

The MODIFIED BARIUM SWALLOW IMPAIRMENT PROFILE: MBSImP™©

Components, Scores, and Score Definitions

ORAL Impairment

Component 1—Lip Closure

Judge at any point during the swallow.

- 0 = No labial escape
- 1 = Interlabial escape; no progression to anterior lip
- 2 = Escape from interlabial space or lateral juncture; no extension beyond vermilion border
- 3 = Escape progressing to mid-chin
- 4 = Escape beyond mid-chin

Component 2—Tongue Control During Bolus Hold

Judge on held liquid boluses only and prior to productive tongue movement.

- 0 = Cohesive bolus between tongue to palatal seal
- 1 = Escape to lateral buccal cavity/floor of mouth (FOM)
- 2 = Posterior escape of less than half of bolus
- 3 = Posterior escape of greater than half of bolus

Component 3—Bolus Preparation/Mastication

Judge only during presentation of 1/2 shortbread cookie coated in pudding.

- 0 = Timely and efficient chewing and mashing
- 1 = Slow prolonged chewing/mashing with complete re-collection
- 2 = Disorganized chewing/mashing with solid pieces of bolus unchewed
- 3 = Minimal chewing/mashing with majority of bolus unchewed

Component 4—Bolus Transport/Lingual Motion

Judge after first productive tongue movement for oral bolus transport.

- 0 = Brisk tongue motion
- 1 = Delayed initiation of tongue motion
- 2 = Slowed tongue motion
- 3 = Repetitive/disorganized tongue motion
- 4 = Minimal to no tongue motion

Component 5—Oral Residue

Judge after first swallow or after the last swallow of the sequential swallow tasks.

- 0 = Complete oral clearance
- 1 = Trace residue lining oral structures
- 2 = Residue collection on oral structures
- 3 = Majority of bolus remaining
- 4 = Minimal to no clearance

Location

- A = Floor of Mouth
- B = Palate
- C = Tongue
- D = Lateral Sulci

Component 6—Initiation of Pharyngeal Swallow

Judge at first movement of the brisk superior-anterior hyoid trajectory.

- 0 = Bolus head at posterior angle of ramus (first hyoid excursion)
- 1 = Bolus head in valleculae
- 2 = Bolus head at posterior laryngeal surface of epiglottis
- 3 = Bolus head in pyriforms
- 4 = No visible initiation at any location

PHARYNGEAL Impairment

Component 7—Soft Palate Elevation

Judge during maximum displacement of soft palate.

- 0 = No bolus between soft palate (SP)/pharyngeal wall (PW)
- 1 = Trace column of contrast or air between SP and PW
- 2 = Escape to nasopharynx
- 3 = Escape to nasal cavity
- 4 = Escape to nostril with/without emission

Component 8—Laryngeal Elevation

Judge when epiglottis is in its most horizontal position.

- 0 = Complete superior movement of thyroid cartilage with complete approximation of arytenoids to epiglottic petiole
- 1 = Partial superior movement of thyroid cartilage/partial approximation of arytenoids to epiglottic petiole
- 2 = Minimal superior movement of thyroid cartilage with minimal approximation of arytenoids to epiglottic petiole
- 3 = No superior movement of thyroid cartilage

Component 9—Anterior Hyoid Excursion

Judge at height of swallow/maximal anterior hyoid displacement.

- 0 = Complete anterior movement
- 1 = Partial anterior movement
- 2 = No anterior movement

Component 10—Epiglottic Movement

Judge at height of swallow/maximal anterior hyoid displacement.

- 0 = Complete inversion
- 1 = Partial inversion
- 2 = No inversion

Component 11—Laryngeal Vestibular Closure

Judge at height of swallow/maximal anterior hyoid displacement.

- 0 = Complete; no air/contrast in laryngeal vestibule
- 1 = Incomplete; narrow column air/contrast in laryngeal vestibule
- 2 = None; wide column air/contrast in laryngeal vestibule

Component 12—Pharyngeal Stripping Wave

Judge during the full duration of the pharyngeal swallow.

- 0 = Present - complete
- 1 = Present - diminished
- 2 = Absent

Component 13—Pharyngeal Contraction

Judge in AP view at rest and throughout maximum movement of structures.

- 0 = Complete
- 1 = Incomplete (Pseudodiverticulae)
- 2 = Unilateral Bulging
- 3 = Bilateral Bulging

Component 14—Pharyngoesophageal Segment Opening

Judge during maximum distension of PES and throughout opening and closure.

- 0 = Complete distension and complete duration; no obstruction of flow
- 1 = Partial distension/partial duration; partial obstruction of flow
- 2 = Minimal distension/minimal duration; marked obstruction of flow
- 3 = No distension with total obstruction of flow

Component 15—Tongue Base (TB) Retraction

Judge during maximum retraction of the tongue base.

- 0 = No contrast between TB and posterior pharyngeal wall (PW)
- 1 = Trace column of contrast or air between TB and PW
- 2 = Narrow column of contrast or air between TB and PW
- 3 = Wide column of contrast or air between TB and PW
- 4 = No visible posterior motion of TB

Component 16—Pharyngeal Residue

Judge after first swallow or after the last swallow of the sequential swallow task.

- 0 = Complete pharyngeal clearance
- 1 = Trace residue within or on pharyngeal structures
- 2 = Collection of residue within or on pharyngeal structures
- 3 = Majority of contrast within or on pharyngeal structures
- 4 = Minimal to no pharyngeal clearance

Location

- A = Tongue Base
- B = Valleculae
- C = Pharyngeal wall
- D = Aryepiglottic folds
- E = Pyriform sinuses
- F = Diffuse (>3 areas)

ESOPHAGEAL Impairment

Component 17—Esophageal Clearance Upright Position

Judge in AP view during bolus transit through the oral cavity to the LES.

- 0 = Complete clearance; esophageal coating
- 1 = Esophageal retention
- 2 = Esophageal retention with retrograde flow below pharyngo-esophageal segment (PES)
- 3 = Esophageal retention with retrograde flow through PES
- 4 = Minimal to no esophageal clearance