

## Appendix 1

### **Aspiration Precautions - Clinical Guidelines**

(Aspiration Precautions Policy)

These guidelines have been established to:

1. Help *identify* patients who are at risk for aspiration, as well as aspiration pneumonia and pneumonitis.
2. Provide *guidelines to follow* to reduce risks of aspiration, as well as the complications of aspiration pneumonia and pneumonitis.
3. Reinforce that *prevention* is the best strategy (1).
4. Assist the medical team in placing the patient on “*Aspiration Precautions*,” ordering appropriate consults, modifying the diets, and monitoring the patient’s progress with swallowing and nutrition.

#### **Risk factors for aspiration (1):**

- Check for history of dysphagia, aspiration and recurrent aspiration pneumonias
- Altered mental status, altered level of consciousness, sedation, acute confusion or decline in cognitive status
- Drug and alcohol overdose
- Anesthesia
- Poor positioning, supine position
- Neurological conditions and diseases (i.e., Dementia, CVA, seizures, head trauma, Guillain-Barre syndrome, myasthenia gravis, amyotrophic lateral sclerosis, Parkinson’s disease, multiple sclerosis, muscular dystrophy, cerebral palsy)
- Cognitive disability (Down’s Syndrome, Developmentally delayed)
- Medically complex or deconditioned patient, generalized weakness
- Head and neck cancer history, radiation and surgery
- Head and neck trauma
- Mechanical obstruction (endotracheal tube, tracheostomy)
- Prolonged intubation (if pt has been intubated for longer than 48 hours, he/she may need over 24-48 hours to recover a normal swallow function).
- Hoarseness, weak cough, weak vocal cord adduction. Poor airway protection.
- Patients with feeding tubes (NG and PEG)
- GI factors: nausea and vomiting, GERD, gastroparesis, small-bowel obstruction, hiatal hernia, tracheoesophageal fistula, Zenker’s diverticulum, esophageal motility problems, achalasia

#### **Risk factors for getting sick with aspiration pneumonia or pneumonitis:**

- Bed-bound status, head of bed lower than 45 degrees (1-5)
- Institutionalization (1, 5)
- Decreased alertness (3, 4)
- History of dysphagia, dependent for feeding (2, 3, 5)
- Compromised nutritional status, lower BMI (3, 5)
- On a modified diet (2, 3, 5)
- GERD (2, 3, 4, 5)
- Multiple medical diagnoses (gastrointestinal, neurological, and respiratory) (2, 3)
- History of aspiration pneumonia (5)
- UTI (3)
- Enteral feeding (tube-fed patients) (2, 3, 4). Risk for pneumonia over four times greater in the high-aspiration group than in the low-aspiration group when analyzing aspiration of gastric contents (4).
- Dependent for oral care (2)
- Poor-decayed dentition (2)
- Number of medications (2)
- Requires suctioning (3)
- Smoking (2)
- High sedation level, use of paralytics (4)

#### **Criteria for a potential referral for a Bedside Swallow Evaluation from a**

## Speech-Language Pathologist (SLP):

- Failed Nursing Swallow Screen
- Identified on admission as being at risk for aspiration and aspiration pneumonia/pneumonitis
- History of aspiration, dysphagia, previous swallow testing, and/or on a modified diet
- History of aspiration pneumonia
- History of health problems related to dysphagia  
Patient or family report (i.e., coughing with liquids, food stuck, pain with swallowing, etc.)
- Obvious signs/symptoms of choking/coughing during and/or after a meal, snack, or med pass
- Drooling
- Spillage of food/liquid out of mouth and/or pocketing of food/liquid in cheeks
- Wet-gurgly vocal quality, not managing secretions
- Change in eating amount, rate, or appetite
- Unexplained weight loss
- Difficulty breathing while eating, increased congestion during/after meal

## Steps for patient safety:

### **SUSPECTED PRANDIAL ASPIRATION (due to oropharyngeal and/or esophageal dysphagia)**

- On admission, MD will determine if patient has had a history of aspiration, aspiration pneumonia, dysphagia, a modified diet at baseline, or has been seen in the past by a Speech-Language Pathologist for a Bedside Swallow Evaluation or a Modified Barium Swallow study.
- MD may directly order a Bedside Swallow Evaluation by the Speech-language Pathologist to assist in differential diagnosis of oropharyngeal vs. esophageal dysphagia and of prandial vs. non-prandial aspiration.
- Criteria for ordering a Nursing Swallow Screen:
  1. All acute stroke patients,
  2. Pneumonia admissions,
  3. Dementia, Parkinson's, Multiple Sclerosis, and other neurological diseases that would predispose the patient to dysphagia and aspiration.
  4. Extubated patients when they are 24 hours post-extubation.
- NPO until a Nursing Swallow Screen is completed, even prior to any P.O. meds. Swallow screen has *exclusion criteria* that will note if it is too risky to give three ounces of water at one time. For example, if a patient has a known history of dysphagia, aspiration pneumonia, and is already on thickened liquids at a nursing facility, the nursing swallow screen will note that. The patient will then be excluded from the 3-ounce water section of the screen. If the patient is lethargic, not managing secretions, or if his tongue is significantly weak with slurred speech, he will also be excluded. In the exclusion section, the nurse will check off SLP evaluation or Re-screen within 24 hours when the patient is more alert. Order Bedside Swallow Evaluation by the Speech-Language Pathologist if the patient is excluded or fails the 3 oz water screen.
- Thin liquids can be easily aspirated without significant overt signs. Avoid all thin liquids if aspiration is suspected until further evaluation is performed by the SLP. Ice cream, popsicles, and Jello are all thin liquids.
- Place patient on Aspiration Precautions:
  1. Aggressive oral care before and after meals.
  2. Sit up at 90 degree angle in bed or chair for meals, or follow specific positioning guidelines per the Speech-Language Pathologist. Stay up 30 minutes after meal. Then 45 degree angle at all times.
  3. Set-up suction in the patient's room
  4. Monitor lung sounds and temps, especially after meals.
  5. Monitor intake and offer supplements or between meal snacks as needed.
- Hang Aspiration Precautions sign in room.
- Set-up suctioning supplies in room.
- Consult RD if pt's dysphagia is causing difficulty in meeting daily nutritional needs.
- Ensure appropriate diet order in Meditech/CPOE. Diet recommendations may be based on SLP and RD (dietitian) recommendations. Diet order includes: solid consistency, liquid consistency, supplements, swallow strategies, recommendations for medication administration, and level-of-

supervision needed. This diet order can be upgraded or downgraded by the SLP. (See Diet Order Privileges policy)

- MD will read and co-sign the Speech/Swallow Plan of Care (diet recommendations) in the electronic medical record (EMR) within 24 hours, as per the policy. RN will acknowledge the order in EMR. Speech/Swallow Plan of Care will be updated as needed per follow-up swallow testing.
- SOLIDS: (National Dysphagia Diet classifications)
  1. Puree (homogeneous-smooth and moist texture)
  2. Dysphagia Ground (ground meat with gravy, soft/mechanically altered soft solids that require some chewing, but can still be managed by an edentulous patient)
  3. Dysphagia Advanced (whole meat that is cut-up small and thinly sliced, soft foods that require more chewing)
  4. Regular Diet (no modifications)
- LIQUIDS:
  1. Pudding thick (thickest liquid; must be thickened to this level on the floors with thickener powder; must be spoon-fed)
  2. Honey thick (pre-thickened liquids available in water, juices, and milk products)
  3. Nectar thick (pre-thickened liquids available in water, juices, and milk products)
  4. Thin liquid (no changes in viscosity of the liquid)
- Follow level-of-supervision recommendations for mealtime (determined by staff and/or SLP).
  1. 1:1 Assistance for total feed or helping the patient feed themselves
  2. Close Supervision (frequent checking and cueing the patient to use strategies/maneuvers)
  3. Distant Supervision (check on patient at least 2-3 times or have the patient eat near the nurse's station)
  4. Set-up only (patient can feed him/herself but may need containers opened and tray set-up)
  5. Independent
- SLP will create a **red swallow guide** for the patient's room with the following features: solid consistency, liquid consistency, medication delivery, level-of-supervision required, positioning, swallow strategies, and maneuvers to increase safety of oral intake. **Red tray mat** is provided by food services on the tray when patient is on a dysphagia diet and/or thickened liquids.
- SLP will notify RN and MD regarding the findings of a bedside swallow evaluation and/or modified barium swallow study and document in the medical record.
- SLP and RN will notify food services personnel when there is a change in the patient's diet.
- RN will document in the patient's medical record the amount of meal consumed. Document level of assistance required and details on how the patient tolerated the meal (i.e., record any coughing or patient complaints about the liquids, solids, and/or pills).
- RN and/or MD will document in the patient's medical record when the patient has a witnessed aspiration event. Record what the patient was consuming or other details surrounding the event (i.e., lethargy, consistency of food or liquid, patient positioning, tube feeding running, vomiting undigested food, etc.).

#### **REFLUX ASPIRATION (due to reflux of gastric contents or tube feedings, vomiting)**

- Obtain details regarding reflux or vomiting event from patient, family, caregiver, facility, etc.
- Obtain patient GI history.
- Document quantity and consistency of emesis (i.e., bile, undigested food).
- Head of bed elevated at 45 degree angle. Reverse Trendelenberg posture.
- If clinically vomiting and abdominal wall distention, and if no contraindications, then consider Intermittent Low Wall Suction (ILWS).
- Check for residuals on tube feedings per nursing guidelines.
- Determine if the patient can protect the airway.

#### References for policy and clinical guidelines:

(1): Strachan, P., Solomita, M. (Sept 2007). Aspiration syndromes: Pneumonia and pneumonitis -- Preventive measures are still the best strategy. *The Journal of Respiratory Diseases*, 28 (9), 370.

(2): Langmore, S., Terpenning, M., Schork, A., Chen, Y., Murray, J. et al. (1998). Predictors of aspiration pneumonia: How important is dysphagia? *Dysphagia*, 13, 69-81.

(3): Langmore SE, Skarupski KA, Park PS, Fries BE. (2002). Predictors of **aspiration** pneumonia in nursing home residents. *Dysphagia*, 17, 298-307.

(4): Methany, N.A., et al. (2006). Tracheobronchial aspiration of gastric contents in critically ill tube-fed patients: Frequency, outcomes, and risk factors. *Critical Care Medicine*, 34(4), 1007-1015.

(5): Susarla, S. & Saito, H. (June 2013). Characteristics & risk factors of aspiration pneumonia: Case-control study. *Noon Conference*. Lecture conducted from Steward Carney Hospital, Dorchester, MA.