

Making Dysphagia Easier to Swallow: A Review for the Practicing Clinician



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CME Activity

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Abstract

Evaluating a patient with dysphagia can be a complex and daunting task. In this article, we present a practical approach to the evaluation, physical examination, and subsequent work-up of dysphagia that is applicable to practicing physicians.

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Dysphagia is a relatively common symptom, occurring in approximately 3% of the general population.¹ It is estimated that 1 in every 17 people will struggle with difficulty swallowing at some point in their lives.² Dysphagia increases in frequency with age, affecting approximately 10% of adults older than 65 years and approximately 50% of the institutionalized elderly population.^{3,4} However, aging itself is not a typical cause of clinically significant dysphagia.

Dysphagia can lead to malnutrition, aspiration, and pneumonia, and as such, an underlying cause for the symptom should be explored (Table).⁵ In this article, we summarize the key features of the history and physical examination that will guide investigation and treatment of dysphagia.

PHYSIOLOGY OF DEGLUTITION

A comprehensive understanding of normal swallowing physiology is imperative for

TABLE. Causes of Dysphagia

Oropharyngeal dysphagia
Neurologic
Cerebrovascular accidents
Parkinson disease
Amyotrophic lateral sclerosis
Multiple sclerosis
Huntington disease
Guillain-Barré syndrome
Tabes dorsalis
Tetanus
Polio
Tardive dyskinesia
Alzheimer and other types of dementia
Muscular
Myasthenia gravis
Muscular dystrophy
Hyperthyroidism
Hypothyroidism
Dermatomyositis
Polymyositis
Structural
Esophageal web
Cervical osteophytes
Goiter
Lymphadenopathy
Zenker diverticulum
Oropharyngeal tumor
Esophageal dysphagia
Motility
Achalasia
Spastic motility disorders (diffuse esophageal spasm, nutcracker esophagus, jackhammer esophagus)
Hypocontractile motility disorders (ineffective esophageal motility disorder)
Scleroderma
Sjogren syndrome
Connective tissue overlap syndrome
Amyloidosis
Inflammatory
Erosive esophagitis
Eosinophilic esophagitis
Infectious
Chagas disease
AIDS
Infectious esophagitis (cytomegalovirus, herpes simplex virus, candida)
Structural or mechanical
Malignancy (esophageal, gastric, or mediastinal)
Foreign bodies
Peptic stricture
Esophageal ring (Schatzki ring)
Dysphagia lusoria (aberrant right subclavian artery)
Other vascular ring anomalies (enlarged left atrium or aorta, aberrant vessels)

*Continued on next column***TABLE. Continued**

Esophageal dysphagia, continued
Other
Functional dysphagia
Pill esophagitis (nonsteroidal anti-inflammatory drugs, bisphosphonates, doxycycline, tetracycline, potassium chloride, quinidine, ferrous sulfate, ascorbic acid)
Decreased lower esophageal sphincter tone (medications such as nitrates, anticholinergics, benzodiazepines, morphine, calcium-channel blockers, tricyclic antidepressants)

understanding abnormal swallowing. *Deglutition* is defined as the act of swallowing in which liquids, solids, or both are transported from the mouth to the stomach by way of the pharynx and esophagus.⁶ Normal swallowing occurs up to 600 times a day and each swallow takes approximately 15 seconds to complete. More than 30 muscles are involved in the process. Deglutition is divided into 4 phases: (1) preparatory, (2) oral, (3) pharyngeal, and (4) esophageal.⁷

The process begins as food enters the mouth. Muscles of mastication and the tongue contract to mix saliva with food to generate a bolus of appropriate shape, size, and consistency. The anterior aspect of the tongue elevates to make contact with the hard palate and moves posteriorly to force the bolus into the upper pharynx. This action elevates the soft palate and seals off the nasopharynx to prevent nasal regurgitation and direct the bolus posteriorly. The suprahyoid muscles contract to move the larynx anteriorly and superiorly, whereas the epiglottis moves inferiorly to cover the trachea.⁸ Pharyngeal muscles contract to push the bolus past the upper esophageal sphincter or cricopharyngeus muscle, which relaxes shortly after laryngeal elevation, allowing the bolus to move into the proximal esophagus.^{8,9} Peristalsis propels the food bolus through the esophagus and across the lower esophageal sphincter.

APPROACH TO CLINICAL HISTORY

Dysphagia, or interruption to the normal process described above, is always pathologic and warrants further evaluation.

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