Preventing Aspiration in Older Adults with Dysphagia

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WHY: Aspiration (the misdirection of oropharyngeal secretions or gastric contents into the larynx and lower respiratory tract) is common in older adults with dysphagia and can lead to aspiration pneumonia. In fact, it has been suggested that dysphagia carries a sevenfold increased risk of aspiration pneumonia and is an independent predictor of mortality (Singh & Hamdy, 2006). Early recognition of dysphagia and intervention in hospitalized patients is advised to reduce morbidity and use of hospital resources (Altman et al., 2010).

TARGET POPULATION: Dysphagia is common in persons with neurologic diseases such as stroke, Parkinson’s disease, and dementia. Aspiration occurs in about 40% to 50% of stroke patients with dysphagia (Marik & Kaplan, 2003). The older adult with one of these conditions is at even greater risk for aspiration because the dysphagia is superimposed on the slowed swallowing rate associated with normal aging. Conditions that suppress the cough reflex (such as sedation) further increase the risk for aspiration.

BEST PRACTICES: ASSESSMENT AND PREVENTION ASSESSMENT

Videofluoroscopy is considered the gold standard to study the mechanisms of dysphagia; if unavailable, fiberoptic endoscopic evaluation may be used instead (Rofes et al., 2011). Others recommend these tests only for patients who fail a reliable clinical swallowing assessment (Leder et al., 2012)

Clinical Symptoms of Aspiration:

- Sudden appearance of respiratory symptoms (such as severe coughing and cyanosis) associated with eating, drinking, or regurgitation of gastric contents.
- A voice change (such as hoarseness or a gurgling noise) after swallowing.
- Small-volume aspirations that produce no overt symptoms are common and are often not discovered until the condition progresses to aspiration pneumonia.

Aspiration Pneumonia:

- Older persons with pneumonia often complain of significantly fewer symptoms than their younger counterparts; for this reason, aspiration pneumonia is under-diagnosed in this group.
- Delirium may be the only manifestation of pneumonia in elderly persons.
- An elevated respiratory rate is often an early clue to pneumonia in older adults; other symptoms to observe for include fever, chills, pleuritic chest pain and crackles.
- Observation for aspiration pneumonia should be ongoing in high-risk persons.

PREVENTION OF ASPIRATION DURING HAND FEEDING:

The following actions may be of some benefit during hand feeding:

- Provide a 30-minute rest period prior to feeding time; a rested person will likely have less difficulty swallowing.
- Sit the person upright in a chair; if confined to bed, elevate the backrest to a 90-degree angle.
- The chin-down or chin-tuck maneuver is widely used in dysphagia treatment, although it does not have a precise anatomical definition (Okada et al., 2007). The extent to which this maneuver is effective is unclear. A recent study of 47 patients with a videofluoroscopic diagnosis of aspiration found only 55% avoided aspiration during the chin-down posture (Terre & Mearin, 2012). Swallowing studies may be needed to determine which individuals are most likely to benefit from this position.
- Adjust rate of feeding and size of bites to the person’s tolerance; avoid rushed or forced feeding.
- Alternate solid and liquid boluses.
- Vary placement of food in the person’s mouth according to the type of deficit. For example, food may be placed on the right side of the mouth if left facial weakness is present.
- Determine the food viscosity that is best tolerated by the individual. For example, some persons swallow thickened liquids more easily than thin liquids. However, a recent study found that even in known thin liquid aspirators, offering water did not increase the incidence of aspiration pneumonia (Frey & Ramsberger, 2011).
- Be aware that some patients may find thickened liquids unpalatable and thus drink insufficient fluids (Colodny, 2005).
- Minimize the use of sedatives and hypnotics since these agents may impair the cough reflex and swallowing.
- Medications that dry up secretions should be avoided since they make it more difficult for patients to swallow (Marik, 2011).
- Evaluate the effectiveness of cueing, redirection, task segmentation and environmental modifications (minimizing distractions) as alternatives to hand feeding. (See Try This: Assessing Eating and Feeding Issues in Older Adults with Dementia).
PREVENTION OF ASPIRATION DURING TUBE FEEDING:

Tube feeding is not necessary for all patients who aspirate (Marik, 2011). However, short-term tube feeding may be needed for elderly patients with severe dysphagia and aspiration in whom improvement of swallowing is likely to occur (Marik, 2011). Results from a clinical trial suggest that patients with dysphagic stroke should be fed early by nasogastric tube and then transitioned to oral feeding as their dysphagia resolves (Dennis et al., 2005). Patients whose dysphagia does not resolve may ultimately require placement of a percutaneous gastrostomy tube.

For patients with tube feedings, the following considerations are important:
- Keep the bed’s backrest elevated to at least 30° during continuous feedings.
- When the tube-fed person is able to communicate, ask if any of the following signs of gastrointestinal intolerance are present: nausea, feeling of fullness, abdominal pain or cramping. These signs are indicative of slowed gastric emptying that may, in turn, increase the probability for regurgitation and aspiration of gastric contents.
- Measure gastric residual volumes every 4 to 6 hours during continuous feedings and immediately before each intermittent feeding. This assessment is especially important when the tube-fed person is unable to communicate signs of gastrointestinal intolerance. There is no convincing research-based information regarding how much gastric residual volume is ‘too much.’
- Use of a promotility agent should be considered when an adult patient has two or more gastric residual volumes ≥ 250 ml (Bankhead et al., 2009).
- Missing teeth and poorly fitted dentures predispose to aspiration by interfering with chewing and swallowing. Infected teeth and poor oral hygiene predispose to pneumonia following the aspiration of contaminated oral secretions. Tube feeding in elderly persons is associated with significant pathogenic colonization of the mouth, more so than that observed in those who received oral feedings. There is evidence that providing regular dental care and cleaning the elder person’s teeth with a toothbrush after each meal lowers the risk of aspiration pneumonia. Development and maintenance of an oral hygiene program is a critical step in preventing pneumonia in nursing home residents (El-Solh, 2011).

PREVENTION OF ASPIRATION PNEUMONIA BY ORAL CARE:

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