

## KASA Knowledge-Based Assessment: Swallowing

1. Describe the normal anatomy and physiology of a swallow from the time of ingestion of a spoon of solid material to the point where it passes through the gastro-esophageal sphincter. How would it differ in a 6-month-old child compared with an adult? (IV.B.1)
2. Describe the neurological control of the entire swallowing process from oral preparation to the point of entrance into the stomach, including reference to central and peripheral nervous system structures. (IV.B.2)
3. Describe the level of cognitive functioning that is required for swallowing that is safe for at least some foods and/or liquids. (IV.B.3)
4. Case study: Your patient is an 83-year-old woman who was admitted to the hospital for pneumonia. She has a history of a prior CVA with persistent left hemi-paresis and a left lower facial droop. She also has a history of Alzheimer's disease. She is non-ambulatory and nonverbal. She is dependent in all activities of daily living, including feeding. Her language is Arabic although she has been non-verbal for around a year. She does make eye contact with relatives at times, but this is not consistent. She lives in her daughter's home and is cared for by the daughter. Her diet prior to the current hospital admission was honey-thick liquids and purees. She has poor oral intake, especially for solids, and she has had gradual weight loss over the last year. Currently, she is at 80 percent of ideal body weight. You are called upon to evaluate the patient's swallowing at bedside (clinical evaluation) the day after she was admitted. Based on the medical history and/or the results of the clinical evaluation of swallowing (you will describe the latter in your response), you decided to recommend a modified barium swallow. The modified barium swallow showed (1) prolonged oral preparation lasting up to one minute for purees and prolonged attempts to initiate oral transfer over 15 to 30 seconds with loss of up to 50 percent of the material into the valleculae during oral preparation and transfer attempts, (2) overflow to the pyriform sinuses resulting in aspiration prior to definitive oral transfer when when taking larger sips of thin or nectar consistency liquid from the edge of a cup, (4) overflow into the valleculae but no aspiration or penetration with small sips of nectar and larger sips of honey-consistency barium from the edge of a cup, (4) 50 percent effectiveness of pharyngeal transfer function with residual distributed primarily in the valleculae and pyriform sinuses on all consistencies, and (5) inconsistent and ineffective cough in response to aspiration. Aspiration did not occur with honey-consistency barium and purees, although there was significant residue in the pharynx unless the patient "dry swallowed" once or twice after each dose.
  - a. Describe (1-2 pages) the clinical assessment of this patient and the likely features that would be observed. In addition, describe how the etiology relates to the features in this particular case. (IV.C.1, 2, 3 & IV.D.1, 3)
  - b. What clinical (bedside) observations and/or medical background features indicated the need for an instrumental assessment? (IV.D.2)

- c. Describe (1 page) the exact procedures that would have been followed to complete the modified barium swallow study for this particular patient and the observations you would have made. List your diagnostic impressions in the same manner that you would in an MBS report. (IV.D.2, 3)
- d. State the long and short-term goals that are appropriate for this patient. What specific management strategies would be appropriate for this patient? (IV.D.4, 5)
- e. Justify your selection of management strategies through an interpretation of one or more clinical research studies. Your analysis should include comparison of the above patient with the subjects in the studies, the similarity between the treatment you propose and the treatment or treatments used in the studies, and the relevant design features of the studies. (IV.F.)
- f. Describe this patient's prognosis for attaining a functional swallow, and explain your rationale, including reference to etiology, the time since onset, and all relevant clinical features. (IV.D.4)
- g. Describe cultural and linguistic considerations that may be relevant in the process of assessment and in discussing results as well as management options with the patient and her family. (IV.D.6)
- h. How would the management strategies differ if you observed the same features during modified barium swallow with a two-year old child who had traumatic brain injury? (IV.D.6)