

## 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).

**TARGET POPULATION:** Dysphagia is common in persons with neurologic diseases such as stroke, Parkinson's disease, and dementia. 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

#### Aspiration:

Although aspiration during swallowing is best detected by procedures such as video-fluoroscopy or fiberoptic endoscopy, clinical observations are also important. Symptoms to look for include:

- 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 (Marrie, 2000).
- Delirium may be the only manifestation of pneumonia in elderly persons (Marrie, 2000).
- 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 (Marrie, 2002).
- Observation for aspiration pneumonia should be ongoing in high-risk persons.

### PREVENTION OF ASPIRATION DURING HAND FEEDING:

There is little research-based information regarding specific strategies to prevent aspiration during the feeding of dysphagic individuals (Loeb, et al, 2003). However, the following actions may be of some benefit:

- 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.
- Slightly flexing the person's head to achieve a 'chin-down' position is helpful in reducing aspiration in some types of dysphagia (Shanahan, et al, 1993). 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. A recent study showed that increasing food viscosity greatly improved swallowing in neurological patients (Clave, et al, 2006). That is, aspiration was significantly lower when nectar or pudding was swallowed (as compared to when liquids were swallowed).
- Minimize the use of sedatives and hypnotics since these agents may impair the cough reflex and swallowing.
- 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:

Persons who aspirate oral feedings are also likely to aspirate tube feedings, either by nasogastric or gastrostomy tubes (Siddique, et al, 2000). Therefore, there is a growing trend to avoid the use of tube feedings merely as a means to prevent aspiration. Nonetheless, there are instances in which tube feedings are needed, especially during periods of acute illness. When tube feedings are necessary, the following activities may help to minimize aspiration:

- 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. Although there is no convincing research-based information regarding how much gastric residual volume is 'too much,' a persistently elevated amount (such as greater than 200 ml) should raise concern (McClave, et al, 2002).
- A prokinetic agent (such as metoclopramide or erythromycin) may be prescribed to alleviate persistently slowed gastric emptying (McClave, et al, 2002).
- Post-pyloric placement of the feeding tube (jejunostomy) may be prescribed if persistently slowed gastric emptying is a problem (McClave, et al, 2002). The efficacy of this action is controversial.
- Pump assisted feedings may be associated with fewer aspiration events than are gravity-controlled feedings in bedridden patients with gastrostomy tubes (Shang, et al, 2004).

## PREVENTION OF ASPIRATION PNEUMONIA BY ORAL CARE:

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 (Quagliarello, et al, 2005; Terpenning, 2005). Results from a recent study suggest that 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 (Leibovitz, et al, 2003). There is evidence that providing weekly dental care and cleaning the elder person's teeth with a toothbrush after each meal lowers the risk of aspiration pneumonia (Yoneyama, et al, 2002).

## MORE ON THE TOPIC:

Best practice information on care of older adults: [www.ConsultGeriRN.org](http://www.ConsultGeriRN.org).

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