



Pulmonary Disease And Dysphagia[©]

In Order to Swallow Safely, There Are Five Bodily Systems That Must Work In Coordination: Gastrointestinal, Respiratory, Muscular, Neurological & Cognitive

Respiratory Dysphagia is defined as the inability to hold one's breath for 1-2 seconds in order to complete the swallow

The Consequences of Dysphagia Can Be Severe: Dehydration, Malnutrition, Aspiration, Choking, Pneumonia & Death

Diagnoses With Notable Respiratory Dysphagia

Parkinson's Disease	Cerebellar Degeneration	Dysrhythmias	Pneumothorax
Amyotrophic Lateral Sclerosis	Spinal Cord Injury	AFib / Myocardial Infarction	Sleep Apnea
Multiple Sclerosis	Tardive Dyskinesia	Hyper/Hypotension	Cervical Spinal Stenosis
Myasthenia Gravis	TSE (Prions Disease)	Carditis	Thoracic Spinal Stenosis
Guillian-Barre	Diabetes Mellitus	Congestive Heart Failure	Cervical Disc Disease
Cerebral Palsy	Neuropathy	Bronchiectasis/Atelectasis	Thoracic Disc Disease
Bell's Palsy	Chronic Kidney Disease	Emphysema	Neurological Effects of AIDS
Muscular Dystrophy	End Stage Renal Disease	COPD	Chronic Opioid Use
Huntington's Disease	Ischemia/TIA	Asthma/Chronic Asthma	Recent Anesthesia
Chorea	Hemorrhagia (Bleeds)	Chronic Bronchitis	Cervical/Thoracic Osteoarthritis
Progressive Supranuclear Palsy	Deep Vein Thrombosis	Acute Bronchitis	Age-related Sarcopenia
Encephalopathy	CVA (Stroke)	Pneumonia	Pleural Effusions
Encephalitis	Cerebral Arteriosclerosis	Pulmonary Edema	Lung Cancer
Meningitis	Dementia with Lewy bodies	Pulmonary Embolism	Throat Cancer
Encephalomyelitis	Coronary Artery Disease	Pulmonary Hypertension	Current Chemo/Radiation Tx
Pectoral Girdle Injuries	Angina Pectoris	Pneumoconiosis	Sarcoidosis

Preliminary Data Demonstrate the Signs & Symptoms of Respiratory in COPD

DST Evaluations performed in 35 COPD patients with No Other Current Diagnoses (Winchester & Winchester, 2017):

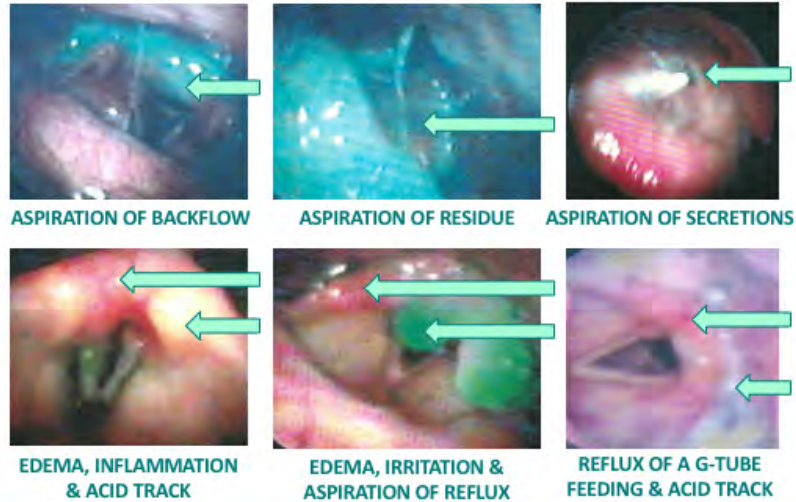
1. We found that a change in consistency, alone, did not predict aspiration risk.
2. COPD patients with no previous history of aspiration pneumonia showed signs of a delay in the swallow trigger that puts them at greater risk of silent aspiration.
3. Data demonstrate the effectiveness of the **Five Systems of Dysphagia** perspective in evaluating factors indicative of aspiration risk in patients with compromised respiratory systems in the aging population with pulmonary diagnoses.
4. A Swallowing Instrumentation with FEES (Fiberoptic Endoscopic Evaluation of Swallowing) evaluates factors predictive of aspiration risk only observable via Endoscopy: Secretions, Residue, Penetration, Delayed Laryngeal Closure, Delayed Swallow Trigger, Silent Aspiration
5. Trends indicating that Recent Hospitalizations was found to be related to a patient's aspiration risk.

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Many Patient with Respiratory Dysphagia Also Have Reflux Dysphagia

Regurgitation
Chest Pain
Hoarseness
Vocal Breaks or Fatigue
Excessive Throat Mucus
Post Nasal Drip
Chronic Cough
Sleep Apnea
Difficulty Breathing
Choking Episodes
Sensation
Food Getting Stuck
Wheezing
Confusion
Cognitive Decline
High Fall Risk

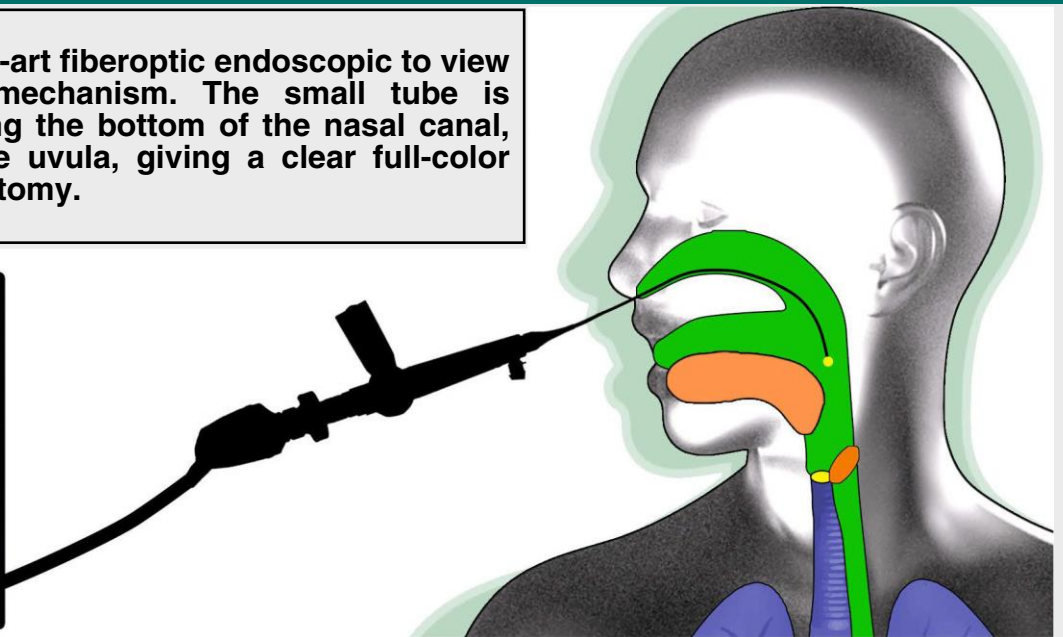
REFLUX DYSPHAGIA IS DANGEROUS



The Dysphagia Systems Test (DST) With FEES and How We Swallow

The DST utilizes state-of-the-art fiberoptic endoscopic to view the patient's swallowing mechanism. The small tube is inserted into the nose, along the bottom of the nasal canal, and hangs right behind the uvula, giving a clear full-color view of the swallow and anatomy.

*Actual view of the DST



Swallowing is a complex process, using nerves and muscles to move food or liquid from the mouth to the stomach.

- The food or liquid enters the mouth. As it passes over the *Tongue*, the *Epiglottis* folds forward over and the *Larynx* closes tightly to prevent anything from entering the *Lungs*. The food or liquid then passes safely down the *Esophagus* and into the *Stomach*.
- **DYSPHAGIA** occurs when there is a problem with any part of this swallowing process.
- If ALL Five Systems of Dysphagia are not addressed, then swallowing safety has not been thoroughly addressed.