

**STATE OF CONNECTICUT
DEPARTMENT OF DEVELOPMENTAL SERVICES
NURSING PROTOCOL # NP 09-2**

Care of Persons With Jejunostomy Tubes Or Gastrojejunal Tubes

Issue Date: March 2009

Implementation Date: May 1, 2009

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Purpose:

This protocol is designed to establish the minimal best practice standards of nursing care for licensed nurses supporting persons served by the department who have jejunostomy or gastrojejunal tubes in place.

Applicability:

This protocol applies to all licensed nurses employed by the Department of Developmental Services (DDS). All private residential and/or day providers licensed or funded by DDS shall adopt this protocol or develop a substantively similar protocol that meets accepted standards of nursing practice.

Introduction:

An increasing number of persons with intellectual/ developmental disabilities have their nutritional needs met through the use of an enteral feeding tube that delivers nutrition, fluids, and/or medications into a section of the person's small intestine known as the jejunum. This method can be accomplished in a number of ways. The first is the surgical insertion of a balloon-tip jejunostomy tube or j-tube directly into the jejunum. The second method involves the use of an endoscope or fluoroscope to visualize the internal organs as a tube is percutaneously (through the skin) placed in the jejunum. This is referred to as a PEJ tube. Another method involves the insertion of a tube through a gastrostomy into the jejunum. This type of tube is referred to as a gastrojejunal or g/j tube. The last method, called the Roux-en-y jejunostomy involves the surgical creation of a limb or pouch in the jejunum that is appropriate for the intermittent insertion of a feeding tube for a small bolus feeding. Persons with enteral feeding tubes are at risk for the migration and malpositioning of those tubes. Several methods have been identified in the past to check tube placement such as the insertion of an air bolus followed by auscultation, the observation of aspirated jejunal contents and/or checking the pH of these contents. Current literature indicates that radiologic confirmation is the only reliable method to confirm jejunostomy tube and gastrojejunal tube placement. This confirmation of the placement of the tube shall be done following the initial insertion of the tube and when the tube is replaced. At these times, the baseline identification of the tube marking at the level of the skin or a baseline measurement of the tube length from the skin to the end of the tube shall be identified. Prior to each tube feeding or the administration of medication or water through a j-tube or g/j tube, the placement of the tube shall be checked. The DDS Health Services Directors have determined that the minimal standard method of checking j-tube or g/j- tube placement that shall be expected to be performed is by the visualization and comparison of tube markings or the measurement of tube length outside the skin if there are no markings on the tube. These methods were identified based upon best practice standards currently identified in literature to be more effective. These methods may be combined with other measures as prescribed by the person's health care provider.

It is important to mention at this juncture that RNs and LPNs are not permitted to replace/reinsert jejunostomy or gastrojejunal tubes as this responsibility has been identified to be outside the scope of practice for these nurses per the decision of the Connecticut Board of Examiners for Nursing. In the instance of a person with a Roux-en-y jejunostomy that requires frequent reinsertion of a feeding tube a waiver may be obtained from the Board that allows trained licensed nurses to perform this care.

This DDS protocol was developed with the assistance of Lisa Baker APRN who shared her expertise in gastroenterology and provided information resulting from an extensive review of the current literature on enteral access feeding tubes. This protocol incorporates evidence based practices that have been identified to promote optimal outcomes.

Definitions:

Balloon tip tube- a type of feeding tube that has a balloon on the distal end that is filled with water to keep it in place. It also has an external disk or bumper that allows for stabilization.

Bolus feeding- the method of delivering enteral feedings using a limited amount of nutritional product that is administered over a span of 15-30 minutes several times per day. This method of feeding is not usually recommended for persons with a jejunostomy tube as the intestine cannot hold the same volume that the stomach can.

Continuous feeding- the method of delivering nourishment that involves the drip of formula by gravity or assisted by a pump in an ongoing manner over a specified number of hours into a gastrostomy, jejunostomy, or gastrojejunal tube

Endoscopy: A procedure in which an instrument containing a camera is inserted into the gastrointestinal tract to visualize organs. This procedure is one of the methods used in the percutaneous placement of g-tubes, j-tubes and g/j tubes.

Enteral feeding tube: a feeding device placed into the stomach or jejunum through which formula, fluids and/or medication are given to a person as an alternative to oral feeding.

Gastrojejunal – a type of tube for nutritional support that is inserted into the jejunum through an established gastrostomy. It is also referred to as a g/j-tube or transgastric tube. This type of tube has 2 or more lumen or openings. One port leads to the stomach, one to the jejunum and the third is for the insertion of water into the balloon to hold the tube in place.

Percutaneous endoscopic jejunostomy - a type of j-tube placement for nutritional support that occurs with the aid of endoscopy to visualize the jejunum so that a tube can be threaded through a small opening made in the abdominal wall into the jejunum. It is also known as a PEJ tube.

Roux-en-y jejunostomy- a type of j-tube placement for nutritional support that involves the surgical creation of a short limb or pouch in the jejunum that is sutured to an opening in the abdominal wall to create a stoma. This type of procedure allows for the eventual use of a skin level device such as a button feeding tube in place of a traditional tube.

1. COMPONENTS/ COMMON CAUSES NECESSITATING J-TUBE or G/J-TUBE PLACEMENT

- a. Dysphagia and/or medical conditions that compromise swallowing ability
- b. High risk aspiration
- c. Gastric dysfunction due to disease, trauma, or surgery
- d. Poor gastric motility, Gastroparesis, or impaired gastric emptying
- e. Gastroesophageal reflux

2. NURSING DIAGNOSES:

- a. Risk for imbalanced nutrition related to less than body requirements due to mechanical problems or dislodgement of tube
- b. Risk for infection related to impaired skin integrity

3. NURSING INTERVENTIONS/ PLAN:

- a. Immediate Post-operative period to Discharge

- (1) Actively participate in the discharge planning for the person to understand needs of person, anticipated date of discharge, and to identify issues that impact may discharge (i.e., need for temporary skilled nursing facility placement)
- (2) Participate with the person's planning team in the modification of the person's individual plan that reflect changes in support/ resource needs (i.e., nursing, staff) and/or ability to return to the home
- (3) Identify supply needs and providers (e.g., nutritional product(s), feeding supplies, spare tubes, IV pole, syringes, dressings, measurement devices for abdominal girth measurement)
- (4) Identify training needs of nurses and/or staff and timeframe for addressing these needs

Training Topics for LPNs and/or delegated staff as applicable to scope of practice and appropriate to consumer need

- Observational skills especially signs and symptoms that indicate change of condition, tube blockage/dislodgement/changes in tube integrity, and/or abnormal response/change in response to feeding)
- Reporting responsibilities
- Documentation/ data collection
- Universal precautions and Infection control considerations
- Type of tube, reason for tube, type of nutritional product, method of administration (i.e., continuous via pump or gravity), tube flushes, and safety considerations (e.g., NPO status, movement and transfer considerations, bathing considerations, aspiration precautions [head elevated at least 30 degrees], other positioning requirements and observing of tube integrity and/or presence of kinks in tube)
- Nursing and/or delegation procedures as applicable (e.g., checking tube placement [Refer to Appendix A and B], tube flushes, administration of fluids, and/or medication; pump operation including troubleshooting and connection/ disconnection, abdominal girth measurement, stoma care)
- Medication Administration concerns (e.g., use of liquid forms of medication, alteration of medication [dissolving tablets, opening capsules, crushing medications] and those that cannot be altered (i.e., enteric coated, time released), medication interactions with nutritional formulas and/or other medications)
- Oral hygiene needs
- Bowel monitoring
- Training specific to persons with Roux-en-y jejunostomy tubes as applicable (i.e., insertion of tube as prescribed, administration of feedings)

b. Re-admission to home (Some of these tasks may be completed prior to person's discharge, delegated to trained staff as appropriate, or completed by the RN within 2 working days of discharge as per DDS Nursing Standard # 08-1, Nursing Process)

- (1) RN assessment of person following discharge to identify new "baseline" (e.g., identify skin integrity issues, note infections, measure abdominal girth, identify tolerance of prescribed nutritional support, document tube markings, determine current weight). At time of re-admission, the RN may direct trained staff to complete a body check to document presence of obvious skin alteration, measure abdominal girth/ document tube markings and/or check current weight until the nursing assessment is completed.
- (2) Document type of tube and manufacturer as well as amount of water in balloon (as appropriate)
- (3) Identify procedure for checking tube placement that utilizes tube markings and/or measuring length of tube to compare to baseline prior to administration of feedings, medications or water (Refer to Appendix A)
- (4) Identify procedure for addressing mechanical problems/tube clogging

- (5) Identify actions and provider for reinsertion of tube as needed (**Reinsertion of j-tubes and g/j-tubes cannot be done by a licensed nurse per CT Board of Examiners for Nursing. Tube replacement must be done with radiologic verification**)
- (6) Inform RN On Call of the person's change in status, the potential for concerns, and the planned responses that have been identified for the person
- (7) Obtain Dietary consult to ensure that nutritional needs are identified and met
- (8) Determine need for physical therapy consultation regarding positioning considerations and/or equipment needs
- (10) Contact PCP to determine blood work needs and frequency
- (11) Modify procedures, directions, etc. based on changes identified following discharge
- (12) Identify and provide additional training as appropriate to person

Training Topics for LPNs and/or delegated staff as applicable to scope of practice and appropriate to consumer need

- Changes in person's baseline
- Additions and/or changes to previously provided trainings
- Baseline tube graduation markings/ tube length and abdominal girth
- Plan and provider for tube replacement

c. **Chronic Care Management**

- (1) Periodic and PRN assessment by RN of skin integrity
- (2) Monitor response to prescribed treatment plan
- (3) Monitor tube function, changes to markings
- (4) Monitor stoma site for signs of infection, leakage
- (5) Monitor weight status
- (6) Monitor prescribed blood work
- (7) Identify schedule of tube replacements and process for scheduling these at the identified site
- (8) Record new baselines with change of tube as well as type, size, and amount of water in balloon (as applicable)
- (9) Review of documentation (e.g., medication administration, tube markings)
- (10) Obtain periodic Dietary consult as appropriate to needs of the person
- (11) Modify delegated procedures as necessary
- (12) Provide training/re-training as necessary

Training Topics for LPNs and/or delegated staff as applicable to scope of practice and appropriate to consumer need

- Periodic required retraining (i.e., signs and symptoms that includes observational skills, infection control and universal precautions, documentation/ data collection)
- Periodic retraining/observation of nursing skills/ delegated responsibilities to ensure continued competence
- Training topics related to changes in prescribed care
- Frequency of planned tube replacements

d. **Management of Acute Issues related to**

- (1) Compromised skin integrity
 - (a) Sensitivity at site
 - Signs include redness, itching without sign of infection
 - Causes- Irritation from leakage at g-tube site, lack of hygiene, bumper too tight on skin, moisture retention due to dressing
 - Action- good hygiene at site, monitor for infection, contact doctor if persists

- (b) Infection
 - Signs include redness, inflammation, heat at site, fever, discharge
 - Causes- poor asepsis at insertion or contamination of tube or insertion site secondary to poor technique or hygiene, co-morbidities include: Diabetes, obesity, malnutrition , chronic steroid therapy
 - Action- good hygiene at site, question need for wound culture, contact doctor for treatment

- (c) Excoriation
 - Signs include: redness, irritation, skin damage
 - Causes- leakage of gastric fluids at site
 - Action- good hygiene, evaluation of amount of leakage, repositioning, consideration of need for change of tube, contact doctor for treatment, possible wound consult)

- (d) Overgranulation
 - Signs- pink to red overgrown tissue, bleeding,
 - Causes- friction or chaffing around stoma or tube dragging downwards causing the tissue to fill in/grow around the gastrostomy opening
 - Action- good hygiene at site, handle tube gently and position above the stoma, contact doctor for treatment (e.g., acid blocking medication, ointments or cream to site, Silver nitrate around the stoma, possible wound consult, wound culture)

- (e) Buried Bumper Syndrome
 - Signs- ulceration, bleeding, leakage, infection, catheter immobility, pain with infusion or resistance to infusion
 - Causes- complete or partial growth of tissue over the internal bumper secondary to tight opposition of external bolster against abdominal wall, malnutrition, poor wound healing, significant weight gain
 - Action- Medical attention to confirm condition and remove imbedded bumper; Prevent by rotate tube with regular site care,

(2) Tube leakage

(a) Signs-

- Enlarged stoma opening
- Excessive moisture at stoma site with or without skin redness or excoriation
- Saturated dressings requiring frequent changing

(b) Causes-

- Weight changes (+/- 10 lb) can alter the tension on the bumper and can cause leakage.
- Underinflated balloon
- Incorrect positioning of g-tube
- Constipation that delays gastric emptying

(c) Actions

- Re-position tube (above the stoma, not tucked in underwear as necessary)
- Check balloon and inflate to prescribed level
- Administer treatment for constipation as prescribed
- Good hygiene to site; Apply absorbent dressing and change frequently, consider benefit of commercial clamping device to prevent side to side motion, removal of tube and replacement after stoma heals

(3) Clogged or malfunctioning tube

- (a) Signs
 - Nutritional product, fluids, and/or medication unable to get into tube
 - Not able to withdraw contents
 - (b) Causes
 - Medications that were not dissolved/ crushed small enough
 - Inadequate flushing of tube
 - Interactions of incompatible medications administered at the same time
 - Deterioration of tube or balloon
 - Burst balloon that is blocking the tube
 - Kinking of tube
 - (c) Action
 - Administer medication one at a time and flush in between; flush between feeding and medications
 - Use liquid medication form as possible; finely crush and/or melt medications
 - Use of warm water, carbonated beverage such as Coke, or Pancreatic enzymes dissolved in bicarbonate solution
 - Check for kinking of tube/tubing
 - Send person to identified physician, radiologist, or emergency department for re-insertion or replacement of tube
 - Flush J-tubes with warm water at least every 4 hours to help prevent future clogging
- (4) Loss of tube
- (a) Signs- tube “fell out” or was “pulled out”; change in the appearance of gastric residuals
 - (b) Causes-
 - Balloon deflation/ deflation of internal fixation device
 - Tube failure
 - Tube accidentally lost due when positioning, etc.
 - Person pulled tube out
 - (c) Action-
 - Transfer person to identified site for re-insertion
 - Send replacement tube as appropriate to arrangement with facility
 - If “new tube” less than 4 weeks since insertion, seek medical intervention
- (5) Migration of tube
- (a) Signs- Abdominal distention, vomiting, pain
 - (b) Causes- Migration of the tube due to lack of being secured, too much
 - (c) Actions- Measure abdominal girth to check against baseline; Check tube markings, Seek medical care

Training Topics for LPNs and/or delegated staff as applicable to scope of practice and appropriate to consumer need

- Provide training on observational skills for issues noted above and action to be taken (emergent and non-emergent)

5. CRITERIA FOR MD REFERRAL:

- a. Changes in abdominal girth measurement significant for the person especially in combination with nausea, vomiting, abdominal pain, elevated temperature, and/or decreased bowel sounds
- b. Excoriation at stoma due to leakage
- c. Stoma infections
- d. Replacement of J-tube
- e. Suspicion of tube migration or buried bumper syndrome

6. CRITERIA FOR CONSULTATION:

a. LPN to RN

- (1) All changes in the individual's baseline, condition, vital signs, behavior, and/ or response to treatment that alter the current health care plan shall promptly be reported to the primary RN or RN on call.
- (2) All changes to the prescribed orders/ treatment plan shall be communicated to the primary RN or RN on call **prior** to implementation. If immediate implementation of orders is indicated, the primary RN or RN on call must be notified as soon as possible.
- (3) Specific considerations to be reported for an individual with a j-tube include:
 - Abdominal distention
 - Vomiting
 - Decreased or diminished bowel sounds
 - Questionable migration of tube as evidenced by change in external graduation markings
 - Evidence of infection at the stomal site
 - Medication administration or nutritional feeding issues
 - Loss of tube or tube blockage

b. RN-to-RN Supervisor

- (1) When symptoms do not resolve with medical or nursing intervention
- (2) Emergency treatment , hospitalization, and/or change in condition that may impact the type and/ or frequency of nursing support provided to the individual
- (3) Presence of infectious condition (e.g., MRSA)
- (4) Programmatic difficulties that can't be resolved at the RN level (staff compliance, resource difficulties, etc.)

7. RELATED NURSING/DELEGATION PROCEDURES AS APPLICABLE

- a. Stoma Care
- b. Continuous tube feeding
- c. Checking placement of jejunostomy tube by tube markings and/or measurement
- d. Flushes
- e. Administration of medication through tube
- f. Tube blockages
- g. Intermittent insertion of Roux-en-y jejunostomy tube and administration of feeding

8. DOCUMENTATION:

- a. Documentation in the nursing notes should reflect:
 - (1) The nurse's application of the nursing process specific to the needs of the person and the scope of practice of the nurse
 - (2) The care/ interventions provided to the person and his/her response
 - (3) Communications with others
- b. Documentation on records related to delegated responsibilities (e.g., medication administration records)
- c. Documentation of review of information related to delegated responsibilities performed by others

E. Appendix

- Appendix A- Checking Feeding Tube Placement by Comparison of Tube Markings
- Appendix B- Checking Feeding Tube Placement by Measurement of Tube Length

F. References

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