
Swallow Screen for Dysphagia: What RDs Need to Know

September 19, 2023 | 11:00 a.m. Central Time

Presenters:

Marissa A. Barrera, PhD, MSCS, CCC-SLP, Yeshiva University

Barbara O'Conner Wells, PhD, CCC-SLP, Nova Southeastern University

**Accreditation Council
for Education in
Nutrition and Dietetics**

the accrediting agency for the
 Academy of Nutrition
and Dietetics

Webinar Recording Link

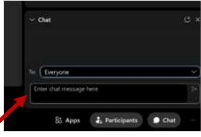
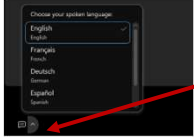
<https://vimeo.com/867263210>

Webinar presentation slides and CPE certificate included in this document

Welcome!


We Will Begin Shortly

- Lines have been muted.
- If you have questions or comments, use the chat feature and post to EVERYONE.

Closed Captioning is now available! Select CC on the bottom left of your screen and select your preferred language.

1



- 1.5 CPEUs for this Webinar
- Attendees access the survey link to complete a short evaluation
- Handout of slides and CPEU certificate provided via email

2

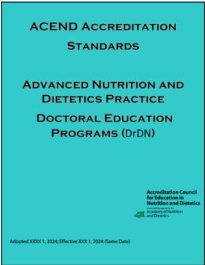
ACEND Fall 2023 Updates

- October 7th:** Deadline to submit streamline template for offering ANY distance education
- November 17th:** Annual Report Due
- December 11th:** Annual Fee Due
- January 19th:** Compliance Audit Due
- Refer to the ACEND Update sent today for more information and reminders

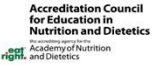
3

ACEND Doctorate Level Standards

- Optional** standards and degree level
- For the RDN** with minimum 3 years of professional experience
- Not entry-level**
- Professional doctorate and **not PhD**
- To provide public comments: www.eatrightpro.org/ACEND




4



Swallow Screen for Dysphagia: What RDs Need to Know

5

Swallowing Screenings for Dysphagia: What RDNs & Healthcare Providers Need to Know



the accrediting agency for the Academy of Nutrition and Dietetics

Marissa A. Barrera, PhD, MScS, CCC-SLP
Assistant Dean of Health Sciences
Yeshiva University, NY

Barbara O'Connor Wells, PhD, CCC-SLP
Associate Professor
Nova Southeastern University, FL

September 19, 2023

6

Disclosures

Marissa A. Barrera, PhD, MSCS, CCC-SLP

- Employee
 - Yeshiva University
 - Baylor University
 - Nova Southeastern University
 - Owner, New York Neurogenic SLP, P.C.
- Speaker's Bureau
 - Consortium of Multiple Sclerosis Centers
 - Multiple Sclerosis Foundation
- Research Support
 - Nothing to disclose

7

Disclosures

Barbara O'Connor Wells, PhD, CCC-SLP

- Employee
 - Nova Southeastern University
- Research Support
 - Nothing to disclose

8

Learning Outcomes

- Meet ACEND CRDN 3.6 (Conduct a swallow screen and refer to the appropriate health care professional for a full swallowing evaluation when needed) and FEM 2.3.8 (Analyzes diagnostic test results relevant to nutrition (e.g. diagnostic imaging related to fluoroscopy, swallowing evaluation, enteral feeding tube placement).
- Define dysphagia and describe normal and disordered swallowing.
- Identify the causes, signs, and symptoms of oropharyngeal dysphagia.
- Select and administer a reliable tool that is within the purview of the RDN scope of practice and has sufficient sensitivity to detect both dysphagia and aspiration risk in acute stroke patients.

9

Why are eating and drinking so important?

- How we get nourishment
- Primary route for many medications
- Involved in social aspects of life
 - Birthday party, wedding, holidays, social events, etc.,

10

Swallowing

- The act of deglutition (i.e., swallowing) begins with the placement of food in the mouth and timely movement through the oral, pharyngeal, and esophageal stages of the swallow until the material enters the stomach through the gastroesophageal junction.
- Swallowing includes...
 - behavioral, sensory, and motor acts
 - cognitive awareness
 - visual recognition of foods and liquids
- Swallowing requires a physiologic response to the smell and presence of food or liquid – salivation

© Connor Wells (2022). ISBN: 978-1421442556

11

Key Terms:

- Dysphagia- loss of the ability to eat (swallow)
- Deglutition- also a term for swallowing
- Mastication- process of chewing food
- Bolus: food that has been processed through mastication and shaped with saliva (enzymes) before swallowing.
- Peristalsis- bolus movement across the oral, pharyngeal, and esophageal structures. Proper peristalsis takes place in the esophagus.
- Esophagus- food tube that is attached to the stomach

12

Photo: Hixon, Weismer, and Hoyt (2013). ISBN: 978-1597565202

The 4 Phases of Swallowing

- These phases describe the movements of the bolus (green mass) through the oral, pharyngeal, and esophageal segments of the swallowing apparatus
- Bolus = the mass of solid substance (food) or the volume of liquid to be swallowed (shown in green in the figures)

13

Animation: The Normal Act of Swallowing

- Bolus reception, preparation, and propulsion through the oral pharyngeal cavities and around and over the occluded airway.

Credit: Groher & Crary (2021). ISBN: 978-0323636483

O'Connor Wells (2022). ISBN: 978-1421442556

14

Orchestration of Anatomy During the Normal Act of Swallowing

Swallowing requires the activation and coordination of 50 pairs of muscles and 6 cranial nerves (V, VII, IX, X, XI, XII)¹

Credit: Groher & Crary (2021). ISBN: 978-0323636483

1.O'Connor Wells (2022). ISBN: 978-1421442556

15

What is Dysphagia?

- Greek origins – “dys” – “phagos/phagia” difficulty moving food from the mouth to the stomach
- Dysphagia, or swallowing dysfunction, can occur in all age groups and has no bias for gender or culture
- It is a global health concern!

Barrera (2019). DOI: 10.1097/TGR.0000000000000237

16

Common Signs & Symptoms of Dysphagia

- Coughing/clearing of throat
- Abnormal volitional cough
- Change in voice quality (wet, hoarse, weak)
- Chronic respiratory illness
- Multiple swallows/special maneuvers needed to clear throat
- Long mealtime (30+ mins.)
- Frequent low-grade fever, especially after meals
- Weight loss
- Malnutrition
- Dehydration
- Globus sensation or the feeling of food being stuck in the throat
- Needing diet modifications (e.g., thickening of liquids; pureed food, soft solids)
- Difficulty initiating a swallow
- Spillage of food/liquids from lips and/or drooling
- Regurgitation during or after meals

O'Connor Wells (2022). ISBN: 978-1421442556

17

Signs & Symptoms of Dysphagia in Infants & Children

- Back arching
- Breathing difficulties
- Decreased responsiveness during feeding
- Difficulty chewing foods that are texturally appropriate for age, refusing foods of certain textures/types, loss of food/liquid from the mouth when eating, crying or grimacing at mealtimes
- Frequent congestion after meals, frequent respiratory illness, vomiting, choking, pharyngeal residue and nasopharyngeal reflux.

Goday (2019). DOI: 10.1097/MFG.00000000000002188

18

Presentation of Dysphagia

- Acutely – quickly: CVA (stroke), TBI (brain injury)
- Progressive – over time: tumors, progressive neurological disease, like PD (Parkinson's disease) or ALS (amyotrophic lateral sclerosis).
- Range of awareness: Patients may be very aware of the disorder or completely unaware.

Barrera (2019). DOI: 10.1097/TGR.0000000000000237

19

Categories of Dysphagia

3 major subtypes of dysphagia are:

- **Neurogenic (most common)** - damage to the nervous system that interferes with chewing or swallowing caused by strokes, TBI, CP (cerebral palsy), MS (multiple sclerosis), PD, etc.
- **Mechanical/Anatomical**- inability to chew or swallow due to damage to the anatomical structure(s) preventing mechanical processing of food. E.g., trauma to the throat, chemical damage (scarring), cancer, fistula in trachea, allergy, etc.
- **Psychogenic**- caused by a mental disorder, psychological trauma, anorexia, psychosis, or anxiety disorders.


Groher & Cray (2021). ISBN: 978-0323636483

20

WHY DOES MY PATIENT HAVE DYSPHAGIA? AKA DR. B'S "SWALLOWING SEVEN"

Dysphagia is likely the result of multiple contributing factors:

- Decreased neural drive to the swallowing musculature.
- Insufficient sensory feedback for efficient motor control.
- Myofascial restrictions as a result of disuse.
- Disruption of air-flow gradients.
- Anatomical changes to the swallowing musculature.
- Muscle atrophy as a result of disuse.
- Changes in cognition and executive function



21

Conditions that May Lead to Dysphagia³

- Stroke¹
- Traumatic Brain Injury (TBI)
- Dementia
- Motor Neuron Disease
- Myasthenia Gravis
- Cerebral Palsy
- Guillain-Barre Syndrome
- Poliomyelitis
- Respiratory disorders
- Infectious disorders
- Sarcopenia²
- Myopathy
- Progressive diseases (e.g., Parkinson's, Huntington's)
- Age-related changes
- Connective Tissue/Rheumatoid disorders
- Structural disorders
- Iatrogenic (no known cause)
- Psychogenic

¹Balcerak (2022) DOI: 10.3389/fneur.2022.823189
²Papadopoulou (2022) DOI: 10.3390/nu12051293
³Groher & Cray (2021). ISBN: 978-0323636483

22

Dysphagia, and Common Medical Conditions¹

- 61% of adults admitted to an acute **trauma** center
- 22% in individuals **over 50 years** of age
- Range from 37% to 78% of **stroke survivors**²
- 60 to 70% of patients who undergo radiation therapy for **head & neck cancer**
- 40% of individuals with **Cerebral Palsy**
- 80% of Alzheimer disease and 60% of individuals with **Parkinson disease**³
- 40-45% of individuals with **Multiple Sclerosis**⁴
- 2.2 million **infants and children** living with dysphagia worldwide

¹Groher & Cray (2021). ISBN: 978-0323636483
²Martino (2005) DOI: 10.1161/01.STR.000190056.76543.eb
³Bianaf (2019) DOI: 10.1111/jan.14188
⁴Barrera (2019). DOI: 10.1097/TGR.0000000000000237

23

Dysphagia Prevalence by Setting

- 300,000-600,000 people in US each year are affected by dysphagia from neurologic disorders¹
 - Most cases occur after a stroke
- 16-22% of older adults living in the community²
- There is a higher prevalence in the hospital and nursing home settings²
- 60% of patients in nursing homes³
- 36.5% in hospitals³
- 1/3 of patients in acute rehabilitation unit³

¹Groher & Cray (2021). ISBN: 978-0323636483
²Clavé (2019) DOI: 10.1038/nrgastro.2019.49
³Riveterud (2022). DOI: 10.1007/s00455-022-10465-x

24

How is Dysphagia Diagnosed?

Videofluoroscopy	Flexible Endoscopy Evaluation of Swallowing (FEES)
<ul style="list-style-type: none"> • Uses x-rays with barium to image swallowing movements • Also called modified barium swallow (MBS) study • Considered the "gold standard" • SLP presents liquids and foods of different consistencies, textures, and volumes • Analysis may include spatial and temporal measures and ratings 	<ul style="list-style-type: none"> • Uses a flexible endoscope inserted through a naris and routed to the laryngopharynx • SLP presents liquids and foods of different consistencies, textures, and volumes • Can be done at bedside, home or virtually any environment • Does not involve radiation/barium • A "white out" occurs during the act of swallowing due to anatomy covering the camera

O'Connor Wells (2022). ISBN: 978-1421442556

25

VFSS: Typical "normal" Swallow

Video Courtesy: Barrera and O'Connor Wells

26

FEES: Typical "normal" Swallow

Video Courtesy: Barrera and O'Connor Wells

27

VFSS with (silent) Aspiration

Video Courtesy: Barrera and O'Connor Wells

28

FEES: Atypical Aspiration & Cough

•What do you see?
 •What are the functional implications?
 •How would you recommend for this patient?

Video Courtesy: Barrera and O'Connor Wells

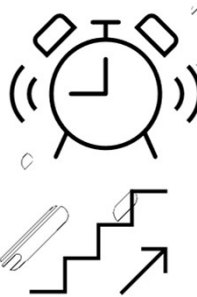
29

Consequences of Dysphagia: The Stakes are High!

- Aspiration- respiratory distress, pneumonia, death
- Malnutrition/dehydration
- Choking - airway compromise
- Tracheostomy placement
- Weight loss
- Chronic respiratory illness
- PEG, NG, OG, or G Tube/J tube placement
- Skin breakdown/ulceration

Altman (2010). DOI: 10.1001/archoto.2010.129

30



What does the future hold? Your Call to Action!

By the year 2030....

- # of individuals 65+ years of age is expected to double
- # of individuals 85+ years of age expected to increase X5
- Adults needing long term care are expected to double
- With age comes the possibility of medical issues arising and the risk for dysphagia increases

Groher & Crary (2021). ISBN: 978-0323636483

31

Patient Care Partners: MedSLP and RDN

MedSLP	RDN
<ul style="list-style-type: none"> Diagnoses/treatment dysphagia Administer/interpret objective swallowing exams i.e., VFSS, FEES, etc. Make recommendations for safest diet texture based on objective data Provide recommendations for non-oral feedings 	<ul style="list-style-type: none"> Nutrition assessment (calorie counts) & supplements Diet prescription Nutrition care planning & follow-up Nutrition focused physical exam
<p>Concern for hydration & nutrition Safety of swallowing Optional mealtime set-up/environment Maintaining OoL Patient centered & culturally sensitive approach to care Nutrition planning *Screen for dysphagia*</p>	

32

Role of the RDN

- ACEND 2022 Competency
 - CRDN 3.6: Initiate and conduct bedside swallow screenings.

The primary purpose of a swallowing assessment is to identify the risks of choking and aspiration and to determine timely and appropriate referral and nutrition care plan¹

Best practice: A swallow screening should be performed in the first 24 hours after stroke.

- Unscreened individuals are at greater risk for pneumonia²


1.ASHA. <https://www.asha.org/practice-portal/clinical-topics/adult-dysphagia/swallowing-screening/> Accessed 7/22/22
2.Steel (2002). <https://www.library.uio.no/ocw/handle/1807/17524>

33

Swallow Screening

The American Speech-Language-Hearing Association (ASHA) defines a swallow screening as a "minimally invasive procedure that enable quick determination of

- the likelihood that dysphagia exists,
- the patient requires referral for further swallowing assessment, and
- the patient requires referral for nutritional or hydrational support."



ASHA
American Speech-Language-Hearing Association

ASHA. <https://www.asha.org/practice-portal/clinical-topics/adult-dysphagia/swallowing-screening/> Accessed 7/22/2022

34

Dysphagia Screening

- Dysphagia screening helps determine if:
 - full assessment is needed
 - further referral is needed
- High sensitivity
 - Able to identify those likely to have dysphagia
- High specificity
 - Able to screen out those to likely not have dysphagia

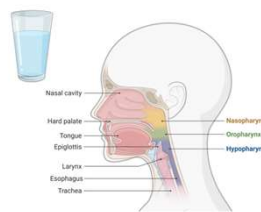
O'Connor Wells (2022). ISBN: 978-1421442556

35

Screening: Risk Factors

Common Risk Factors:

- Advanced Age
- Diabetes Mellitus
- Hypertension
- Atrial Fibrillation
- Neurodegenerative disorders
- Cognition
- Sarcopenia¹



*Shimizu A. J Am Med Dir Assoc. (2021) doi: 10.1016/j.jamda.2021.07.013

36

Direct Swallowing Screenings

- The Repetitive Saliva Swallowing Test (RSST)
- Yale Swallow Protocol, 3-ounce Water Test
- The Gugging Swallowing Screen (GUSS)

37

37

The Repetitive Saliva Swallowing Test (RSST)

- Introduced in Japan by Oguchi et al., (2000).
- Patient asked to swallow saliva as many times as possible for 30 seconds while deglutition is counted through gentle palpation of the larynx.
- A simple and patient-safe way to screen patients for dysphagia.
- RSST does not include intake per mouth which may make it a safe screening method
- High correlation between performance on the RSST and aspiration observed on VFSS.

38

Persson (2018). DOI: 10.1007/s00455-018-9937-0

38

Repetitive Saliva Swallowing Test (RSST)

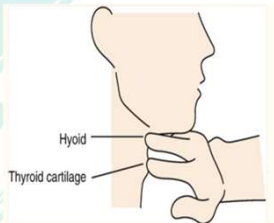


Photo: Yoshimatsu (2020)
Yoshimatsu (2020). DOI: 10.1007/978-981-15-4506-1_13

Instructions:

- Patient asked to swallow their saliva as many times as they can for 30 seconds.
- Requires a stopwatch.
- Swallows are counted via palpation (light touch) of the larynx.

Interpretation:

- If fewer than three swallows in 30 sec is observed, refer to MedSLP.
- RSST score less than 3 correlated to aspiration on VFSS.

39

39

Yale Swallow Protocol/3-Ounce Water Test

Leder & Suiter (2014) DOI: 10.1007/978-3-319-05113-0

- A reliable, validated screening tool for adults and children.
- Developed by Steven B. Leder, PhD, CCC-SLP and Debra M. Suiter, PhD, CCC-SLP and has been extensively researched.
 - Yale Swallow Protocol is the gold standard!

Exclusion Criteria:

- Unable to remain alert
- No thin liquids due to preexisting dysphagia
- Head bed restrictions <30
- NPO for medically/surgical reason

Instructions:

1. Sit patient upright at 80-90° (or as high as tolerated >30°).
2. Ask patient to drink the entire 3 ounces (90cc) of water from a cup or with a straw, in **sequential swallows**, slow and steady but without stopping.
 - Note: Cup or straw can be held by clinician or patient.
3. Assess patient for interrupted drinking and coughing or choking during or immediately after completion of drinking.

40

40

Yale Swallow Protocol

Results and Recommendations

- **PASS:** Complete and uninterrupted drinking of all 3 ounces of water without overt signs of aspiration, for example, coughing or choking, either during or immediately after completion.
- If patient passes, collaborate with MedSLP to recommend a diet.
- **FAIL:** Inability to drink the entire 3 ounces in sequential swallows due to stopping/starting or exhibiting overt signs of aspiration (coughing or choking), either during or immediately after completion.
- If patient fails, keep nil per os (NPO including medications) and refer to the MedSLP for an objective/instrumental swallowing evaluation (VFSS/FES).
- Re-administer the protocol in 2-24 hours if patient shows clinical change/improvement.

41

Leder & Suiter (2014) DOI: 10.1007/978-3-319-05113-0

41

The Gugging Swallowing Screen (GUSS)

- The GUSS offers a quick and reliable method to identify stroke patients with dysphagia and aspiration risk.
 - Available in 16 languages; used worldwide. [Training videos are available](#)
- Stepwise assessment tool; graded rating with separate evaluations for non-fluid and fluid nutrition using the grading of the IDDSI framework.
 - Starts with saliva swallowing followed by swallowing of semi-solid food and lastly fluid and solid textures.
- 4 subtests, divided into 2 parts:
 - 1. indirect swallowing test
 - 2. direct swallowing test, which consists of 3 subtests which must be performed sequentially.

42

Trapi (2007) DOI: 10.1161/STROKEAHA.107.483933

42

GUSS: Instructions, Interpretation and Results

Maximum of 5 points can be earned in each subtest.

The **maximum** points **must be attained** to continue to the next subtest.

Twenty points (20) are the highest score possible, and indicates functional swallowing ability without the likely risk of overt aspiration.

- In total 4 levels of severity can be determined:
 - 0-9 Points: likely severe dysphagia and high aspiration risk.
 - 10-14 Points: likely moderate dysphagia and moderate risk of aspiration
 - 15-19 Points: likely mild dysphagia with mild aspiration
 - 20 Points: likely normal swallowing ability

Trapl (2007) DOI: [10.1161/STROKEAHA.107.483933](https://doi.org/10.1161/STROKEAHA.107.483933)

43

1. Preliminary Investigation / Indirect Swallowing Test

	YES	NO
VIGILANCE <i>(The patient must be alert for at least 15 minutes)</i>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
COUGH and/or THROAT CLEARING <i>(Voluntary cough. Patient should cough or clear his or her throat twice)</i>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
SALIVA SWALLOW • SWALLOWING SUCCESSFUL	1 <input type="checkbox"/>	0 <input type="checkbox"/>
• DROOLING	0 <input type="checkbox"/>	1 <input type="checkbox"/>
• VOICE CHANGE <i>(Hoarse, gurgly, raspy, weak, choke on own saliva)</i>	0 <input type="checkbox"/>	1 <input type="checkbox"/>
SUM:	(5)	
1-4 = Investigate further! 5 = Continue with „Direct Swallowing Test“		

The Gugging Swallowing Screen. Stroke 2007;38:2948-2949. Michaela Trapf, SLT, MSc; Paul Erdinko, MD, MSc; Hosaka Noronori, MD; Yvonne Toussaint, PhD; Karl Hatz, MD; Alexandra Dachenhausen, PhD; Michael Beyer, MD

If the patient scores less than 5 points on the indirect swallow test, the examination must be **stopped**. Do not proceed and defer to MedSLP.

44

GUSS (Gugging Swallowing Screen)¹

2. Direct Swallowing Test

(Material: Apple 1/4, flat teaspoon, food thickener, bread)

In the following order:

	1- SEMISOLID*	2- LIQUID**	3- SOLID***
DEGLUTITION:			
• Swallowing not possible	0 <input type="checkbox"/>	0 <input type="checkbox"/>	0 <input type="checkbox"/>
• Swallowing delayed <small>(> 2 sec / (2 sec) maximum < 10 sec.)</small>	1 <input type="checkbox"/>	1 <input type="checkbox"/>	1 <input type="checkbox"/>
• Swallowing successful	2 <input type="checkbox"/>	2 <input type="checkbox"/>	2 <input type="checkbox"/>
COUGH (involuntary): <small>(Coughs during or after swallowing - wait 10 minutes later)</small>			
• Yes	0 <input type="checkbox"/>	0 <input type="checkbox"/>	0 <input type="checkbox"/>
• No	1 <input type="checkbox"/>	1 <input type="checkbox"/>	1 <input type="checkbox"/>
DROOLING:			
• Yes	0 <input type="checkbox"/>	0 <input type="checkbox"/>	0 <input type="checkbox"/>
• No	1 <input type="checkbox"/>	1 <input type="checkbox"/>	1 <input type="checkbox"/>
VOICE CHANGE: <small>(Hoarse SLT for voice before and after swallow; patient should speak „DR“)</small>			
• Yes	0 <input type="checkbox"/>	0 <input type="checkbox"/>	0 <input type="checkbox"/>
• No	1 <input type="checkbox"/>	1 <input type="checkbox"/>	1 <input type="checkbox"/>
SUM:	(5)	(5)	(5)
1-4 = Investigate further! 5 = Continue „GUSS“			

1-Hansen Swallowing Screen. Stroke 2007;38:2948-2949. Michaela Trapf, SLT, MSc; Paul Erdinko, MD, MSc; Hosaka Noronori, MD; Yvonne Toussaint, PhD; Karl Hatz, MD; Alexandra Dachenhausen, PhD; Michael Beyer, MD

Direct Swallowing Test
Assesses the deglutition, involuntary cough, drooling and voice change across semi-solid, liquid and solid boluses.

45

Indirect (Clinician Facilitated) Swallowing Screenings

- GOAL:**
 - To obtain information on swallowing from the patient's perspective to guide clinicians on the major concerns and impact of dysphagia on quality of life.
- Eating Assessment Tool (EAT-10)**
- Swallowing Quality of Life questionnaire (SWAL-QOL)**
- Swallowing Disturbance Questionnaire (SDQ)**

46

Eating Assessment Tool (EAT-10)

- Eating Assessment Tool (EAT-10)** developed by Peter C. Belafsky, MD, PhD.
 - Online: <https://bit.ly/31OgCQu> PDF: <https://bit.ly/2L8N2PD>
 - Translated into Japanese, Spanish, Anatolian Turkish, Italian, Chinese, Portuguese, and more.
 - ~5 mins to administer
- Published in the *Annals of Otolaryngology, Rhinology, & Laryngology* in 2008.
- EAT-10 is a self-administered or clinician facilitated, symptom-specific outcome instrument for swallowing.
 - Consists of 10 statements that a patient rates on a scale of 0 - 4
 - 0 = no problem to 4 = severe problem
- The EAT-10 also serves as a valid outcome measure for dysphagia intervention.
 - Frequently administer every 60-90 days to track progress.

Belafsky (2008). DOI: [10.1177/000348940811701210](https://doi.org/10.1177/000348940811701210)

47

Eating Assessment Tool (EAT-10)

EATING ASSESSMENT TOOL (EAT-10)

Date: _____
Name: _____ MR# _____
Height: _____ Weight: _____

Please briefly describe your swallowing problem.

Please list any swallowing tests you have had, including when, where, and the results.

To what extent are the following scenarios problematic for you?

Circle the appropriate response	0 = No problem	1	2	3	4 = Severe problem
1. My swallowing problem has caused me to lose weight.	0	1	2	3	4
2. My swallowing problem interferes with my ability to go out for meals.	0	1	2	3	4
3. Swallowing liquids takes extra effort.	0	1	2	3	4
4. Swallowing solids takes extra effort.	0	1	2	3	4
5. Swallowing pills takes extra effort.	0	1	2	3	4
6. Swallowing is painful.	0	1	2	3	4
7. The pleasure of eating is affected by my swallowing.	0	1	2	3	4
8. When I swallow food sticks in my throat.	0	1	2	3	4
9. I cough when I eat.	0	1	2	3	4
10. Swallowing is stressful.	0	1	2	3	4
Total EAT-10:					

- A score ≥ 3 (equal or greater) is abnormal and likely indicative of oropharyngeal dysphagia.¹
- Subjective dysphagia symptoms can predict risk for aspiration.
 - Score of 15 or more indicates the patient is 2.2 times more likely to aspirate.²

1. Hansen (2020). DOI: [10.1186/s12955-020-01384-2](https://doi.org/10.1186/s12955-020-01384-2)
2. Cheney (2015). DOI: [10.1177/0003489414558107](https://doi.org/10.1177/0003489414558107)
3. Belafsky (2008). DOI: [10.1177/000348940811701210](https://doi.org/10.1177/000348940811701210)

48

Swallowing Quality of Life Questionnaire (SWAL-QOL)


- SWAL-QOL: tool for measuring the impact of swallowing on quality of life (QoL)
 - Validated to discriminate between patients with and without dysphagia and sensitivity to disease severity
 - Available in 15 languages
 - ~ 15 mins to administer
- 44-item tool that assesses 10 QoL concepts
- Items address:
 - desire for eating, dysphagia symptom frequency, mental health, social concerns related to swallowing, food selection, fear related to eating, and the perceived burden of dysphagia.
- Healthcare providers can use the SWAL-QOL to assess treatment effectiveness, patient satisfaction and improved QoL for individuals with swallowing dysfunction.

McHorney (2000). DOI: 10.1007/s00455-001-0109-1

49

SWAL-QOL Scoring & Interpretation

- A total SWAL-QOL score is derived by summing each domain score and dividing by 10.
- Cut-off score of 14 points (or higher) was shown to identify patients with swallowing problems with 94% sensitivity and 84% specificity.¹



Rinkel (2009). DOI: 10.1016/j.oraloncology.2009.03.003

50

Swallowing Disturbance Questionnaire (SDQ)

- Developed by Manor (2007)
- PDF: [SDQ Survey](#)
- 0-3 rating scale (0=never to 3=very frequently)
- 5 questions related to the oral phase and 10 questions related to the pharyngeal phases of swallowing
- Score of 11 (or greater) likely indicates atypical swallowing and should prompt referral to medSLP¹
- SDQ is validated tool to detect early dysphagia in PD and other diagnoses
- High sensitivity and specificity²

Questions	0 = Never	1 = Seldom (once a month or less)	2 = Frequently (2-3 times a week)	3 = Very frequently (3-7 times a week)
1. Do you experience difficulty chewing solid food for an appropriate amount of time?	0	1	2	3
2. Are there any food residues in your mouth, cheeks, upper front teeth, or stuck to the roof of your mouth after swallowing?	0	1	2	3
3. Does food or liquid come out of your nose when you eat or drink?	0	1	2	3
4. Does chewing up food disturb from your mouth?	0	1	2	3
5. Do you feel you have too much saliva in your mouth (like you drink or have difficulty swallowing your saliva)?	0	1	2	3
6. Do you swallow (chew) up food several times before it goes down your throat?	0	1	2	3
7. Do you experience difficulty in swallowing solid food (ie, unable to swallow get stuck in your throat)?	0	1	2	3
8. Do you experience difficulty in swallowing ground food?	0	1	2	3
9. While eating, do you feel as if a lump of food is stuck in your throat?	0	1	2	3
10. Do you cough while swallowing liquids?	0	1	2	3
11. Immediately after eating or drinking, do you experience a change in your voice, such as hoarseness or breathiness?	0	1	2	3
12. Other than during meals, do you experience coughing or difficulty breathing as a result of taking sipping your drinks?	0	1	2	3
13. Do you experience difficulty breathing during meals?	0	1	2	3
14. Have you suffered from a respiratory infection (such as pneumonia, bronchitis) in the past year? (Circle one)	YES	NO		

Manor (2007). DOI:10.1002/mb.21625
 Cohen (2011). DOI:10.1002/ajp.21939

51

Practice Applications

- Swallowing dysfunction is a complex, multidisciplinary disorder that includes the RDNs and additional healthcare providers as a key stakeholder in helping screen and identify patients who may have dysphagia.
- Attendees should be able to select and appropriately administer at least one direct and one indirect screening tool highlighted in this talk.
- When encountering a complex patient, attendees should have a better understanding of when to refer to MedSLP to further investigate the patient's swallowing capabilities.
- This talk serves as a primer for swallowing education. Attendees should pursue additional training on dysphagia to better serve their patients.
- The presenters welcome opportunities for collaboration in continuing their education on dysphagia and swallowing screenings within their scope of practice.

- Training inquiries: info@swallowingeducation.com

52

Want to learn more?

- Email:
 - marissa.barrera@yu.edu
 - boconnorwells@nova.edu
 - info@swallowingeducation.com
- Link to additional materials:
 - [Materials Folder](#)

53

Webinar Evaluation

- <https://www.surveymonkey.com/r/FMH77B6>
- Link provided in follow-up email or scan QR code
- CPE certificate and handouts will be emailed after the presentation.



Accreditation Council for Education in Nutrition and Dietetics
 American Dietetic Association

54

CPE

Continuing Professional Education Certificate of Attendance

Accredited

- Attendee Copy-

Provider

**Commission
on Dietetic
Registration**

the credentialing agency for the
eat right. Academy of Nutrition
and Dietetics

Participant Name: _____

Registration Number: _____

Activity Title: _____

Activity Number: _____

Date Completed: _____ Number of CPEUs Awarded: _____

*Performance Indicator(s): _____ CPE Level: _____

Provider Code: AM003

Diane M. Enos, MPH, RD, FAND

Provider Signature

RETAIN ORIGINAL COPY FOR YOUR RECORDS

**Refer to your Professional Development Portfolio Guide For Pls*

CPE

Continuing Professional Education Certificate of Attendance

Accredited

- Licensure Copy-

Provider

**Commission
on Dietetic
Registration**

the credentialing agency for the
eat right. Academy of Nutrition
and Dietetics

Participant Name: _____

Registration Number: _____

Activity Title: _____

Activity Number: _____

Date Completed: _____ Number of CPEUs Awarded: _____

*Performance Indicator(s): _____ CPE Level: _____

Provider Code: AM003

Diane M. Enos, MPH, RD, FAND

Provider Signature

RETAIN ORIGINAL COPY FOR YOUR RECORDS

**Refer to your Professional Development Portfolio Guide For Pls*