legs during the swallow?

66. Does the patient have any difficulty moving the tongue to the front of the legs during the swallow?

67. Does the patient have any difficulty moving the tongue to the middle of the legs during the swallow?

68. Does the patient have any difficulty moving the tongue to the bottom of the legs during the swallow?

69. Does the patient have any difficulty moving the tongue to the top of the legs during the swallow?

70. Does the patient have any difficulty moving the tongue to the left side of the legs during the swallow?

71. Does the patient have any difficulty moving the tongue to the right side of the legs during the swallow?

72. Does the patient have any difficulty moving the tongue to the center of the legs during the swallow?

73. Does the patient have any difficulty moving the tongue to the back of the feet during the swallow?

74. Does the patient have any difficulty moving the tongue to the front of the feet during the swallow?

75. Does the patient have any difficulty moving the tongue to the middle of the feet during the swallow?

76. Does the patient have any difficulty moving the tongue to the bottom of the feet during the swallow?

77. Does the patient have any difficulty moving the tongue to the top of the feet during the swallow?

78. Does the patient have any difficulty moving the tongue to the left side of the feet during the swallow?

79. Does the patient have any difficulty moving the tongue to the right side of the feet during the swallow?

80. Does the patient have any difficulty moving the tongue to the center of the feet during the swallow?

Screen versus Evaluation

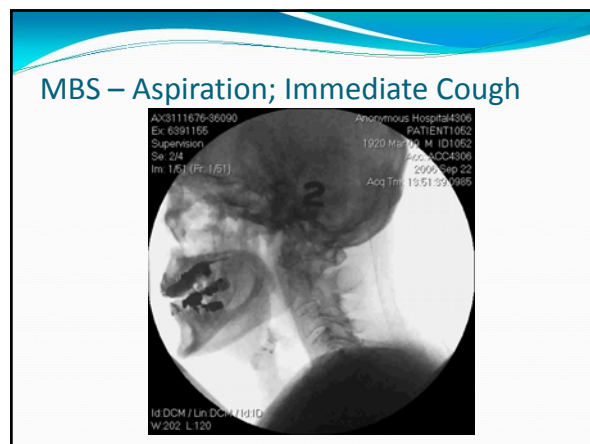
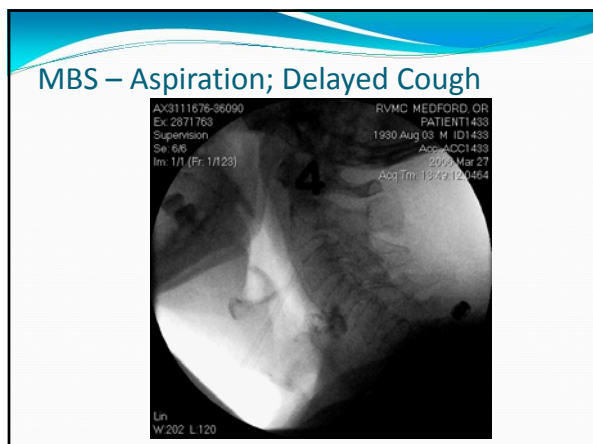
Nursing Swallow Screen:

- Generally done with only water, if water swallow is included
- May identify potential dysphagia, but dysphagia treatment is not the nursing goal
- Helps to identify low risk patients and keep them from being unnecessarily NPO

Screen versus Evaluation

SLP Evaluation:

- Bedside swallow eval – various textures
- Goals of treatment/plan of care
- Instrumental swallow evaluation(if indicated)
 - Modified Barium Swallow (MBS)
 - Fiberoptic Endoscopic Evaluation of Swallow (FEES)



Cautionary tales

- Aspiration can't be distinguished from penetration bedside – both can elicit cough
- Absence of cough cannot guarantee no aspiration (silent aspiration)
- Presence or absence of gag reflex may or may not be significant (up to 30% of healthy younger adults & 44% of healthy older adults may have unilateral or bilateral absent gag)

How can you tell?

Potential s/s of aspiration (silent, as well):

- Cough after swallow, immediate or delayed
- Wet, gurgly vocal quality
- Runny nose or eyes
- Sneezing
- Distress with breathing

Benefits of NSS

- More staff available more hours/days
- More opportunities to observe the patient
- Patients with less severe CVA s/s are more likely to safely receive p.o. sooner
- Have a basis for withholding p.o. with more severe CVA patients
- Can be repeated as patient condition changes (hopefully improves)
- Helps with patient and physician satisfaction
- Provides nutritional support for patient healing
- Helps reduce LOS, costs

SLP perspective

- There are a lot fewer of us than of nurses
- We can't possibly see all patients as soon as they are admitted
- The NSS gives us a preview of the patient

Thanks again

Questions?

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