Bureau of Quality Improvement Services (BQIS)

Malpositioned Feeding Tubes

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Malpositioned Tube:
A tube for which the tip is no longer in the stomach or small intestine, but instead in the peritoneal cavity. Early diagnosis of a Malpositioned feeding tube can be life saving. Delays in recognition may result in extended illness and/or death.

Introduction and Purpose

- **It is the expectation of BQIS that providers familiarize themselves (and their staff) with this information through communication and training efforts.**
- **This issue was identified during mortality reviews completed during the third quarter of the fiscal year 2012 (January through March 2012).**
- **This Risk Planning Resource is not intended to provide specific medical recommendations and interested parties should seek further clarification from trained medical professionals.**

General Background for Training Staff Regarding Feeding Tubes

For all staff/family caring for a person with a feeding tube, it is recommended that an in-service be provided regarding the use and care of the tube. Staff should not be involved in care and management of feeding tubes without thorough training and documentation of competency of the skills needed in tube feeding and tube maintenance. Training includes a variety of issues, including assessment of the individual before, during, and after feeding.

Due to the complexities of feedings through feeding tubes, the provider agency should have a policy/procedure with protocol for use of the feeding tube, based on the background education of the staff involved in providing feedings (RN, LPN, direct support staff, family members, others). There are many good sources of information available in developing policies/procedures and training programs. The policies/procedures and training should address such topics as baseline information (type of tube, volume of water in the balloon, etc.), positioning of a person during and after feeding, and staff guidance when there is nausea/vomiting, aspiration, diarrhea, tube clog, tube dislodgment (fell out or pulled out), constipation, GI bleeding, feeding pump failure, malpositioning, migration causing gastric outlet obstruction, infection at ostomy site, buried bumper syndrome, tube leakage, and chronic care management.

This document should be further refined in an individual- specific risk plan that can be used for training purposes and as a reference for the staff in all locations (e.g., home, day program, etc.) involved in the person's care.

The direct support staff in-service should include training on preventing displacement/ dislodged of the feeding tube (the tube comes out of the body and is found in the bed, etc.). The training should also instruct staff on what to do to preserve the ostomy opening (e.g., send person to the ER, LPN or RN to replace with foley catheter temporarily until seen by PCP or in ER, etc.).

Malpositioned Tube—An Emergency

It is also recommended that direct support staff be trained on the signs and symptoms of a malpositioned feeding tube (a tube for which the tip is no longer in the stomach or small intestine but is instead in the peritoneal cavity). Direct support staff may or may not be directly involved in feeding formula administration, but everyone should be alert to complications of feeding. A feeding tube that is outside the stomach/small intestine, but is inside the abdomen is life threatening. An early diagnosis of a malpositioned feeding tube can be life saving. Delays in recognition may result in extended illness and/or death.

All staff should be knowledgeable about historical facts ('red flags') that may place a person at increased risk for feeding tube malposition. This should alert staff to increase monitoring and be more attentive to early changes in health status. When a person has a feeding tube, direct support staff/family members should have a knowledge and understanding of this information.

Malpositioned Tube—An Emergency (cont.)

Some examples of 'red flag'/high-risk scenarios include:

- Placement of a feeding tube within the first 30 days, during which time the tube is partially removed, or dislodged totally, needs to be replaced in the ER/hospital setting, not in a home setting, with radiologic verification if possible before introducing fluid/formula;
- If the person has behaviors of pulling at the tube or manipulating it (e.g., twirling the tube, etc.), this may result in a malpositioned tube and not completely dislodged;
- If the tube was 'snagged' on clothing, a bedrail, etc., and was pulled tight, it may have moved internally and become malpositioned, yet not completely dislodged;
- If the person was left unsupervised with a recently placed feeding tube, this increases the risk of dislodgement or malposition. The person may have pulled the tube out partially;
- An ace wrap or dressing over the ostomy site found removed (other than by staff) within the prior 24- 48 hours is a concern. This may suggest a need to monitor closely and measure the length of the external tubing, as this suggests that the tube may have been manipulated;
- Whenever a tube is replaced, there needs to be heightened monitoring of the person for approximately 48 hours;
- If a tube has been replaced in the past without difficulty, but the most recent replacement was a difficult or prolonged procedure, this suggests the need for increased monitoring, and verification by radiologic testing;
- If there is a change in the feeding flow rate, such as new onset slowing of the rate of flow, (flow by gravity drip is now slowed, or automatic pump flow keeps setting off alarms), then the tube needs further assessment. The tube could be clogged, kinked, malpositioned, etc.;
- If there is a recent history of forceful/strong coughing episodes (this could push the tube partly out of the stomach/small intestine), the external tube length should be measured to ensure it has not been partially expelled. The person should also undergo more intensive monitoring for 24-48 hours.

Signs/Symptoms to Look for/Monitor and Document When they Occur

- Discomfort when feeding – grimacing, moaning
- Pain in abdomen
- Fever
- Pallor/cold sweat
- Fast heart rate
- Difficulty breathing
- Fullness/distention in abdomen
- Decreased bowel sounds
- Dry heaves, retching, vomiting
- Tugging at tube when the individual normally did not have that habit
- The tube appears to be of a different length than usual – either too short or too long
- New and unusual drainage from the tube
- New or copious leakage from around the tube, especially if bloody
- Inability to flush with warm water
- Bulging of the tube when feeding bolus attempted

For flushing of a tube with slow or no flow rate:

1. ***Flush the tube using a 60 cc syringe filled with warm water.***
2. ***For G tubes (not J or GJ tubes), pull back on syringe, and flush again.***
3. ***If there are no results, and tube remains clogged or slow rate continues, then contact the PCP.***
4. ***Do not force feed formula or medications into the tube.***

Steps to be Taken When There Are These Warning or News Signs and Symptoms

- Contact the provider agency nurse or primary care physician (PCP) office immediately for further instruction!
- Begin vital signs every 4 hours once tube difficulties are identified or signs/symptoms of discomfort/health changes occur, until resolved or transported to ER. Even after returning from the ER, continue vital sign monitoring for 24-48 hours to determine and document resolution of the problem. This does not need a physician order but is an excellent monitoring tool to identify early changes in health status. Should the PCP or nurse be contacted, it would be important to have vital sign measurements available as part of the discussion.
- Record urine output per shift. This does not require a physician order but is an excellent monitoring tool to ensure appropriate hydration. It provides important information to the nurse and PCP if there is a drop in urine output despite feeding formula administration and water flushes.
- Check the record for any recent replacement (within prior 48 hours) of the feeding tube. Determine if a Gastrograffin or other radiologic study was completed to verify correct placement. If this cannot be found, contact the ER/hospital/clinic to resolve gap in information.
- Measure the length of the exposed tube and record in a log chart (see next section (Preventive Steps). Compare the findings and report any differences immediately to the nurse or PCP.

Preventive Steps

The following list includes a variety of options for the provider agency to consider in completing a risk plan for feeding tube care, maintenance and

Steps to be Taken (cont.)

steps to be taken when there is a change in health status. The list is not exhaustive, but represents a first step in determining preventive measures to be taken as well as health status monitoring by staff in the home. These are especially important when 'red flag'/high-risk scenarios occur.

- Mark with permanent maker where tube exits the body, about 1 inch from the skin surface.
- Measure length of exposed tube. Record in a log chart prior to each feeding. This log chart should be available to all staff. If a change (the tube is too short or too long), contact the provider agency nurse or individual's PCP.
- Measure gastric residual. Record in a log chart prior to each feeding. This log chart should be available to all staff. (Note: residuals are not indicated for jejunostomy or gastrojejunostomy tubes but are indicated for those with gastrostomy tubes. Ensure the staff understand the type of tube that is placed in the person.)
- If no return, **for G tubes (not J or GJ tubes),** flush with 10 cc water to ensure tube is not clogged, and draw back again for residual.
- Consider measuring the abdominal girth every shift or every 8 hours when there is a change in health status. Mark the skin to ensure measurement at same level for each reading. This may be done when there is discomfort/pain, abdominal fullness, change in vital signs, difficulty in feeding formula rate of administration, clogging, etc.
- Make sure there is no clamp obstructing the tube.
- The provider agency should have policies/procedures/protocols concerning chronic care and maintenance of feeding tubes such as clogging and unclogging of feeding tubes, measuring tube length, dressing changes at ostomy site, use of ace wraps and other barriers to tube manipulation, steps to be taken when the feeding rate slows, etc.
- Provider agencies should be able to provide evidence of competency -based training in these areas.
- Ensure tube is anchored properly and out of sight of the person. Special attachment devices, special clothing, barrier dressings/ace wraps, or taping of the tube to the body or clothing, etc. should be reviewed frequently, depending on the person's activity.
- Status should be recorded each time of feeding.
- Train staff at least annually on feeding tube care/maintenance/ evaluation of person while feeding/assessment and monitoring of person to prevent and identify complications of enteral feeding.
- Malpositioning is an important area of feeding tube training due to the serious effects if delays in recognition occur.

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Resources

- http://www.oralcancerfoundation.org/dental/peg_complication_chart.htm (PEG complication chart)
- HEN Complication Chart at http://www.oralcancerfoundation.org/dental/peg_complication_chart.htm
- Malposition of percutaneous endoscopic-guided gastrostomy: Guideline and Management, Journal of Minim Access Surg, S Milanchi, et al., 2008 Jan – Mar; 4 (1): 1-4
- State of Connecticut Department of Developmental Services, Nursing Protocol #NP 09-1: Care of Persons with Gastrostomy Tubes: www.ct.gov/dds/lib/dds/health/np_09_1gastrostomy_tubes.pdf