

Chapter 3: Care of the Gastrointestinal System

Overview

Gastrostomy Tube

Gastrostomy Tube Feeding

Skin-Level Gastrostomy (G-Button)

G-Button Feeding

Nasogastric Tube

Jejunostomy Tube

Jejunostomy Tube Feeding

Colostomy

Ileostomy

Ileoanal Reservoir

Gastrointestinal System

Overview

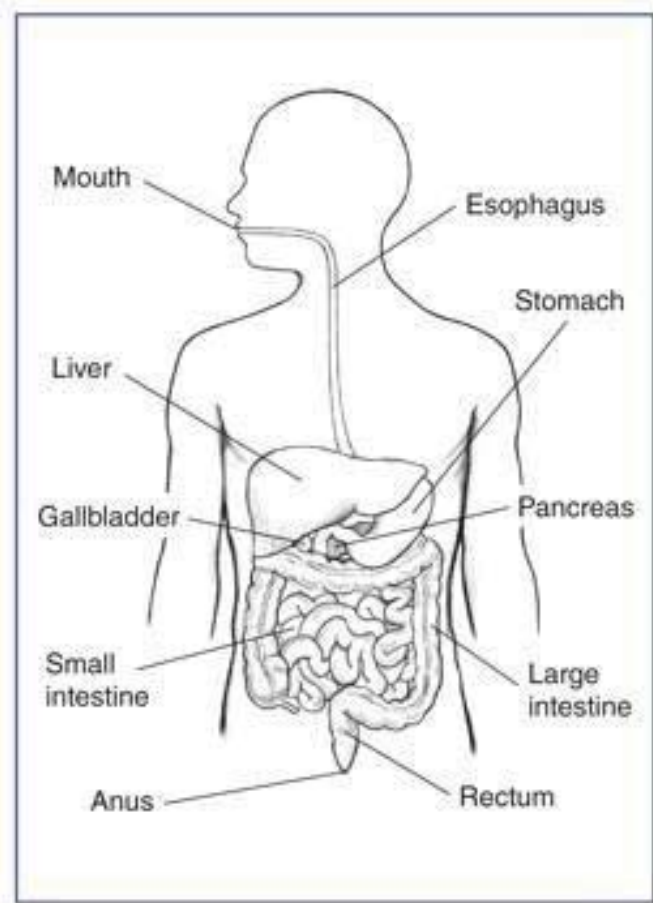
The gastrointestinal, or digestive, system consists of a series of hollow organs joined in a long, twisting tube from the mouth to the anus. Inside this tube is a lining called the *mucosa*. In the mouth, stomach, and small intestine, the mucosa contains tiny glands that produce juices to help digest food. Two solid organs, the liver and the pancreas, produce digestive juices that reach the intestine through small tubes. Digestion is the process by which food and drink are broken down into their smallest parts so that the body can use them to build and nourish cells and to provide energy. Digestion begins in the *mouth*, where the food is chewed into smaller pieces and then swallowed.

Movement of Food Through the System

The large, hollow organs of the digestive system contain muscles that enable their walls to move. The movement of organ walls can propel food and liquid and also can mix the contents within each organ. This movement of the esophagus, stomach, and intestine is called *peristalsis*. The action of peristalsis looks like an ocean wave moving through the muscle.

The first major muscle movement occurs when food or liquid is swallowed. Although we are able to start swallowing by choice, once the swallow begins, it becomes involuntary and proceeds under the control of the nerves.

The *esophagus* is the organ into which the swallowed food is pushed. It connects the throat above with the stomach below. At the junction of the esophagus and stomach, there is a ring-like valve closing the passage between the two organs. However, as the food approaches the closed ring, the surrounding muscles relax and allow the food to pass.



The food then enters the *stomach*, a curved, pouch-like organ, which has three mechanical tasks. First, the stomach must store the swallowed food and liquid. This requires the muscle of the upper part of the stomach to relax and accept large volumes of swallowed material. The second job is to mix up the food, liquid, and digestive juice produced by the stomach. The lower part of the stomach mixes these materials by its muscle action. The third task of the stomach is to empty its contents slowly into the small intestine.

As the food is digested in the *small intestine* and dissolved by the juices from the pancreas, liver, and intestine, the contents of the intestine are mixed and pushed forward to allow further digestion. The sections of the small intestine are the duodenum, jejunum, and ileum. Finally, all of the digested nutrients are absorbed through the intestinal walls. The waste products of this process include undigested parts of the food, known as fiber, and older cells that have been shed from the mucosa. These materials are propelled into the *large intestine*, also called the *colon*, where they remain, usually for a day or two, until the feces are expelled by a bowel movement through the *rectum*.

Production of Digestive Juices

The glands that act first in digestion are in the mouth--the salivary glands. Saliva produced by these glands contains an enzyme that begins to digest the starch from food into smaller molecules.

The next set of digestive glands is in the *stomach lining*. They produce stomach acid and an enzyme that digests protein. One of the unsolved puzzles of the digestive system is why the acid juice of the stomach does not dissolve the tissue of the stomach itself. In most people, the stomach mucosa is able to resist the juice, although food and other tissues of the body cannot.

After the stomach empties the food and juice mixture into the small intestine, the juices of two other digestive organs mix with the food to continue the process of digestion. One of these organs is the *pancreas*. It produces a juice that contains a wide array of enzymes to break down the carbohydrate, fat, and protein in food. Other enzymes that are active in the process come from glands in the wall of the intestine.

The *liver* produces yet another digestive juice--bile. Between meals, the bile is stored in the *gallbladder*. At mealtime, it is squeezed out of the gallbladder into the bile ducts to reach the intestine and mix with the fat in food. The bile acids dissolve the fat into the watery contents of the intestine, much like detergents that dissolve grease from a frying pan. After the fat is dissolved, it is digested by enzymes from the pancreas and the lining of the intestine.

Absorption and Transport of Nutrients

Digested molecules of food, as well as water and minerals from the diet, are absorbed from the upper small intestine. Most absorbed materials cross the mucosa into the blood and are carried off in the bloodstream to other parts of the body for storage or further chemical change. As already noted, this part of the process varies with different types of nutrients. Bacteria in the GI tract, also known as gut flora, help with digestion.

Carbohydrates

The digestible carbohydrates are broken into simpler molecules by enzymes in the saliva, in juice produced by the pancreas, and in the lining of the small intestine. Starch is digested in two steps: First, an enzyme in the saliva and pancreatic juice breaks the starch into molecules called maltose; then an enzyme in the lining of the small intestine (maltase) splits the maltose into glucose molecules that can be absorbed into the blood. Glucose is carried through the bloodstream to the liver, where it is stored or used to provide energy for the work of the body.

Protein

Foods such as meat, eggs, and beans consist of giant molecules of protein that must be digested by enzymes before they can be used to build and repair body tissues. An enzyme in the juice of the stomach starts the digestion of swallowed protein. Further digestion of the protein is completed in the small intestine. Here, several enzymes from the pancreatic juice and the lining of the intestine carry out the breakdown of huge protein molecules into small molecules called amino acids. These small molecules can be absorbed from the small intestine into the blood and then be carried to all parts of the body to build the walls and other parts of cells.

Fats

Fat molecules are a rich source of energy for the body. The first step in digestion of a fat such as butter is to dissolve it into the watery content of the intestinal cavity. The bile acids produced by the liver act as natural detergents to dissolve fat in water and allow the enzymes to break the large fat molecules into smaller molecules, some of which are fatty acids and cholesterol. The bile acids combine with the fatty acids and cholesterol and help these molecules to move into the cells of the mucosa. In these cells the small molecules are formed back into large molecules, most of which pass into vessels (called lymphatics) near the intestine. These small vessels carry the reformed fat to the veins of the chest, and the blood carries the fat to storage depots in different parts of the body.

Vitamins

Another vital part of our food that is absorbed from the small intestine is the class of chemicals called vitamins. The two different types of vitamins are classified by the fluid in which they can be dissolved: water-soluble vitamins (all the B vitamins and vitamin C) and fat-soluble vitamins (vitamins A, D, and K).

Passage of Wastes

The remaining undigested parts of food and older cells from the lining of the GI tract lining form the waste products of the digestive process. Peristaltic waves propel the wastes through

the large intestine where water is absorbed and wastes become solid stool. The rectum stores stool until it is pushed out of the body during a bowel movement.

Source:

National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health. (2013). *Your Digestive System and How It Works*. NIH Publication No. 13-2681. Available online at http://www.niddk.nih.gov/health-information/health-topics/Anatomy/your-digestive-system/Documents/Digestive_System_508.pdf

Van Dahm, K. (2012). *Pediatric feeding disorders: Evaluation and treatment*. Framingham: Therapro, 55-73.

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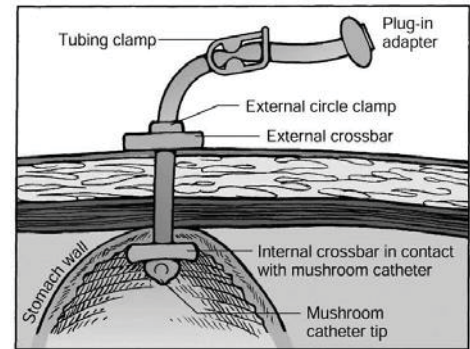
National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health. (2013). *Your Digestive System and How It Works*. NIH Publication No. 13-2681. Available online at http://www.niddk.nih.gov/health-information/health-topics/Anatomy/your-digestive-system/Documents/Digestive_System_508.pdf

Gastrostomy Tube

Overview

A *gastrostomy* is a surgically created opening into the stomach. A gastrostomy tube, commonly referred to as a G-tube, is a silicon or polyurethane catheter held in place by an external crossbar on the skin and by an internal stabilizer, balloon, or a retention dome (mushroom) inside the stomach. The tube can be placed initially by surgery or percutaneously (PEG).

The G-tube is used to administer fluids, food, and medication to the student. The G-tube feeding may be done by continuous or bolus feeds. Continuous feeds are given over a number of hours via slow drip and controlled by a feeding pump. Bolus feeds are specified amounts of feeds delivered over a short period of time (usually 15-30 minutes). The tube remains in the stomach at all times, but can be clamped between feedings to prevent leakage of stomach contents.



Some children do not tolerate the tube clamped. There should be directions in the child's feeding order specifying when to clamp the tube.

Gastrostomy tubes can be used to drain or vent stomach contents, but indications for long term use in students are usually due to:

- Need for supplemental calories due to increased needs from a disease process, such as cystic fibrosis or malabsorption disorders.
- Inability to consume adequate calories by mouth, which may be due to anatomical, behavioral, or psychosocial factors, such as esophageal atresia (incomplete development of the food pipe), failure to thrive, or cerebral palsy.
- Risk for choking and aspiration due to impaired swallowing or severe reflux.

Settings and Staff

Students can receive feedings anywhere. Many of the pumps are small and designed to be easily worn or carried in a back pack at all times. Bolus feeds should be done in a clean area because they are more open to the environment. Student's desire for privacy and possible need for stationary activities during a feed should be considered in determining where feeds will take place. Many students with G-tubes will receive their feeds during the night or at home, eliminating the need for any feeds during the school day.

Students who require venting or drainage of their G-tubes may need to have this done in a clean, private area such as the health office. Venting can also be achieved with the use of a Farrell bag with or without meals. G-tubes are usually covered by the student's clothing and do not interfere with normal school activities. Participation in physical education activities may require modification and are determined on an individual basis.

A G-tube feeding may be administered by the school nurse, family member, teacher, or other staff person who has received training in appropriate techniques and problem management. The student should be encouraged to assist with the G-tube feeding as much as possible. Excessive pulling on the G-tube should be avoided because it can cause pain and irritation to the gastric mucosa and or dislodgement.

School personnel who have regular contact with a student who has a G-tube should receive training covering the student's specific needs, potential problems, and implementation of the established emergency plan.

Individualized Health care Plan (IHP)

Each student's IHP must be tailored to the individual's needs. A sample plan is included in Appendix A. When preparing an IHP for a student with a gastrostomy tube, the following items should be considered:

- Underlying condition and possible problems associated with the condition or treatment
- Size and type of feeding device
- Length of G-tube outside of the body (important to know in determining whether G-tube has migrated either further into the stomach or out of the stomach)
- Health care provider's orders for care and use of the G-tube
- Whether the student receives bolus or continuous feeds
- Amount, type, and frequency of formula to be received
- Storage of formula
- How long formula may be used after container opened
- When the tube should be flushed, such as before and after administration of feeds or medications
- Amount (volume) and type of flush liquid
- Type of portable pump and its specific instructions
- Positioning during and after feeding
- Activity level during and after feeding

- Whether student should receive oral stimulation during feeding
- Measurement of gastric residuals, if needed
- Medication administration schedule, if needed
- Amount of food or drink a student can take by mouth
- Determining the need for venting of the G-tube
- Determining the need for clamping
- Patency of gastrostomy tract and time frame for reinsertion should the G-tube fall out
- Date tube was originally placed
- How to clean the site, if needed
- Actions to take if student has vomiting, abdominal distension, or pain
- Manufacturer's specific instructions for any supplies or equipment
- Feeding guidelines during student transport
- Latex allergy precautions
- Standard precautions

Sources:

Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (Third ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 249-260, 275-283.

Cincinnati Children's Hospital. (2012). *Gastrostomy tube (G-tube) home care*. Available online at <http://www.cincinnatichildrens.org/health/g/g-tube-care/>

Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE, 71-75.

Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children*. (10th ed.). St. Louis: Elsevier Mosby, 937-938.

National Library of Medicine. (2014). *Feeding tube insertion-gastrostomy*. MedlinePlus. Available online at <http://www.nlm.nih.gov/medlineplus/ency/article/002937.htm>

Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 211-219.

Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>.

Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1032-1040.

Simmons, Remmington R. (2013). The percutaneous endoscopic gastrostomy tube: A nurse's guide to PEG tubes. *Medsurg Nursing*, 22(2), 77-83.

Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 664-675.

Steller, JJ & L Bevington. (2004). *Buttons and bows: Understanding enteral devices*. Presentation at *GI Nursing: Regional Pediatric GI and Nutrition Nursing Conference*, Children's Hospital of Philadelphia, March 26, 2004.

Tkacz, Browne, N., Flanigan, L.M., McComiskay, C.A., Piper, P. (2013). *Nursing care of the pediatric surgical patient* (Third ed.). Massachusetts: Jones & Barlett, 101-112.

Illustration Source:

Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>

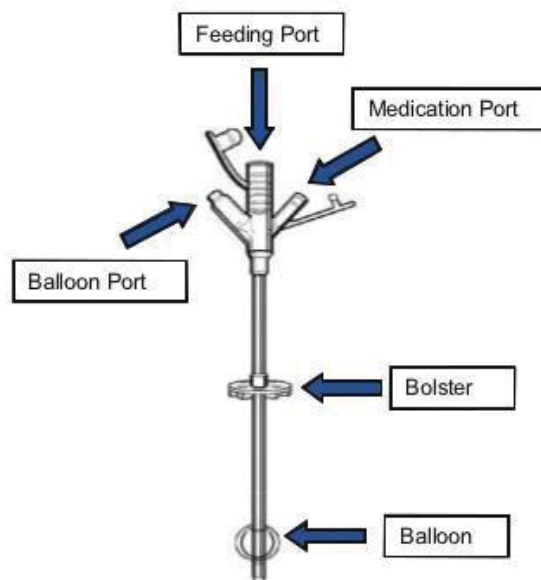
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Procedure for Gastrostomy Tube Feeding—Bolus Method

1. Wash hands.
2. Gather and assemble equipment:

Note: Equipment and feeding supplies are provided by family.

- Liquid formula or feeding solution, at room temperature
- 60 ml catheter-tipped syringe or other feeding container for feeding
- Clamp or plug far end of tube
- Water (to flush tubing before and after feeding)
- Rubber bands and safety pins (to secure G-tube to clothing)
- Gloves



Identify size and type of G-tube. Shake can well to mix formula and note expiration date. It is recommended that students receive a ready-to-feed commercial formula. Potential problems with a blenderized recipe include inaccurate mixing, which may alter the nutrients and calorie content; separation of solids and liquids in the solution, which may clog the tube; and increased risk of contamination due to improper handling, preparation, or storage. Usually opened formula must be used within 24 hours. Check student's IHP for storage instructions.

Tube feedings should be administered at room temperature. Some students get cramps if the feeding solution is too cold. If a blenderized formula is brought to school, it should be refrigerated until mealtime and warmed to room temperature. This may be achieved by holding the container with the formula under warm water for several minutes. A microwave should **not** be used for this procedure due to its uneven heat distribution.

3. Shake formula (to mix) and measure prescribed amount of formula to be infused.
4. Explain procedure using explanations the student can understand. Encourage the student to do as much of the procedure as is capable, so as to achieve maximum self-care skills.
5. Position student upright or as specified in student's individualized health plan (IHP).

Students usually sit (or may lie on their right side with their head elevated) during feeding. Tubing may be pinned to shirt. Make sure clamp is not pressing on skin.

Inspect skin at gastrostomy site for redness, tenderness, swelling or irritation, or presence of drainage or gastric leakage. *Report any suspicious or abnormal findings to school nurse and family.*

6. Wash hands and put on gloves.
7. Remove plug (cap) from G-tube and insert a catheter-tipped syringe into the end of feeding tube.

G-tube is still clamped. Do not pull on gastrostomy tubing as this can cause pain and injury to the site or dislodgement.

8. Check residual prior to feeding, if ordered. Checking residuals is typically NOT needed if gastrostomy is well established (over 6 weeks old). Unclamp the tubing and gently draw back on the plunger to remove any liquid or medication that may be left in the stomach (i.e., residuals). Return residuals to stomach.

Most students do not need to have residuals checked. If they do, note the amount that was withdrawn from the feeding tube and return the contents of the syringe to the stomach because stomach contents contain electrolytes and digestive enzymes. Removing them can result in electrolyte imbalance. Adjust the feeding volume according to health care provider's orders if a residual is present. If the residual is greater than recommended, hold feeding, wait 30-45 minutes, and check again.

9. Clamp the gastrostomy tubing, disconnect the syringe, and remove plunger from syringe.
10. Reinsert catheter tip of syringe into tubing.

Syringe should be held 6 inches above level of stomach or at prescribed height.

11. Unclamp tube, and allow bubbles to escape.
12. Flush g-tube before feeding or medication as prescribed, usually 15-30 ml tepid tap water. Follow student-specific guidelines.
13. Administer medication, if prescribed, either before or after a feeding, as ordered or specified in student's IHP. Use liquid medication, if possible. Flushing with water between each medication and not mixing the medications can help to prevent clogging of tube. If the liquid is thick, it might need to be diluted with a little water to prevent clogging.
14. Slowly pour feeding/fluid into syringe and allow to flow in by gravity.

If a container other than a syringe is used for the feeding, unclamp tubing and allow it to flow in by gravity, using the same procedure. The flow of feeding may need to be

initiated by placing plunger into barrel of syringe and depressing slightly to get it started (and then remove plunger).

Be alert to any unusual changes in the student's tolerance of the feeding. Nausea/vomiting, cramping, or diarrhea may indicate that the feeding is being given too quickly or formula is too cold.

15. Continue to pour feeding into syringe as contents empty into stomach. Keep syringe partially filled to prevent air from entering stomach.

Depending on the age and capabilities of the student, have him/her assist with the feeding by holding syringe or pouring fluid into it. Provide oral stimulation, if ordered.

16. Raise or lower syringe or container to adjust flow to prescribed rate.

The higher the syringe is held, the faster the feeding will flow into the stomach.

17. When feeding is completed, pour prescribed amount of water, usually 15-30 ml, into syringe and flush tubing. *This will clear tubing of feeding and medication.*

18. Open G-tube to air, if ordered.

Venting allows drainage of fluid or release of gas bubbles in the stomach. It may help if student has a problem with gas.

19. Clamp tubing, remove barrel of syringe, and reinsert plug into end of tubing.

Clamp tubing prior to removing the syringe or stomach contents may leak out of the tube.

20. Secure tubing and tuck inside clothes, but not inside diaper or underpants.

21. Refer to student's IHP for guidelines regarding positioning and activity after feeding. *Most students should remain upright for 30 minutes after feeding.*

22. Wash syringe and other reusable equipment in soapy water. Rinse thoroughly, dry, and store appropriately.

Open formula is good for 24-48 hours. Check label or student's IHP to determine how long it may safely be used. Open formula should be stored in the refrigerator in clean plastic containers (not the original can), labeled with the date it was opened. Discard any open formula after 48 hours.

23. Remove gloves. Wash hands.

24. Document feeding, any medication, residual amount, feeding tolerance, and any concern about gastrostomy site in student's log. Notify school nurse and family of any changes or concerns.

Sources:

Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (Third ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 249-260.

Cincinnati Children's Hospital (2012). *Gastrostomy feeding by syringe*. Available online at <http://www.cincinnatichildrens.org/health/g/g-tube-syringe/>

Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE, 71-75.

Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 937-938.

National Library of Medicine. (2014). *Gastrostomy feeding tube--bolus*. MedlinePlus. Available online at <http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000165.htm>

Nettina, S. (2013). *Lippincott manual of nursing practice* (10th ed.). Baltimore: Wolters Kluwer Health.

Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 211-216.

Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>.

Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1032-1040.

Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 664-675.

Wisconsin Improving School Health Services Project. (2015). *Gastrostomy tube bolus feeding*. Available online at http://www.wishesproject.org/?page_id=324/?tab=5

Illustration Source:

Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>

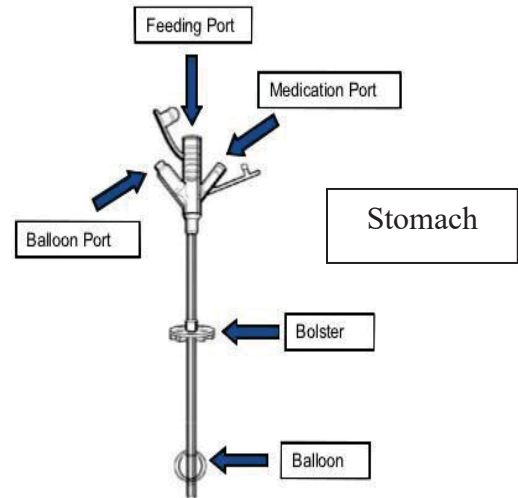
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Procedure for Gastrostomy Tube Feeding— Continuous Feeding by Pump or Slow Drip Method

1. Wash hands.
2. Gather and assemble equipment:

Note: Equipment and feeding supplies are provided by family.

- Liquid formula or feeding solution, at room temperature
- 60 ml catheter-tipped syringe or other feeding container for feeding
- Feeding bag and tubing
- Feeding pump and stand or carry-pack, if needed
- Clamp or plug for end of tube
- Water (to flush tubing before and after feeding)
- Rubber bands and safety pins (to secure G-tube to clothing)
- Gloves



Identify size and type of G-tube. Shake can well to mix formula and note expiration date. It is recommended that students receive a ready-to-feed commercial formula. Potential problems with a homemade blenderized recipe include inaccurate mixing, which may alter the nutrients and calorie content; separation of solids and liquids in the solution, which may clog the tube; and increased risk of contamination due to improper handling, preparation, or storage. Usually opened formula must be used within 24 hours. Check student's IHP for storage instructions.

***Tube feedings should be administered at room temperature.** Some students get cramps if the feeding solution is too cold. If a blenderized formula is brought to school, it should be refrigerated until mealtime and warmed to room temperature. This may be achieved by holding the container with the formula under warm water for several minutes. A microwave should **not** be used for this procedure due to its uneven heat distribution...*

3. Shake formula (to mix) and measure prescribed amount of formula to be infused.

4. Explain procedure using explanations the student can understand. Encourage the student to do as much of the procedure as is capable, so as to achieve maximum self-care skills.
5. Position student upright or as specified in student's IHP.

Students usually sit (or may lie on their right side with their head elevated) during feeding. Tubing may be pinned to shirt. Make sure clamp is not pressing on skin.

Inspect skin at gastrostomy site for redness, tenderness, swelling or irritation, or presence of drainage or gastric leakage. Observe for abdominal distension and report if noted. *Report any abnormal findings to school nurse and family.*

6. Wash hands and put on gloves.
7. Remove plug (cap) from G-tube and insert a catheter-tipped syringe into the end of feeding tube.

G-tube is still clamped. Do not pull on gastrostomy tubing as this can cause pain and injury to the site or dislodgement.

8. Check residual prior to feeding, if ordered. Checking residual is typically NOT needed if gastrostomy is well established. If needed, unclamp the tubing and gently draw back on the plunger to remove any liquid or medication that may be left in the stomach (i.e., residuals). Return residuals to stomach. Clamp the gastrostomy tubing and disconnect the catheter tip syringe.

Many students do not need to have residuals checked. Note the amount that was withdrawn from the feeding tube and return the contents of the syringe to the stomach because stomach contents contain electrolytes and digestive enzymes. Removing them can result in electrolyte imbalance. Adjust the feeding volume according to health care provider's orders if a residual is present. If the residual is greater than recommended, hold feeding, wait 30-45 minutes, and check again.

9. Pour feeding/fluids into feeding bag. Run through tubing and fill drip chamber according to tubing directions. Run formula through rest of tubing to the tip. Clamp.
10. Hang bag on pole above pump or at height to achieve prescribed flow. If a pump is used, insert tubing in pump mechanism and set proper flow rate. Some students may have pumps which are designed to hold the feeding and be worn around the waist or over the shoulder. Follow manufacturer instructions for use and student's IHP for activity level.
11. Flush g-tube before feeding or medication as prescribed, usually 15-30 ml tepid tap water. Follow student specific guidelines.
12. Administer medication, if prescribed, either before or after a feeding, as ordered or specified in student's IHP. Use liquid medication, if possible. Flushing with water between each medication and not mixing the medications can help to prevent clogging of

tube. If the liquid is thick, it might need to be diluted with a little water to prevent clogging.

13. Insert tip of feeding bag tubing into G-tube. Connection may be taped or luer-locked to prevent disconnection. Unclamp G-tube.

Be careful not to apply unnecessary pull on gastrostomy.

14. Open roller clamp of feeding bag tubing and adjust until drips flow at prescribed rate. If pump is used, open clamp completely, set rate on pump, and monitor for correct rate.

Be alert to any unusual changes in the student's tolerance of the feeding. Nausea/vomiting, cramping, or diarrhea may indicate that the feeding is being given too quickly or formula is too cold.

15. For continuous feeding with pump, add feeding as needed to prevent bag from becoming empty. Add only the amount of feeding/liquid that can be infused within 4 hours at any one time to prevent contamination.

16. If a single feeding is completed (bag empties), clamp feeding bag tubing, and clamp G-tube.

17. Disconnect feeding bag and tubing from G-tube.

18. Unclamp G-tube and use a syringe to flush with water as ordered (usually 15-30 ml).

This will clear tubing of feeding and medication.

19. Open G-tube to air, if ordered.

Venting allows drainage of fluid or release of gas bubbles in the stomach. This may help if student has a problem with gas.

20. Clamp and plug G-tube.

21. Secure tubing and tuck inside clothes, but not inside diaper or underpants.

22. Refer to student's IHP regarding positioning and activity after feeding. Students are usually kept in an upright position for at least 30 minutes after feeding if there are no conflicting orders.

The feeding tube can be disconnected while the student is being transported to and from school.

23. Wash syringe and other reusable equipment in soapy water. Rinse thoroughly, dry, and store appropriately.

Open formula is good for 24-48 hours. Check label or student's IHP to determine how long it may safely be used. Open formula should be stored in the refrigerator in clean plastic containers (not the original can), labeled with the date it was opened. Discard any open formula after 48 hours.

24. Remove gloves. Wash hands.

25. Document feeding, any medication, residual amount, feeding tolerance, and any concern about gastrostomy site in student's log and notify school nurse and family of any changes or concerns.

Sources:

Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (3rd ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 249-260.

Cincinnati Children's Hospital (2012). *Gastrostomy feeding by syringe*. Available online at <http://www.cincinnatichildrens.org/health/g/g-tube-care>

Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE, 71-75.

Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 937-938.

National Library of Medicine. (2012). *Gastrostomy feeding tube feeding--pump*. MedlinePlus. Available online at <http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000333.htm>

Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 217-219.

Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1032-1040.

Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 664-675.

Wisconsin Improving School Health Services Project. (2015). *Gastrostomy tube continuous feeding/slow drip*. Available online at http://www.wishesproject.org/?page_id=334/?tab=5

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Possible Problems That May Occur with Gastrostomy Feeds

- **Breathing difficulties, choking, coughing, and/or color changes**
Stop feeding immediately. There may be aspiration of feeding into the lungs. Call school nurse if not present. Notify family and activate the school emergency plan. The most significant risk with tube feedings is aspiration of feeding into the lungs. Be sure student is positioned with head elevated at least 30 degrees.

Keys to preventing aspiration:

- Proper positioning--head above heart during feeding and for 30 minutes after
- Monitoring for coughing, gagging, vomiting, difficulty breathing during feeding
- Ensuring tube is in place.

- **Nausea and/or cramping**
Make sure feeding is at room temperature.

Check feeding rate. Rate may need to be slowed. Check the length of the G-tube to see if it has migrated either inward or outward.

If problem continues, notify school nurse, family, and/or health care provider.

- **Vomiting**
If all the above have been checked, stop feeding, call school nurse or family. Remove residual and vent, if ordered. Nurse can check for bloating and reduced bowel sounds.
- **Blocked gastrostomy tubing**
Make sure all clamps on tubing are open. Blockage may be due to inadequate flushing, slow flow rate, or very thick fluid. Check tube position. Flush with 20-30 ml warm water. Carbonated beverages and juice have **not** proven effective in unclogging the tubing. Some students may have a prescribed declogging agent specified in their IHP that can be tried. Squeeze or roll gastrostomy tubing with fingers moving slowly down toward student's stomach. Do not use stylet (guidewire) to try and unclog as this may damage G-tube. Contact school nurse or family if blockage remains.
- **Leakage**
Check position of tube. Make sure length of tubing outside the skin remains the same (catheter has not migrated). Gently pull on the G-tube to make sure it is against the inside of the stomach wall. Check volume in balloon (if present). Adjust external stabilizer for appropriate fit. Check to make sure plug on medication port is on securely and not leaking.

- **Redness/irritation/bleeding at site**

Check G-tube site for leakage. Clean stoma site if leakage of food/fluid/medication/stomach contents come in contact with skin. Keep site dry. Make sure tubing is not being pulled. Loosen external stabilizer if it is too tight. Do not use a baby bottle nipple as a stabilizer as this traps moisture and puts too much pressure on the area. Avoid allowing tube to dangle—secure to clothing. Skin barrier or other protective skin preparations may be used, if ordered. Refer to student's IHP for cleaning or dressing instructions. In general, soap and water are only cleansing agents needed. If a dressing is needed, use only precut gauze because threads from hand-cut gauze can adhere to the stoma. Solutions such as hydrogen peroxide can interfere with skin healing, cause hypergranulation, and should be avoided, unless specifically ordered.

Look for other signs of infection. Notify school nurse and family of gastrostomy site concerns.

- **G-tube comes out**

Follow orders provided by student's health care provider and specified in the IHP. The G-tube may need to be reinserted immediately if a student's tract closes quickly (usually if gastrostomy is less than 1-2 months old). Cover the site with a dry dressing or large bandage. Notify family. Activate student's emergency action plan.

Sources:

Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (Third ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 249-260.

Cincinnati Children's Hospital (2012). *Gastrostomy tube (G-tube) home care*. Available online at <http://www.cincinnatichildrens.org/health/g/g-tube-care/>

Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE, 71-75.

Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 937-938.

National Library of Medicine. (2014). *Gastrostomy feeding tube--bolus*. MedlinePlus. Available online at <http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000165.htm>

Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 219.

Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>

Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1032-1040.

Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 664-675.

Wisconsin Improving School Health Services Project. (2015). *Gastrostomy tube bolus feeding*. Available online at http://www.wishesproject.org/?page_id=324/?tab=5

General Information for Students with Gastrostomy Tubes

Date: _____

To: _____
(Teachers, Instructional assistants, Bus drivers, etc.)

Name of Student: _____

This student has a gastrostomy tube (G-tube) inserted into his or her stomach. The G-tube is used to administer food, medication, and fluids directly into the stomach and may be used during the school day.

The student may receive feedings or medication through the G-tube as needed during the school day in the classroom, the lunchroom, or the health office. The tube is held in place at all times and is clamped or capped between feedings or medication administration. The tube is covered by clothing and should not cause any discomfort for the student.

The student should be able to fully participate in physical education classes unless he or she has another condition that would interfere with full participation.

Special arrangements may need to be made for feedings and medication administration during field trips.

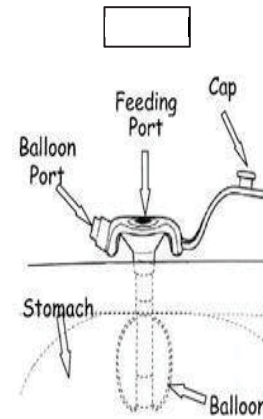
Contact _____ at _____ (phone number) for additional information or if the student experiences any problems with the G-tube.

Source: Adapted from: Porter, S., Haynie, M., Bierle, T., Caldwell, T.H., & Palfrey, J.S. (Eds.). (1997). *Children and youth assisted by medical technology in educational settings: Guidelines for care* (2nd ed.). Baltimore: Paul H. Brookes Publishing.

Skin-Level or Low Profile Gastrostomy Devices (Gastrostomy Feeding Button)

Overview

A gastrostomy is a surgically created opening into the stomach through the surface of the abdomen. Once the gastrostomy site has well healed, a smaller device may be used instead of the lengthy tube. The skin-level or low profile gastrostomy device may also be called a G-button, MIC-KEY button, Mini-One, Nutriport, or Bard button, depending on the manufacturer. The silicon or polyurethane device consists of an internal stabilizer in the stomach (fluid-filled balloon or mushroom-shaped dome) and an external stabilizer (crossbar, triangle, or wings) on the surface of the skin. The internal stabilizer has an antireflux valve so that stomach contents do not spill out when the device is unplugged. The device remains in place at all times and is covered by a safety plug when not in use. The safety plug is sometimes compared, in appearance, to the opening on a beach ball. Feedings are administered by attaching a small extension tube to the device. When the feeding is over, the tube is removed and the safety plug closed. Families often prefer a skin level device because there is no bulky tube to manage under clothing when the child is not received a feeding.



Skin-level gastrostomies can be used to drain or vent stomach contents, but indications for long term use in students are usually due to:

- Need for supplemental calories due to increased needs from a disease process, such as cystic fibrosis or malabsorption disorders.
- Inability to consume adequate calories by mouth, which may be due to anatomical, behavioral, or psychosocial factors, such as esophageal atresia (incomplete development of the food pipe), failure to thrive or cerebral palsy.
- Risk for choking and aspiration due to impaired swallowing or severe reflux.

Skin-level gastrostomy devices are typically inserted at the time of surgery when the gastrostomy stoma is created. They are typically changed every 3 months to prevent balloon failure.

Settings and Staff

Students can receive feedings anywhere. Many of the pumps are small and designed to be easily worn or carried at all times. Bolus feeds should be done in a clean area because they are more open to the environment. Student's desire for privacy and possible need for stationery activities during a feed should be considered in determining where feeds will take

place. Many students with G-buttons will receive their feeds during the night, eliminating the need for any feeds during the school day.

G-buttons are covered by the student's clothing and do not interfere with normal school activities. Participation in physical education activities may require modification and are determined on an individual basis.

Feedings using skin-level gastrostomy devices can be administered by the school nurse, family member, teacher, or other staff person who has received training in appropriate techniques and problem management. The student should be encouraged to assist with the feeding as much as possible.

School personnel who have regular contact with a student who has a skin-level gastrostomy device should receive training covering the student's specific needs, potential problems, and implementation of the established emergency plan.

Individualized Health care Plan (IHP)

Each student's IHP must be tailored to the individual's needs. A sample plan is included in Appendix A. When preparing an IHP for a student with a skin-level gastrostomy device, the following items should be considered:

- Underlying condition and possible problems associated with the condition or treatment
- Size and type of feeding device
- Whether device has a balloon or a retention bolster internally to hold it in place
- Length of G-button outside of the body (important to know in determining whether G-button has migrated either further into the stomach or out of the stomach)
- Health care provider's order for G-button and care
- Whether the student receives bolus or continuous feeds
- Amount, type, and frequency of formula to be received
- Storage of formula
- How long formula may be used after container opened
- When the tube should be flushed, such as before and after administration of feeds or medications
- Amount (volume) and type of flush liquid
- Type of portable pump and its specific instructions
- Positioning during and after feeding
- Activity level during and after feeding
- Whether student should receive oral stimulation during feeding
- Measurement of gastric residuals, if needed
- Medication administration schedule, if needed
- Amount of food or drink a student can take by mouth
- Determining the need for venting of the gastrostomy device
- Determining the need for clamping the gastrostomy device

- Patency of gastrostomy tract and time frame for reinsertion should the device fall out
- Date tube was originally placed
- How to clean the site, if needed
- Actions to take if student has vomiting, abdominal distension, or pain
- Manufacturer's specific instructions for any supplies or equipment
- Feeding guidelines during student transport
- Latex allergy precautions
- Standard precautions

Sources:

Applied Medical Technology. (2013). *Patient education guide: guidance and support to help you manage your gastrostomy tube Balloon Mini One buttons*. Available online at http://www.amtinnovation.com/pdf/AMT_BalloonPatientCare.pdf

Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (Third ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 249-260, 275-283.

Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE, 71-75.

Feeding Tube Awareness Foundation. (2014). *What you need to know now: A parent's introduction to tube feeding*. Available online at <http://www.feedingtubeawareness.org/ParentGuide.pdf>

- Halyard (formerly Kimberly-Clark Health Care). (2015). *Mic-Key care and usage guide*. Available online at <http://www.mic-key.com/resources/mic-keystar-care-usage-guide.aspx>
- Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 937-938.
- National Library of Medicine. (2014). *Feeding tube insertion-gastrostomy*. MedlinePlus. Available online at <http://www.nlm.nih.gov/medlineplus/ency/article/002937.htm>
- Novotny, N., Vegeler R, Breckler, F., & Rescorla, F. (2009). Percutaneous endoscopic gastrostomy buttons in children: superior to tubes. *Journal of Pediatric Surgery*, 44(6), 1193-6.
- Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 220-227.
- Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>
- Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1032-1040.
- Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 664-675.
- Wisconsin Improving School Health Services Project. (2015). *Gastrostomy button bolus feeding*. Available online at http://www.wishesproject.org/?page_id=351/?tab=5

Illustration Source:

- Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>

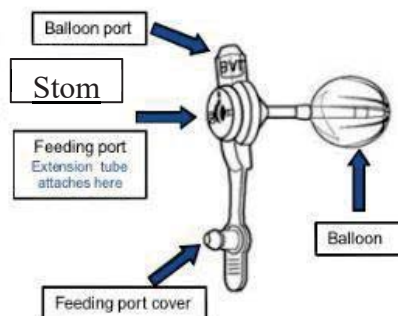
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Procedure for Skin-Level Gastrostomy Device (G-Button) Feeding—Bolus Method

1. Wash hands.
2. Gather and assemble equipment:

Note: Equipment and feeding supplies are provided by family.

- Liquid formula or feeding solution, at room temperature
- 60 ml catheter-tipped syringe or other feeding container for feeding
- Adaptor with tubing and clamp (varies with type of device)
- Water (to flush tubing before and after feeding)
- Rubber bands and safety pins (to secure G-tube)
- Gloves



Identify size and type of gastrostomy device. Shake can well to mix formula and note expiration date. It is recommended that students receive a ready-to-feed commercial formula. Potential problems with a homemade blenderized recipe include inaccurate mixing, which may alter the nutrients and calorie content; separation of solids and liquids in the solution, which may clog the tube; and increased risk of contamination due to improper handling, preparation, or storage. Generally, opened formula must be used within 24-48 hours. Check student's IHP for storage instructions.

Tube feedings should be administered at room temperature. Some students get cramps if the feeding solution is too cold. If a blenderized formula is brought to school, it should be refrigerated until mealtime and warmed to room temperature. This may be achieved by holding the container with the formula under warm water for several minutes. A microwave should **not** be used for this procedure due to its uneven heat distribution.

3. Measure prescribed amount of formula to be infused.
4. Explain procedure using explanations the student can understand. Encourage the student to do as much of the procedure as is capable, so as to achieve maximum self-care skills.
5. Position student upright as specified in student's IHP.

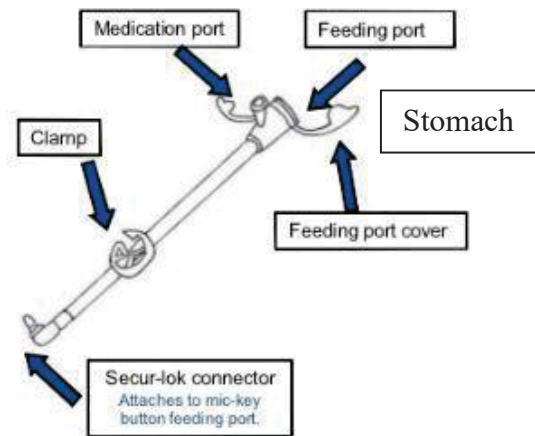
Students usually sit (or may lie on their right side with their head elevated) during feeding.

Inspect skin at gastrostomy site for redness, tenderness, swelling or irritation, or presence of drainage or gastric leakage. *Report abnormal findings to school nurse and family.*

6. Wash hands and put on gloves.
7. Rotate (turn 90 degrees) external stabilizer/bolster according to student's IHP, **if ordered.**

This may help prevent adhesions.

8. Open the safety plug on the gastrostomy device.
9. Insert adaptor and tubing into gastrostomy device according to manufacturer instructions (some adaptors lock by lining up two black guide lines). Stabilize the button to avoid pushing it into the student's belly. Hold firmly by the feeding port (not the flange).



10. Flush g-tube before feeding or medication as prescribed, usually 15-30 ml tepid tap water. Follow student specific guidelines.

11. Administer medication, if prescribed, either before or after a feeding, as ordered or specified in student's IHP. Use liquid medication, if possible. Flushing with water between each medication and not mixing the medications can help to prevent clogging of tube. If the liquid is thick, it might need to be diluted with a little water to prevent clogging.

12. Remove plunger from syringe and attach the adaptor tubing to the feeding syringe.

13. Slowly pour feeding/fluid into syringe and allow to flow by gravity.

If a container other than a syringe is used for the feeding, unclamp tubing and allow it to flow in by gravity, using the same procedure. The flow of feeding may need to be initiated by placing plunger into barrel of syringe and depressing slightly to get it started (and then remove plunger).

Be alert to any unusual changes in the student's tolerance of the feeding. Nausea/vomiting, cramping, or diarrhea may indicate that the feeding is being given too quickly or formula is too cold.

14. Continue to pour feeding into syringe as contents empty into stomach. Keep syringe partially filled to prevent air from entering stomach.

Depending on the age and capabilities of the student, have him/her assist with the feeding by holding syringe or pouring fluid into it. Provide oral stimulation, if ordered.

15. Raise or lower syringe or container to adjust flow to prescribed rate.
The higher the syringe is held, the faster the feeding will flow into the stomach.
16. When feeding is completed, pour prescribed amount of water into syringe and flush tubing. *This will clear tubing of feeding and medication.*
18. Clamp adapter tubing, remove from gastrostomy device, and close safety plug into gastrostomy device.
19. Refer to student's IHP regarding positioning and activity after feeding. Usually student should remain upright for at least thirty minutes.
20. Wash syringe and other reusable equipment in soapy water. Rinse thoroughly, dry, and store appropriately.
Open formula is good for 24-48 hours. Check label or student's IHP to determine how long it may safely be used. Open formula should be stored in the refrigerator in clean plastic containers (not the original can), labeled with the date it was opened. Discard any open formula after 48 hours.
21. Remove gloves. Wash hands.
22. Document feeding, any medication, feeding tolerance, and any concern about gastrostomy site in student's log and notify family of any changes or concerns.

Sources:

- Applied Medical Technology. (2013). *Patient education guide: guidance and support to help you manage your gastrostomy tube Balloon Mini One buttons*. Available online at http://www.amtinnovation.com/pdf/AMT_BalloonPatientCare.pdf
- Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (Third ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 249-260, 275-283.
- Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE, 71-75.
- Feeding Tube Awareness Foundation. (2014). *What you need to know now: A parent's introduction to tube feeding*. Available online at <http://www.feedingtubeawareness.org/ParentGuide.pdf>

- Halyard (formerly Kimberly-Clark Health Care). (2015). *Mic-Key care and usage guide*. Available online at <http://www.mic-key.com/resources/mic-keystar-care-usage-guide.aspx>
- Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 937-938.
- National Library of Medicine. (2014). *Gastrostomy feeding tube--bolus*. MedlinePlus. Available online at <http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000165.htm>
- Novotny, N., Vegeler R, Breckler, F., & Rescorla, F. (2009). Percutaneous endoscopic gastrostomy buttons in children: superior to tubes. *Journal of Pediatric Surgery*, 44(6), 1193-6.
- Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 220-227.
- Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>
- Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1032-1040.
- Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 664-675.
- Wisconsin Improving School Health Services Project. (2015). *Gastrostomy button bolus feeding*. Available online at http://www.wishesproject.org/?page_id=351/?tab=5

Illustration Source:

- Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>

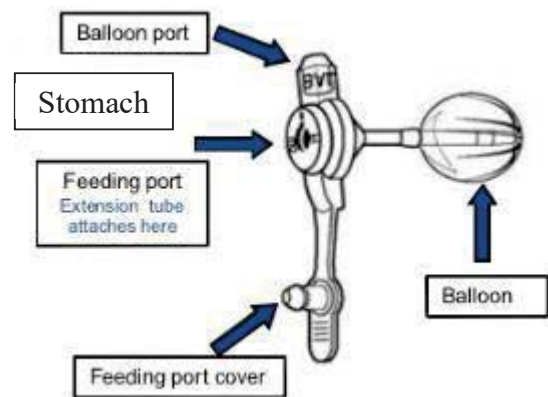
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Procedure for Skin-Level Gastrostomy Device (G-Button) Feeding—Slow Drip or Continuous Feeding by Pump

1. Wash hands.
2. Gather and assemble equipment:

Note: Equipment and feeding supplies are provided by family.

- Liquid formula or feeding solution, at room temperature
- 60 ml catheter-tipped syringe or other feeding container for feeding
- Feeding bag and tubing
- Feeding pump and stand or carry-pack, if needed
- Adaptor with tubing and clamp (varies with size and type of device)
- Water (to flush tubing before and after feeding)
- Rubber bands and safety pins (to secure G-tube to clothing)
- Gloves



Identify size and type of gastrostomy device. Shake can well to mix formula and note expiration date. It is recommended that students receive a ready-to-feed commercial formula. Potential problems with a homemade blenderized recipe include inaccurate mixing, which may alter the nutrients and calorie content; separation of solids and liquids in the solution, which may clog the tube; and increased risk of contamination due to improper handling, preparation, or storage. Usually opened formula must be used within 24 hours. Check student's IHP for storage instructions.

Tube feedings should be administered at room temperature. Some students get cramps if the feeding solution is too cold. If a blenderized formula is brought to school, it should be refrigerated until mealtime and warmed to room temperature. This may be achieved by holding the container with the formula under warm water for several minutes. A microwave should **not** be used for this procedure due to its uneven heat distribution.

3. Measure prescribed amount of formula to be infused.
4. Explain procedure using explanations the student can understand. Encourage the student to do as much of the procedure as is capable, so as to achieve maximum self-care skills.

5. Position student upright as specified in student's IHP.

Students usually sit (or may lie on their right side with their head elevated) during feeding).

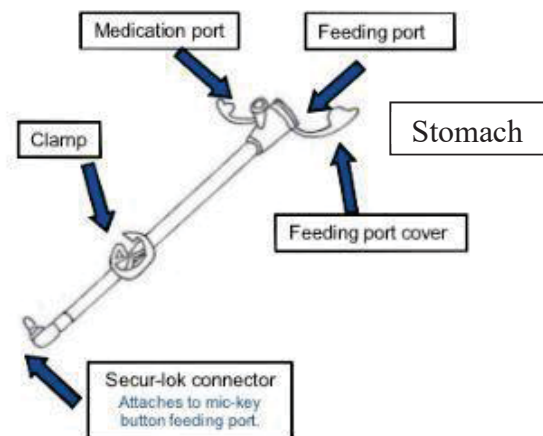
Inspect skin at gastrostomy site for redness, tenderness, swelling or irritation, or presence of drainage or gastric leakage. *Report abnormal findings to school nurse and family.*

6. Wash hands and put on gloves.
7. Rotate (turn 90 degrees) external stabilizer/bolster according to student's IHP, **if ordered.**

This may help prevent adhesions.

8. Open the safety plug on the gastrostomy device.
9. Insert adaptor and tubing into gastrostomy device according to manufacturer instructions (some adaptors lock into place).
10. Flush g-tubes before feeding or medication as prescribed, usually 15-30 ml tepid tap water. Follow student-specific guidelines.

11. Administer medication, if prescribed, either before or after a feeding, as specified in student guidelines. Use liquid medication, if possible. Flushing with water between each medication and not mixing the medications can help to prevent clogging of tube.



12. Insert adaptor and tubing into gastrostomy device according to manufacturer instructions (some adaptors lock into place).

13. Attach the adaptor tubing to feeding bag tubing.

14. Open clamp of feeding bag tubing and adjust until drips flow at prescribed rate. If pump is used, open clamp completely, set rate on pump, and monitor for correct rate.

Be alert to any unusual changes in the student's tolerance of the feeding. Nausea/vomiting, cramping, or diarrhea may indicate that the feeding is being given too quickly or formula is too cold.

15. For continuous feeding with pump, add feeding as needed to prevent bag from becoming empty. Add only the amount of feeding/liquid that can be infused within 4 hours at any one time to prevent contamination.

16. If a single feeding is completed (bag empties), clamp feeding bag tubing, and disconnect feeding bag from adaptor tubing.

17. Use a syringe to flush the gastrostomy device with water as ordered (usually 15-30 ml).

This will clear device of feeding and medication.

18. Remove adaptor tubing and close safety plug.

19. Refer to student's IHP regarding positioning and activity after feeding. Usually student should remain upright for at least thirty minutes.

The feeding tube can be disconnected while the student is being transported to and from school.

20. Wash syringe and other reusable equipment in soapy water. Rinse thoroughly, dry, and store appropriately.

Open formula is good for 24-48 hours. Check label or student's IHP to determine how long it may safely be used. Open formula should be stored in the refrigerator in clean plastic containers (not the original can), labeled with the date it was opened. Discard any open formula after 48 hours.

21. Remove gloves. Wash hands.

22. Document feeding, any medication, residual amount, feeding tolerance, and any concern about gastrostomy site in student's log. Notify family of any changes or concerns.

Sources:

Applied Medical Technology. (2013). *Patient education guide: guidance and support to help you manage your gastrostomy tube Balloon Mini One buttons*. Available online at http://www.amtinnovation.com/pdf/AMT_BalloonPatientCare.pdf

Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (Third ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 249-260, 275-283.

Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE, 71-75.

Feeding Tube Awareness Foundation. (2014). *What you need to know now: A parent's introduction to tube feeding*. Available online at <http://www.feedingtubeawareness.org/ParentGuide.pdf>

Halyard (formerly Kimberly-Clark Health Care). (2015). *Mic-Key care and usage guide*. Available online at <http://www.mic-key.com/resources/mic-keystar-care-usage-guide.aspx>

Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 937-938.

National Library of Medicine. (2012). *Gastrostomy feeding tube feeding--pump*. MedlinePlus. Available online at <http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000333.htm>

Novotny, N., Vegeler R, Breckler, F., & Rescorla, F. (2009). Percutaneous endoscopic gastrostomy buttons in children: superior to tubes. *Journal of Pediatric Surgery*, 44(6), 1193-6.

Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 220-227.

Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>

Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1032-1040.

Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 664-675.

Wisconsin Improving School Health Services Project. (2015). *Gastrostomy button continuous feeding/slow drip*. Available online at http://www.wishesproject.org/?page_id=360/?tab=5

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Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>

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Possible Problems with Skin-Level Gastrostomy Devices (G-button)

- **Breathing difficulties, choking, coughing, and/or color changes**
Stop feeding immediately. There may be aspiration of feeding into the lungs. Call school nurse if not present. Notify family and activate the school emergency plan. The most significant risk with tube feedings is aspiration of feeding into the lungs. Be sure student is positioned with head elevated at least 30 degrees.

Keys to preventing aspiration:
 - Proper positioning, head above heart, during feeding and 30 minutes after
 - Monitoring for coughing, gagging, vomiting, difficulty breathing during feeding
 - Ensuring tube is in place.
- **Nausea and/or cramping**
Make sure feeding is at room temperature.
Check feeding rate. Rate may need to be slowed. Check the length of the G-tube to see if it has migrated either inward or outward.
If problem continues, notify school nurse, family, and/or health care provider.
- **Vomiting**
If all the above have been checked, stop feeding, call school nurse or family. Remove residual and vent, if ordered. Nurse can check for bloating and reduced bowel sounds.
- **Blocked gastrostomy tubing**
Make sure all clamps on tubing are open. Blockage may be due to inadequate flushing, slow flow rate, or very thick fluid. Check tube position. Flush with 20-30 ml warm water. Carbonated beverages and juice have **not** proven effective in unclogging the tubing. Some students may have a prescribed declogging agent specified in their IHP that can be tried. Squeeze or roll gastrostomy tubing with fingers moving slowly down toward student's stomach. Do not use stylet (guidewire) to try and unclog as this may damage G-tube. Contact school nurse or family if blockage continues.
- **Leakage**
Check position of tube. Make sure length of tubing outside the skin remains the same (catheter has not migrated). Gently pull on the G-tube to make sure it is against the inside of the stomach wall. Check volume in balloon (if present). Adjust external stabilizer for appropriate fit.

- **Redness/irritation/bleeding at site**
Check G-tube site for leakage. Clean stoma site if leakage of food/fluid/medication/stomach contents come in contact with skin. Keep site dry. Make sure tubing is not being pulled. Loosen external stabilizer if it is too tight. Do not use a baby bottle nipple as a stabilizer as this traps moisture and puts too much pressure on the area. Avoid allowing tube to dangle—secure to clothing. Skin barrier or other protective skin preparations may be used, if ordered. Refer to student's IHP for cleaning or dressing instructions. In general, soap and water are only cleansing agents needed. If a dressing is needed, use only precut gauze because threads from hand-cut gauze can adhere to the stoma. Solutions such as hydrogen peroxide can interfere with skin healing, cause hypergranulation, and should be avoided, unless specifically ordered. Look for other signs of infection. Notify school nurse and family of gastrostomy site concerns.
- **G-tube comes out**
Follow orders provided by student's health care provider and specified in the IHP. The G-tube may need to be reinserted immediately if a student's tract closes quickly (often if gastrostomy is less than 1-2 months old). Cover the site with a dry dressing or large bandage. Notify family. Activate student's emergency action plan.

Sources:

Applied Medical Technology. (2013). *Patient education guide: guidance and support to help you manage your gastrostomy tube Balloon Mini One buttons*. Available online at http://www.amtinnovation.com/pdf/AMT_BalloonPatientCare.pdf

Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (Third ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 249-260.

Cincinnati Children's Hospital (2012). *Gastrostomy tube(G-tube) home care*. Available online at <http://www.cincinnatichildrens.org/health/g/g-tube-care/>

- Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE, 71-75.
- Feeding Tube Awareness Foundation. (2014). *What you need to know now: A parent's introduction to tube feeding*. Available online at <http://www.feedingtubeawareness.org/ParentGuide.pdf>
- Halyard (formerly Kimberly-Clark Health Care). (2015). *Mic-Key care and usage guide*. Available online at <http://www.mic-key.com/resources/mic-keystar-care-usage-guide.aspx>
- Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 937-938.
- National Library of Medicine. (2014). *Gastrostomy feeding tube--bolus*. MedlinePlus. Available online at <http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000165.htm>
- Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 227.
- Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>
- Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1032-1040.
- Simmons, Remmington R. (2013). The percutaneous endoscopic gastrostomy tube: A nurse's guide to PEG tubes. *Medsurg Nursing*, 22(2), 77-83.
- Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 664-675.
- Tkacz, Browne, N., Flanigan, L.M., McComiskay, C.A., Piper, P. (2013). *Nursing care of the pediatric surgical patient* (Third ed.). Massachusetts: Jones & Barlett, 101-112.
- Wisconsin Improving School Health Services Project. (2015). *Gastrostomy button continuous feeding/slow drip*. Available online at http://www.wishesproject.org/?page_id=360/?tab=5

**General Information for
Students with Skin-Level Gastrostomy Feeding Devices
(G-Button)**

Date: _____

To: _____
(Teachers, Instructional assistants, Bus drivers, etc.)

Name of Student: _____

This student has a gastrostomy feeding device, often called a G-button, inserted into his or her stomach. The G-button is used to administer food, medication, and fluids directly into the stomach and may be used during the school day.

The G-button is held in place and is capped between feedings or medication administration. The device is covered by clothing and should not cause any discomfort for the student.

The student should be able to fully participate in physical education classes unless he or she has another condition that would interfere with full participation.

Special arrangements may need to be made for feedings and medication administration during field trips.

Contact _____ at _____ (phone number) for additional information or if the student experiences any problems with the G-tube.

Source: Adapted from: Porter, S., Haynie, M., Bierle, T., Caldwell, T.H., & Palfrey, J.S. (Eds.). (1997). *Children and youth assisted by medical technology in educational settings: Guidelines for care* (2nd ed.). Baltimore: Paul H. Brookes Publishing.

Nasogastric Tube

A nasogastric tube (NG-tube) is a rubber or plastic tube that passes through a nostril, down the throat and esophagus, and into the stomach. It can be used to give liquids, medication, and feedings when needed. NG-tubes are usually used for relatively short periods of time during hospitalizations. If access to the stomach is needed for longer periods, a gastrostomy is usually performed. Due to the concerns about aspiration and reflux, NG tubes are rarely encountered in the school setting now. If a student does present to school with an NG tube or an NJ (nasojunal) tube, the student will require very detailed, individualized instructions for all aspects of its care. Work with the health care provider and family to develop detailed instructions for the student's IHP and emergency action plan.

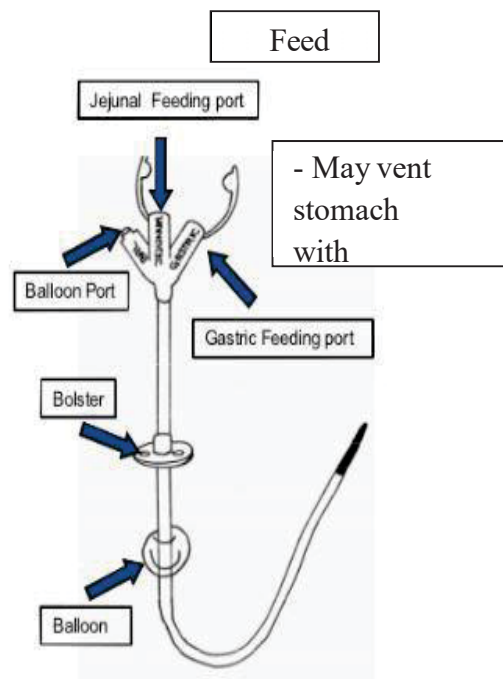
Jejunostomy Tube

Overview

A jejunostomy is a surgically created opening into the part of the small intestine that lies between the duodenum and the ileum. The jejunostomy tube (J-tube) is a silicon catheter that may be placed directly through the skin of the abdomen into the jejunum and can usually be found on the right side of the abdomen.

Some students may have a G-tube and a J-tube in the same stoma. There may be two separate tubes or one tube with several different ports. Other students may have two stomas with a gastrostomy device in one and a jejunostomy device in the other. When there are two stomas, the gastrostomy device may just be used for venting.

The gastrojejunal tube (G-J tube) is a single tube with three limbs, including a gastric port, a jejunal port, and a balloon inflation limb to hold the tube in place. It is inserted through a gastrostomy site and threaded through the pylorus into the jejunum. The tube remains in the small intestine at all times and must not move in or out. There may be a tube on the outside of the skin or a skin-level feeding device (G-J button). Certain medications may not be administered into the jejunum and must be administered through the gastric port of the G-J tube.



Used to bypass the mouth and stomach and to administer food and fluids directly into the jejunum, the jejunostomy poses less risk for aspiration and gastroesophageal reflux. It may be used when the student has a depressed gag reflex, an obstruction in the esophagus or stomach, or an intestinal pseudo-obstruction. It may also be used when the stomach cannot be used, such as after stomach surgery or when there is a problem with stomach emptying. Residuals are usually not checked with J-tubes. Feedings are given continuously over several hours. Bolus feedings are not given via the jejunostomy since this may cause dumping syndrome and malabsorption of nutrients.

Jejunal feedings are administered slowly as a continuous drip over a number of hours. The jejunum does not tolerate larger, bolus feeds. J-tubes and G-J tubes should not be rotated to avoid potential kinking or dislodgement. They should be flushed with water, 15-30 ml every 6 hours to prevent clogging.

Settings and Staff

Students can receive feedings anywhere. Many of the pumps are small and designed to be easily worn or carried at all times. Student's desire for privacy and possible need for stationery activities during a feed should be considered in determining where feeds will take place. A few students with J-tubes may not need to receive feeds during the school day.

Students who require venting or drainage of their gastrostomy tubes should have this done in a clean, private area such as the health office. Some children may have the gastrostomy tube part vented continuously to a small drainage bag. J-Tubes and G-Tubes are usually covered by the student's clothing and do not interfere with normal school activities. Participation in physical education activities may require modification and are determined on an individual basis.

A jejunostomy feeding may be administered by the school nurse (RN or LPN). It should not be done by a non-licensed health assistant. The student should be encouraged to assist with the J-tube feeding as much as possible.

School personnel who have regular contact with a student who has a J-tube should receive training covering the student's specific needs, potential problems, and implementation of the established emergency plan.

Individualized Health care Plan (IHP)

Each student's IHP must be tailored to the individual's needs. A sample plan is included in Appendix A. When preparing an IHP for a student with a jejunostomy, the following items should be considered:

- Underlying condition and possible problems associated with the condition or treatment
- Size and type of feeding device
- Length of J-tube or G-J-tube outside of the body (important to know in determining whether the tube has migrated)
- Health care provider's order for G-J tube and its care
- Amount, type, and frequency of formula to be received
- Storage of formula
- How long formula may be used after container opened
- When the tube should be flushed, such as before and after administration of feeds or medications
- Amount (volume) and type of flush liquid
- Whether G-tube needs venting during jejunostomy feeds

- Type of portable pump and its specific instructions
- Positioning during and after feeding
- Activity level during and after feeding
- Whether medications are administered through J-tube or G-tube
- Amount of food or drink a student can take by mouth
- Patency of jejunostomy tract and time frame for reinsertion should the J-tube fall out
- Actions to take if student has vomiting, abdominal distension, or pain
- Manufacturer's specific instructions for any supplies or equipment
- Feeding guidelines during student transport
- Latex allergy precautions
- Standard precautions

Sources:

Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (3rd ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 249-260, 275-283.

Cincinnati Children's Hospital (2012). *Gastrostomy-Jejunostomy tube care*. Available online at <http://www.cincinnatichildrens.org/health/g/gastro-jejuno-tube/>

Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE, 71-75.

Halyard (formerly Kimberly-Clark Health Care). (2015). *Mic-Key care and usage guide*. Available online at <http://www.mic-key.com/resources/mic-keystar-care-usage-guide.aspx>

Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 937-938.

National Library of Medicine. (2012). *Jejunostomy feeding tube*. MedlinePlus. Available online at <http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000181.htm>.

Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 236-243.

Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>

Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1032-1040.

Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 664-675.

Wisconsin Improving School Health Services Project. (2015). *Jejunostomy tube continuous feeding*. Available online at http://www.wishesproject.org/?page_id=380/?tab=5

Illustration Source:

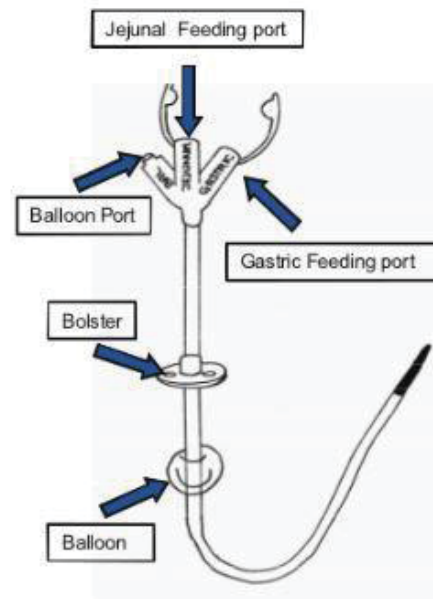
Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>. Used with permission.

Procedure for Jejunostomy Tube Feeding – Continuous Feeding by Pump

1. Wash hands.
2. Gather and assemble equipment:

Note: Equipment and feeding supplies are provided by family.

- Liquid formula or feeding solution, at room temperature
- 10 ml syringe
- Feeding bag and tubing
- Feeding pump and stand or carry-pack, if needed
- Clamp or plug for end of tube
- Water (to flush tubing before and after feeding)
- Rubber bands and safety pins (to secure J-tube to clothing)
- Gloves



Identify size and type of J-tube. Shake can well to recommended that students receive a ready-to-feed with a homemade blenderized recipe include inaccurate and calorie content; separation of solids and liquid and increased risk of contamination due to improper. Usually opened formula must be used within 24-48 hours. Check student's IHP for storage instructions.

It is not safe to use a tube;

Tube feedings should be administered at room temperature. Some students get cramps if the feeding solution is too cold. If a blenderized formula is brought to school, it should be refrigerated until mealtime and warmed to room temperature. This may be achieved by holding the container with the formula under warm water for several minutes. A microwave should **not** be used for this procedure due to its uneven heat distribution.

3. Shake formula (to mix) and measure prescribed amount of formula to be infused.

4. Explain procedure using explanations the student can understand. Encourage the student to do as much of the procedure as is capable, so as to achieve maximum self-care skills.
5. Position student upright as specified in student's IHP.

Students usually sit (or may lie on their right side with their head elevated) during feeding. Tubing may be pinned to shirt. Make sure clamp is not pressing on skin.

6. Wash hands and put on gloves.
7. Inspect skin at gastrostomy/jejunostomy site(s) for redness, tenderness, swelling or irritation, or presence of drainage or gastric leakage. Observe whether tubing length is marked at entrance. *Report abnormal findings to school nurse and family.*
8. Pour feeding/fluids into feeding bag. Run through tubing and fill drip chamber according to tubing directions. Run through rest of tubing to the tip. Clamp.
9. Hang bag on pole above pump or at height to achieve prescribed flow. If a pump is used, insert tubing in pump mechanism and set proper flow rate. Some students may have pumps which are designed to hold the feeding and be worn around the waist or over the shoulder. Follow manufacturer instructions for use and student's IHP for activity level during feed.
10. Flush J-tube before feeding or medication as prescribed, usually 15-30 ml tepid tap water. Open safety plug and insert tubing in J-tube. Follow student-specific guidelines.
11. Administer medication, if prescribed, either before or after a feeding, as specified in student's IHP. Always flush before administering medications. Use liquid medication, if possible. Flushing with water between each medication and not mixing the medications can help to prevent clogging of tube. If the liquid is thick, it might need to be diluted with a little water to prevent clogging. Certain medications may not be administered into the jejunum and must be administered through the gastric port of a G-J tube.
12. Insert tip of feeding bag tubing into J-tube. Connection may be taped or luer-locked to prevent disconnection. Unclamp J-tube.

Be careful not to apply unnecessary pull on jejunostomy.

13. Vent G-tube if ordered during feeding. Syringe or drainage bag may be used for venting.
14. Open roller clamp of feeding bag tubing and adjust until drips flow at prescribed rate. However, feeding pump will usually be ordered. If feeding pump is used, open clamp completely, set rate on pump, and monitor for correct rate.

Be alert to any unusual changes in the student's tolerance of the feeding. Nausea/vomiting, cramping, or diarrhea may indicate that the feeding is being given too quickly or formula is too cold.

15. For continuous feeding with pump, add feeding as needed to prevent bag from becoming empty. Add only the amount of feeding/liquid that can be infused within 4 hours at any one time to prevent contamination... Flush jejunostomy 4 times a day with 15-30 ml. of water to prevent clogging.

16. If a feeding is completed (bag empties) during school time, clamp feeding bag tubing, and clamp J-tube.

17. Disconnect feeding bag and tubing from J-tube.

18. Unclamp J-tube and use a syringe to flush with water, usually 5-10 ml as prescribed in student's IHP.

This will clear tubing of feeding and medication and help to prevent obstruction.

19. Clamp and plug J-tube.

20. Secure tubing and tuck inside clothes, but not inside diaper or underpants.

21. Refer to student's IHP regarding positioning and activity after feeding. Students are usually kept in an upright position for at least 30 minutes after feeding if there are no conflicting orders.

The feeding tube can be disconnected while the student is being transported to and from school.

22. Wash syringe and other reusable equipment in soapy water. Rinse thoroughly, dry, and store appropriately.

Open formula is good for 24-48 hours. Check label or student guidelines to determine how long it may safely be used. Open formula should be stored in clean plastic containers, labeled correctly (not the original can) in the refrigerator. Discard any open formula after 48 hours.

23. Remove gloves. Wash hands.

24. Document feeding, any medication, residual amount, feeding tolerance, and any concern about jejunostomy/gastrostomy site in student's log. Notify school nurse and family of any changes or concerns.

Sources:

Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (3rd ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 249-260.

Cincinnati Children's Hospital (2012). *Gastrostomy-Jejunostomy tube care*. Available online at <http://www.cincinnatichildrens.org/health/g/gastro-jejuno-tube/>

Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE, 71-75.

Halyard (formerly Kimberly-Clark Health Care). (2015). *Mic-Key care and usage guide*. Available online at <http://www.mic-key.com/resources/mic-keystar-care-usage-guide.aspx>

Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 937-938.

National Library of Medicine. (2012). *Jejunostomy feeding tube*. MedlinePlus. Available online at <http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000181.htm>

Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting Students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 236-243.

Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>

Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1032-1040.

Simmons, Remington R. (2013). The percutaneous endoscopic gastrostomy tube: A nurse's guide to PEG tubes. *Medsurg Nursing*, 22(2), 77-83.

Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 664-675.

Tkacz, Browne, N., Flanigan, L.M., McComiskay, C.A., Piper, P. (2013). *Nursing care of the pediatric surgical patient* (Third ed.). Massachusetts: Jones & Barlett, 101-112.

Wisconsin Improving School Health Services Project. (2015). *Jejunostomy tube continuous feeding*. Available online at http://www.wishesproject.org/?page_id=380/?tab=5

Oklahoma Guidelines for Healthcare Procedures in Schools

Illustration Source:

Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>

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Possible Problems that May Occur with Jejunostomies

- **Breathing difficulties, choking, coughing, and/or color changes**
Some students may experience increased respiratory secretions while receiving feedings and may need suctioning. Stop feeding and follow student-specific instructions for suctioning. Position student with head elevated at least 30 degrees. If problem continues after suctioning, notify school nurse and family.
- **Sweating, increased heart rate, pale skin color, irritability, diarrhea**
This may be signs of dumping syndrome, which can occur when volume or type of formula is increased. The feeding will usually need to be stopped until symptoms subside. Notify school nurse and family and follow student's IHP.
- **Nausea and/or cramping**
Make sure feeding is at room temperature. Check feeding rate. Rate may need to be decreased. If problem continues, notify school nurse and family.
- **Vomiting**
Jejunostomy tube may be dislodged from jejunum. Stop feeding. Notify school nurse, health care provider, and family. May need to vent G-tube if it was clamped during jejunal feeding.
- **Jejunal feeding contents in G-tube drainage**
J-tube may be dislodged from jejunum. Stop feeding. Notify school nurse, family, and/or health care provider.
- **Blocked jejunostomy tubing**
Make sure all tubing clamps are open. Blockage may be due to inadequate flushing, slow flow rate, or very thick fluid. Check tube position. Flush with 5 ml warm water. Carbonated beverages and juice have not proven effective in unclogging the tubing. Squeeze or roll jejunostomy tubing with fingers moving slowing down toward student's stomach. Do not use stylet (guidewire) to try and unclog as it may damage tube. Contact school nurse or family if blockage remains.
- **Leakage**
Drainage from jejunostomy is very caustic. Make sure tubing is not being pulled. Check position of tube. Make sure length of tubing outside the skin remains the same (catheter has not migrated). Check plug on G-J tube to make sure gastric port is securely attached.

- **Redness/irritation/bleeding at the site**

Check site for leakage. Drainage from jejunostomy is very caustic. Clean stoma site if leakage of food/fluid/medication/stomach or intestinal contents come in contact with skin. Keep site dry. Make sure tubing is not being pulled. Loosen external stabilizer if it is too tight. Avoid allowing tube to dangle—secure to clothing. Skin barrier or other protective skin preparations may be used, if ordered. Refer to student's IHP for cleaning or dressing instructions. In general, soap and water are only cleansing agents needed. If a dressing is needed, use only precut gauze because threads from hand-cut gauze can adhere to the stoma. Solutions such as hydrogen peroxide can interfere with skin healing and should be avoided, unless specifically ordered. Monitor for other signs of infection. Notify school nurse and family of any concerns.

- **J-tube falls out**

Follow orders provided by student's health care provider and specified in the IHP. Cover the site with dry dressing or large bandage. A tube may need to be reinserted immediately to keep site open if a student's tract closes quickly, but must be inserted by the student's health care provider. Notify the school nurse, family and health care provider. A backup gastrostomy tube should be placed in stoma tract until J-tube can be replaced.

Sources:

Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (3rd ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 249-260.

Cincinnati Children's Hospital (2012). *Gastrostomy-Jejunostomy tube care*. Available online at <http://www.cincinnatichildrens.org/health/g/gastro-jejuno-tube/>

Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE, 71-75.

Halyard (formerly Kimberly-Clark Health Care). (2015). *Mic-Key care and usage guide*. Available online at <http://www.mic-key.com/resources/mic-keystar-care-usage-guide.aspx>

Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 937-938.

National Library of Medicine. (2012). *Jejunostomy feeding tube*. MedlinePlus. Available online at <http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000181.htm>

- Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 236-243.
- Rady's Children's Hospital. (2012). *Guide to gastrostomy tubes*. San Diego. Slideshow available online at <http://www.slideshare.net/missnicoletait/guide-to-gastrostomy-tubes>
- Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1032-1040.
- Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 664-675.
- Wisconsin Improving School Health Services Project. (2015). *Jejunostomy tube continuous feeding*. Available online at http://www.wishesproject.org/?page_id=380/?tab=5

General Information for Students with Jejunostomy Tubes

Date: _____

To: _____
(Teachers, Instructional assistants, Bus drivers, etc.)

Name of Student: _____

This student has a jejunostomy tube (J-tube) inserted into the small intestine. The J-tube is used to administer food, medication, and fluids directly into the small intestine and may be used during the school day.

The tube is held in place at all times and is clamped or capped between feedings or medication administration. The tube is covered by clothing and should not cause any discomfort for the student. The student's privacy should be assured during feedings and medication administration.

The student should be able to fully participate in physical education classes unless he or she has another condition that would interfere with full participation.

Special arrangements may need to be made for feedings and medication administration during field trips.

Contact _____ at _____ (phone number) for additional information or if the student experiences any problems with the J-tube.

Source: Adapted from: Porter, S., Haynie, M., Bierle, T., Caldwell, T.H., & Palfrey, J.S. (Eds.). (1997). *Children and youth assisted by medical technology in educational settings: Guidelines for care* (2nd ed.). Baltimore: Paul H. Brookes Publishing.

General Information Sheet

Students with Jejunostomy Tubes

Dear (teacher, instructional assistant, bus driver):

_____ [Student's name] has a condition that requires a jejunostomy tube (J-tube). This is a simple and safe way of giving food, medication, and fluids directly into the intestine because the student is unable to take these by mouth.

The jejunostomy is a surgical opening into the jejunum (part of the small intestine). A flexible tube (i.e., the J-tube) is put into the surgical opening. It is held in place on the outside at all times. The tube is clamped or capped between feedings to prevent leakage. The J-tube usually does not cause the student discomfort and is covered by clothing.

The student may receive feedings or medication through the J-tube as needed during the school day in the classroom, the lunchroom, or the health office. Unless he or she has a condition that otherwise would interfere with participation in physical education or other activities, there is no reason why he or she cannot participate fully. Special consideration may be needed, however, for field trips or other activities during which the student may not be able to receive a regularly scheduled feeding.

The following staff members have been trained to deal with any problems that may arise with this student:

For more information about J-tubes or the student's needs, consult the school nurse or family.

Source: Porter, S., Haynie, M., Bierle, T., Caldwell, T. H., & Palfrey, J. S. (Eds.). (1997). *Children and Youth Assisted by Medical Technology in Educational Settings: Guidelines for Care*. (2nd ed.). Baltimore: Paul H. Brookes Publishing

Nasojejunal Tube

A nasojejunal tube (NJ-tube) is a tiny rubber or plastic tube that passes through a nostril, down the throat and esophagus, stomach, and into the jejunum of the small intestine. It can be used to give liquids, medication, and feedings when needed. NJ-tubes are usually used only during hospitalizations. If access to the jejunum is needed for longer periods, a gastric-jejunostomy is usually performed. Due to the concerns about aspiration and reflux, NJ tubes are rarely encountered in the school setting now. If a student does present to school with a NJ (nasojejunal) tube, the student will require very detailed, individualized instructions for all aspects of its care. Work with the health care provider and family to develop detailed instructions for the student's IHP and emergency action plan.

Colostomy

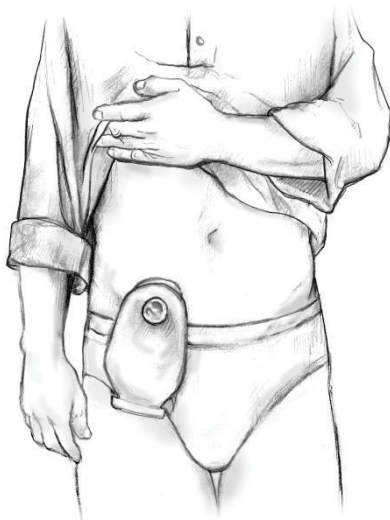
Overview

A colostomy is a surgically-created opening in the large intestine (colon) used to eliminate fecal material. A piece of the colon is brought through the abdominal wall out to the skin surface of the abdomen and folded back onto itself to form a *stoma*. The stoma is red or dark pink in color and moist, much like the mucosal lining of the mouth. A colostomy can be permanent or temporary.

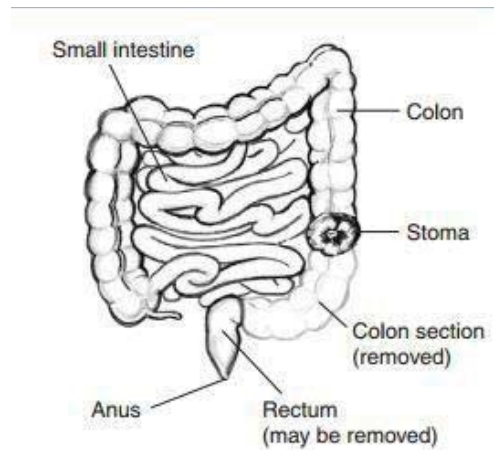
Colostomies are named for the portion of the colon used to form the stoma. The character of the stool that is drained also depends on the location of the colostomy. An ostomy in the sigmoid or descending colon (most common) will be found on the left side of the abdomen and will pass stool that is soft and semi-formed because it will have passed through most of the colon where the water is absorbed. However, an ostomy in the transverse colon or ascending colon will pass stool that is semi-liquid.

Some students may have two stomas. One stoma connects to the proximal end of the intestine and functions as the colostomy where stool will come out. The other end, the *mucus fistula*, is connected to the remaining part of the intestine which passes only the mucus that is produced by the portion of the colon no longer connected to the rest of the digestive tract.

Students receive ostomies for a variety of reasons. Some have birth defects such as imperforate anus, spina bifida, or Hirschsprung's Disease that require an alternate method of bowel elimination. Others may receive a colostomy due to ulcerative colitis, Crohn's disease, polyposis, injury, or nerve damage.



A pouch is worn over the colostomy to collect stool. Pouch systems can be reusable or disposable, drainable or close-bottomed, and one-piece or two-piece. Pouches typically last 1-7 days. They protect the stoma, as well as the skin around the stoma (peristomal). Stomas are rich in blood supply and may bleed slightly if irritated or rubbed. Because the stoma itself does not have nerve endings, irritation of the stoma does not usually cause discomfort. However, the skin surrounding the stoma does have nerve endings and may be sensitive to manipulation of the stoma or to contact with any discharge from the stoma. Therefore, good skin care and a properly fitting pouch are essential to preventing irritation and breakdown at the stoma site. If the opening of the pouch is too



large, it can expose skin to fecal matter and moisture. If it is too tight or constrictive, it can cut or injure the stoma. A skin barrier is also usually applied around the stoma to protect it.

Settings and Staff

The pouch should be emptied whenever it is one-third to one-half full or if a leak occurs. The student's privacy must be ensured whether the student cares for the ostomy by him/herself or receives assistance. Pouch changes are routinely performed at home, but may need to be done at school if a leak occurs or the pouch fills. A student with an ostomy should be able to participate in all school activities, including physical education.

Emptying and cleaning the pouch can be done by the student, the school nurse, or any adult trained in appropriate techniques and problem management of ostomies. Application of the pouch is best done by a registered or licensed practical school nurse if the student requires assistance. School staff who have regular contact with a student who has a colostomy should receive general training covering the student's specific needs, potential problems, and implementation of the established emergency plan.

Individualized Health care Plan (IHP)

Each student's IHP must be tailored to the individual's needs. A sample plan is included in Appendix A. When preparing an IHP for a student with a colostomy, the following items should be considered:

- Underlying condition and possible problems associated with the condition or with treatment
- Type of ostomy and pouch
- Any doctor's orders for special care or procedures
- Student's ability to provide self-care
- Access to a change of clothing at school
- Access to private bathroom
- Stoma care—cleansing supplies and frequency; barrier supplies
- Stoma appearance and changes that require reporting
- Usual stool consistency, frequency, amount
- Latex allergy precautions
- Standard precautions

Sources:

Oklahoma Guidelines for Healthcare Procedures in Schools

Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (3rd ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 519-525.

Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE, 93-94.

Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 940-941.

Hollister. (2007). Caring for your child with an ostomy. Available online at https://www.hollister.com/us/files/pdfs/osted_pcb_pediatric.pdf

National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health. (2014). *Ostomy surgery of the bowel*. NIH Publication No. 14-4641. Available online at http://www.niddk.nih.gov/health-information/health-topics/digestive-diseases/ostomy-surgery-bowel/Documents/Ostomy_Surgery_508.pdf.

Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 291-298.

Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1041-1042.

Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 823-826, 846-855.

United Ostomy Associations of America. (2011). *Colostomy guide*. Available online: http://www.ostomy.org/uploaded/files/ostomy_info/ColostomyGuide.pdf?direct=1

Wisconsin Improving School Health Services Project. (2015). *Ostomy care*. Available online at http://www.wishesproject.org/?page_id=428/?tab=5

Illustration Sources:

National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health. (2014).

Image Library. NO1666. Available online at <https://www.catalog.niddk.nih.gov/ImageLibrary>

National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health. (2014).

Oklahoma Guidelines for Healthcare Procedures in Schools

Image Library. NO1739. Available online at
<https://www.catalog.niddk.nih.gov/ImageLibrary>

Procedure for Emptying a Colostomy

1. Wash hands.
2. Assemble equipment:

Note: Family provides equipment and supplies. *Student should have a complete set of ostomy supplies at school with a spare pouch and clip/pouch closure.*

- Tissue, wet washcloth, paper towel, or wet wipe
 - Toilet or container to dispose of wastes
 - Gloves, if pouch is to be emptied by someone other than student
 - Clean pouch with clip closure
 - Extra pouch supplies
3. Explain procedure using explanations the student can understand. Encourage the student to do as much of the procedure as is capable, so as to achieve maximum self-care skills.
 4. Wash hands and put on gloves. Wash student's hands if they are assisting.
 5. Empty when 1/3-1/2 full of stool or gas. If emptying into a toilet, place a piece of toilet paper in toilet to prevent splashing.
 6. Tilt the bottom of the pouch upward and remove the clamp.
 7. Fold the bottom of the pouch up to form a cuff before emptying.
Cuff helps keep bottom of pouch clean during emptying.
 8. Slowly unfold end of pouch and empty contents of pouch into toilet or container. Sliding your hands down the outside of the pouch can help to push out the stool.
 9. Wipe the bottom of the pouch with tissue, wet washcloth, paper towel, or wet wipe and unfold cuff. Pouch deodorant can be applied, if specified in student's IHP. Do not use oils or soap because they can weaken the pouch seal. Rinsing with water can also weaken the skin barrier seal and should be avoided.
 10. Re-apply clamp closure.
 11. Flatus can be released through the gas release valve, if the pouch has one. If there is no valve, flatus can be expelled by tilting the bottom of the pouch upward, releasing the clamp, and expelling the flatus. Re-apply clamp.
 12. Flush wastes in toilet.
 13. Remove gloves and wash hands. Wash student's hands also if they assist.

14. Report any change in student's usual pattern to school nurse and family.
15. Document actions and observations.

Sources:

Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (3rd ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 519-525.

Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE, 93-94.

Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 940-941.

Hollister. (2007). Caring for your child with an ostomy. Available online at https://www.hollister.com/us/files/pdfs/osted_pcb_pediatric.pdf

National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health. (2014). *Ostomy surgery of the bowel*. NIH Publication No. 14-4641. Available online at http://www.niddk.nih.gov/health-information/health-topics/digestive-diseases/ostomy-surgery-bowel/Documents/Ostomy_Surgery_508.pdf

Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 291-298.

Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1041-1042.

Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 823-826, 846-853.

United Ostomy Associations of America. (2011). *Colostomy guide*. Available online: http://www.ostomy.org/uploaded/files/ostomy_info/ColostomyGuide.pdf?direct=1

Wisconsin Improving School Health Services Project. (2015). *Emptying ostomy pouch*. Available online at http://www.wishesproject.org/?page_id=262/?tab=5

Procedure for Changing a Colostomy Pouch

1. Wash hands.
2. Assemble equipment:

Note: Family provides equipment and supplies. *Student should have a complete set of ostomy supplies at school with a spare pouch and clip/pouch closure. Routine pouch changes should be performed at home.*

- Water
 - Skin cleanser
 - Soft cloth or gauze or tissues
 - Clean pouch with clip closure
 - Protective paste or powder, if used
 - Skin barrier
 - Measuring guide, if needed
 - Belt, if used
 - Gloves, if pouch is to be changed by someone other than student
 - Tape, if needed
 - Scissors, if needed
3. Explain procedure using explanations the student can understand. Encourage the student to do as much of the procedure as is capable, so as to achieve maximum self-care skills.
 4. Wash hands and put on gloves.
 5. Empty contents of old pouch into toilet, bedpan, or other designated container (see previous procedure).
 6. Starting at the outer top edge, use the dominant hand to carefully pull away the used pouch and skin barrier while pressing the skin downward from the bag with the non-dominant hand. Remove more by pushing the skin down than by pulling the bag off the skin.
 7. **Save clamp** for reuse (unless specified otherwise). Dispose of used pouch in appropriate receptacle.
 8. Wash the peristomal area with water and a clean cloth or gauze or whatever is specified in student's IHP. **Do not scrub.** Use minimal pressure to prevent a prolapse of the stoma. Cover the stoma with gauze or tissue to prevent leakage. Make sure the skin around the stoma is clean and allow to dry.

Scrubbing can damage the stoma and cause bleeding.

9. Examine the stoma for integrity (note whether it has come further out or moved further in) and any of signs of necrosis. Assess the skin for redness, irritation, rash, bleeding, or breakdown.

If there is any change in the stoma, notify school nurse and/or family immediately. If there is skin irritation, follow guidelines in student's IHP. Medications, ointments, or adhesives are generally not used on the damaged skin because they make it more difficult for the pouch to stick. Skin irritation should be reported to school nurse and/or family.

10. If a skin barrier is used that requires fitting, measure stoma using measuring guide or per student's IHP. Cut wafer-barrier and pouch to fit stoma. Some wafer-barriers are single items, but many are attached to pouch. Remove paper from wafer. Save paper to use as a guide for cutting openings for future pouch changes (if stoma size is stable).
11. If specified in IHP, apply a ring of protective paste to opening on wafer barrier or apply around stoma. Remove used gauze/tissue from stoma and discard in appropriate receptacle.
12. If one-piece wafer/pouch used, remove paper from outer adhesive area of pouch and apply wafer/pouch over stoma. If two-piece setup used, place wafer barrier on skin around stoma, remove backing from pouch, and apply pouch to wafer and skin. Some two piece systems require pouch to be snapped together.
13. Firmly press the pouch and skin barrier so there are no wrinkles and no leaks. Hold in place for 30-60 seconds.

Body warmth will soften rigid wafer and improve adhesion to skin

14. Use clamp to seal pouch. Make sure bowed end of clamp is next to body.

Bowed end conforms to body providing a better fit and keeping clamp from sticking out through clothing.

15. If a belt is used to fasten pouch, attach to pouch.
16. Remove gloves and wash hands.
17. Document in student log that procedure was done and condition of stoma and skin. Report to school nurse and family any change in stoma, skin, or tolerance of the procedure.

Sources:

Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (3rd ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 519-525.

Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE , 93-94.

Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 940-941.

Hollister. (2007). Caring for your child with an ostomy. Available online at https://www.hollister.com/us/files/pdfs/osted_pcb_pediatric.pdf

National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health. (2014). *Ostomy surgery of the bowel*. NIH Publication No. 14-4641. Available online at http://www.niddk.nih.gov/health-information/health-topics/digestive-diseases/ostomy-surgery-bowel/Documents/Ostomy_Surgery_508.pdf

Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 291-298.

Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1041-1042.

Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 823-826, 846-853.

United Ostomy Associations of America. (2011). *Colostomy guide*. Available online: http://www.ostomy.org/uploaded/files/ostomy_info/ColostomyGuide.pdf?direct=1

Wisconsin Improving School Health Services Project. (2015). *Ostomy care*. Available online at http://www.wishesproject.org/?page_id=428/?tab=5

Possible Problems When Caring for a Student with a Colostomy

- **Odor**
Odor should not be detected when the student keeps pouch closed. If there is an odor, check for a leak around the stoma or for a leak in the pouch itself. Do **not** make any pinholes in pouch to release gas because doing so destroys the odor proof seal. Commercial deodorants are available if family wants them.
- **Leakage**
Empty pouch and do not allow it to get over 1/3 full before emptying. Check to see if there are any wrinkles or leaks and if the pouch is the proper size for the stoma. Reapply pouch. Use skin barrier paste, if ordered, to help form a seal.
- **Bleeding from stoma**
Stomas are rich in blood supply and may bleed slightly if irritated or rubbed. Be careful not to rub during cleaning or nick with a fingernail. Check to see if the opening of the pouch may be cutting or rubbing the stoma. If the bleeding does not stop quickly, apply gentle pressure and notify the school nurse and family. If a large area of the stoma appears to be bleeding, notify the family, school nurse, or health care provider.
- **Dark, dusky colored, or black stoma**
Activate the emergency plan and notify school nurse, family and/or health care provider immediately. Integrity of stoma may be compromised.
- **Irritation or skin breakdown around stoma; discharge from area; itching or burning under the pouch**
Make sure pouch and skin barrier are sized correctly. If leaking or incorrectly sized, replace with proper sized pouch and barrier. Follow student-specific guidelines for skin care. Apply protective paste between barrier and skin, if ordered. Check to see if student is using any new ostomy products which could be causing an allergic reaction. Notify the school nurse, family, or health care provider.
- **Red rash; rash may extend beyond peristomal area**
Student may have a yeast infection. Clean and dry the skin carefully and notify the school nurse and the family. Keep skin dry.
- **Stoma appears to increase in size; part of intestine showing through stoma, or stoma sinks below skin surface**
If the amount of intestinal tissue showing is more than usual, the stoma may be prolapsing (intestine being pushed out through the opening). The tissue may appear swollen, and the student may experience cramping and vomiting. If stoma sinks below skin level, it may be retracting. **Contact the school nurse, family, and/or health care provider immediately.**
- **Change in stool pattern**
Assess recent diet history for changes. Assess for other signs of infection or illness such as fever or pain. If the student experiences a significant change in the number or consistency of stools, contact the family.

- **Pain and tenderness in the stoma or abdominal area, no output from the stoma for 4-5 hours, cramping, nausea and/or vomiting; watery green or ribbon-like output** Intestine or stoma may be developing an obstruction. **Notify school nurse and family immediately.**
- **Student has body image concerns**
Encourage student to voice concerns. Discuss with family as appropriate. Refer to United Ostomy Association of America (www.UOAA.org or 1-800-826-0826) or nearest enterostomal therapy nurse (wound ostomy certified nurse) for assistance. (Wound Ostomy and Continence Nurses 1-888-224-9626). Videos and brochures are available from UOAA and other organizations such as the Crohn's and Colitis Foundation of America.

Sources:

Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (3rd ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 519-525.

Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE, 93-94.

Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 940-941.

Hollister. (2007). Caring for your child with an ostomy. Available online at https://www.hollister.com/us/files/pdfs/osted_pcb_pediatric.pdf

National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health. (2014). *Ostomy surgery of the bowel*. NIH Publication No. 14-4641. Available online at http://www.niddk.nih.gov/health-information/health-topics/digestive-diseases/ostomy-surgery-bowel/Documents/Ostomy_Surgery_508.pdf

Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 291-298.

Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1041-1042.

Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 823-826, 846-853.

United Ostomy Associations of America. (2011). *Colostomy guide*. Available online: http://www.ostomy.org/uploaded/files/ostomy_info/ColostomyGuide.pdf?direct=1

Wisconsin Improving School Health Services Project. (2015). *Emptying ostomy pouch*. Available online at http://www.wishesproject.org/?page_id=262/?tab=5

Wisconsin Improving School Health Services Project. (2015). *Ostomy care*. Available online at http://www.wishesproject.org/?page_id=428/?tab=5

General Information for Students with Colostomies

Date: _____

To: _____
(Teachers, Instructional assistants, Bus drivers, etc)

Name of Student: _____

This student has a colostomy or opening into the large intestine to allow the body to eliminate stool. The opening, or stoma, is covered by a pouch that collects waste.

The student, if able, empties the pouch and cleans the stoma. This procedure occurs in the bathroom and the student should be allowed to go to the bathroom on an as-needed basis.

The student's privacy should be assured during this procedure, which may necessitate use of a private bathroom.

The student should be able to fully participate in physical education classes unless he or she has another condition that would interfere with full participation. It is very difficult to injure a stoma. The pouch should not come off during normal circumstances.

Contact _____ at _____ (phone number)
for additional information or if the student experiences any problems with the colostomy.

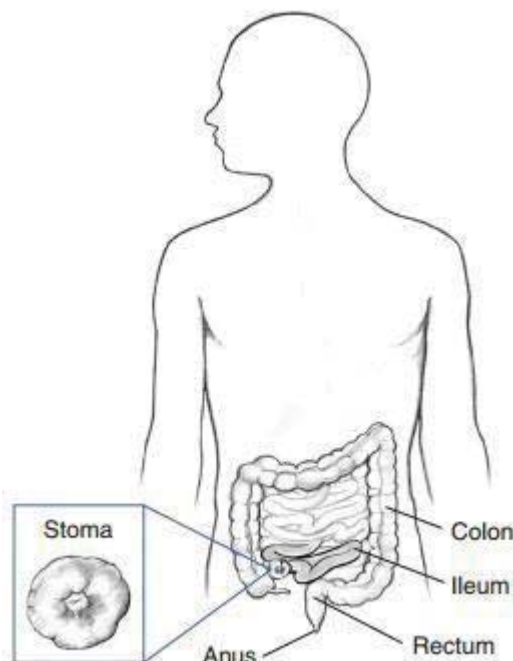
Source: Adapted from: Porter, S., Haynie, M., Bierle, T., Caldwell, T.H., & Palfrey, J.S. (Eds.). (1997). *Children and youth assisted by medical technology in educational settings: Guidelines for care* (2nd ed.).

Ileostomy

Overview

An *ileostomy* is a surgically-created opening in the section of the small intestine called the *ileum* that is used to eliminate fecal material. A piece of the ileum is brought through the abdominal wall out to the skin surface of the abdomen and folded back onto itself to form a *stoma*. The stoma is red or dark pink in color and moist, much like the mucosal lining of the mouth. It is about the size of a quarter and is usually located in the lower right part of the abdomen near the beltline.

The discharge from an ileostomy is much looser and more liquefied than the fecal material from a colostomy because food is not completely digested until it passes through the colon where most water absorption takes place. The discharge also contains digestive enzymes, which are very irritating and caustic to skin. Ileostomies drain fairly constantly with more after meals and less during the night. Some foods may pass through fairly intact without being digested very much.



A pouch is worn over the ileostomy to collect waste. Because the output from an ileostomy is so caustic, it is very important to have a proper fitting pouch and good skin care. Pouches for ileostomies sometimes protrude or use convex inserts to help the stoma protrude more to decrease the possibility of stool getting under the pouch. Pouch systems can be reusable or disposable, drainable or close-bottomed, and one-piece or two-piece. Pouches typically last 1-7 days. They protect the stoma, as well as the skin around the stoma (peristomal). Stomas are rich in blood supply and may bleed slightly if irritated or rubbed. Because the stoma itself does not have nerve endings, irritation of the stoma does not usually cause discomfort. However, the skin surrounding the stoma does have nerve endings and may be sensitive to manipulation of the stoma or to contact with any discharge from the stoma. Therefore, good skin care and a properly fitting pouch are essential to preventing irritation and breakdown at the stoma site. If the opening of the pouch is too large, it can expose skin to fecal matter and moisture. If it is too tight or constrictive, it can cut or injure the stoma. A skin barrier is also usually applied around the stoma to protect it. The best time to change an ileostomy pouch is when the bowel is least active, usually 2-4 hours after meals.

Reasons to call the family and health care provider:

- no output from the ileostomy for 4-6 hours accompanied by cramping and nausea
- persistent nausea and vomiting
- cramps which last more than 2-3 hours
- watery discharge which last more than 5-6 hours
- deep cut in the stoma
- significant change in stoma size or color
- severe skin irritation or ulcers
- excessive bleeding from the stoma
- continuous bleeding where the stoma and skin join
- unusually strong odor--may indicate infection

Settings and Staff

The ileostomy pouch should be emptied whenever it is one-third to one-half full or if a leak occurs. The student's privacy must be ensured whether the student cares for the ostomy by him/herself or receives assistance. Pouch changes are routinely performed at home, but may need to be done at school if a leak occurs. A student should be able to participate in all school activities, including physical education.

Emptying and cleaning the pouch can be done by the student, the school nurse, or any adult trained in appropriate techniques and problem management of ostomies. Application of the pouch is best done by a registered or licensed practical nurse if the student requires assistance, but can be done by a specially trained adult. School staff who has regular contact with a student with an ileostomy should receive general training covering the student's specific needs, potential problems, and implementation of the established emergency plan.

Individualized Health care Plan (IHP)

Each student's IHP must be tailored to the individual's needs. A sample plan is included in Appendix A. When preparing an IHP for a student with an ileostomy, the following items should be considered:

- Underlying condition and possible problems associated with the condition or treatment
- Type of pouch and supplies
- Any doctor's orders for special care or procedures
- How often pouch should be emptied
- Student's ability to provide self-care
- Access to a change of clothing at school
- Access to private bathroom
- Stoma care—cleansing supplies and frequency; barrier supplies
- Stoma appearance and changes that require reporting

- Usual stool consistency, frequency, amount
- Diet modification, if needed
- Latex allergy precautions
- Standard precautions

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Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE , 93-94.

Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 940-941.

Hollister. (2007). Caring for your child with an ostomy. Available online at https://www.hollister.com/us/files/pdfs/osted_pcb_pediatric.pdf

National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health. (2014). *Ostomy surgery of the bowel*. NIH Publication No. 14-4641. Available online at http://www.niddk.nih.gov/health-information/health-topics/digestive-diseases/ostomy-surgery-bowel/Documents/Ostomy_Surgery_508.pdf

Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 299-303.

Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1041-1042.

Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 823-826, 846-853.

United Ostomy Associations of America. (2011). *Ileostomy Guide*. Available online: http://www.ostomy.org/uploaded/files/ostomy_info/IleostomyGuide.pdf?direct=1

Wisconsin Improving School Health Services Project. (2015). *Emptying ostomy pouch*. Available online at http://www.wishesproject.org/?page_id=262/?tab=5

Wisconsin Improving School Health Services Project. (2015). *Ostomy care*. Available online at http://www.wishesproject.org/?page_id=428/?tab=5

Illustration Source:

National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health. (2014). Image Library. NO1740. Available online at <https://www.catalog.niddk.nih.gov/ImageLibrary>.

Procedure for Emptying an Ileostomy

1. Wash hands.
2. Assemble equipment:

Note: Family provides equipment and supplies. *Student should have a complete set of ostomy supplies at school with a spare pouch and clip/pouch closure.*

- Tissue, wet washcloth, paper towel, or wet wipe
 - Toilet or container to dispose of wastes
 - Gloves, if pouch is to be emptied by someone other than student
 - Clean pouch with clip closure
 - Extra pouch supplies
3. Explain procedure using explanations the student can understand. Encourage the student to do as much of the procedure as is capable, so as to achieve maximum self-care skills.
 4. Wash hands and put on gloves.
 5. Empty when 1/3-1/2 full of stool or gas. If emptying into a toilet, place a piece of toilet paper in toilet to prevent splashing.
 6. Tilt the bottom of the pouch upward and remove the clamp.
 7. Fold the bottom of the pouch up to form a cuff before emptying.
Cuff helps keep bottom of pouch clean during emptying.
 8. Slowly unfold end of pouch and empty contents of pouch into toilet or container.
 9. Wipe the bottom of the pouch with tissue, wet washcloth, paper towel, or wet wipe and unfold cuff. Pouch deodorant can be applied, if specified in student's IHP. Do not use oils or soap because they can weaken the pouch seal. Rinsing with water can also weaken the skin barrier seal and should be avoided.
 10. Re-apply clamp closure.
 11. Flatus can be released through the gas release valve, if the pouch has one. If there is no valve, flatus can be expelled by tilting the bottom of the pouch upward, releasing the clamp, and expelling the flatus. Re-apply clamp.
 12. Flush wastes in toilet.
 13. Remove gloves and wash hands. Wash student's hands if they assist.
 14. Report any change in student's usual pattern to school nurse and family.

15. Document actions and observations.

Sources:

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Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE , 93-94.

Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 940-941.

Hollister. (2007). *Caring for your child with an ostomy*. Available online at https://www.hollister.com/us/files/pdfs/osted_pcb_pediatric.pdf

National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health. (2014). *Ostomy surgery of the bowel*. NIH Publication No. 14-4641. Available online at http://www.niddk.nih.gov/health-information/health-topics/digestive-diseases/ostomy-surgery-bowel/Documents/Ostomy_Surgery_508.pdf

Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 299-303.

Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1041-1042.

Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 823-826, 846-853.

United Ostomy Associations of America. (2011). *Ileostomy Guide*. Available online: http://www.ostomy.org/uploaded/files/ostomy_info/IleostomyGuide.pdf?direct=1

Wisconsin Improving School Health Services Project. (2015). *Emptying ostomy pouch*. Available online at http://www.wishesproject.org/?page_id=262/?tab=5

Wisconsin Improving School Health Services Project. (2015). *Ostomy care*. Available online at http://www.wishesproject.org/?page_id=428/?tab=5

Procedure for Changing an Ileostomy Pouch

1. Wash hands.
2. Assemble equipment:

Note: Family provides equipment and supplies. *Student should have a complete set of ostomy supplies at school with a spare pouch and clip/pouch closure. Routine pouch changes should be performed at home.*

- Water
 - Skin cleanser
 - Soft cloth or gauze or tissues
 - Clean pouch with clip closure
 - Protective paste or powder, if used
 - Skin barrier
 - Measuring guide, if needed
 - Belt, if used
 - Gloves, if pouch is to be changed by someone other than student
 - Tape, if needed
 - Scissors, if needed
3. Explain procedure using explanations the student can understand. Encourage the student to do as much of the procedure as is capable, so as to achieve maximum self-care skills.
 4. Wash hands and put on gloves.
 5. Empty contents of old pouch into toilet, bedpan, or other designated container. Placing a piece of toilet paper in the toilet before emptying can help to prevent splashing.
 6. Starting at the outer top edge, press the skin downward from the bag with the non-dominant hand while carefully removing the used pouch with the dominant hand.
 7. **Save clamp** for reuse (unless specified otherwise). Dispose of used pouch in appropriate receptacle.
 8. Wash the peristomal area with water and a clean cloth or gauze or whatever is specified in student's IHP. Do not use baby wipes on the skin because they can leave a film on the skin and prevent a good seal. **Do not scrub.** Use minimal pressure to prevent a prolapse of the stoma. Cover the stoma with gauze or tissue to prevent leakage. Make sure the skin around the stoma is clean and allow to dry.

Scrubbing can damage the stoma and cause bleeding.

9. Examine the stoma for integrity (whether it has come further out or moved further in) and any of signs of necrosis. Assess the skin for redness, irritation, rash, bleeding, or breakdown.

If there is any change in the stoma, notify school nurse and/or family immediately. If there is skin irritation, follow guidelines in student's IHP. Medications, ointments, or adhesives are generally not used on the damaged skin because they make it more difficult for the pouch to stick. Skin irritation should be reported to school nurse and/or family.

10. If a skin barrier is used that requires fitting, measure stoma using measuring guide or per student's IHP. Cut wafer-barrier to fit stoma. Be careful not to puncture the pouch. Some wafer-barriers are single items, but many are attached to pouch. Remove paper from wafer. Save paper to use as a guide for cutting openings for future pouch changes (if stoma size is stable).
11. If specified, apply a ring of protective paste to opening on wafer barrier or apply around stoma. Remove used gauze/tissue from stoma and discard in appropriate receptacle.
12. If one-piece wafer/pouch used, remove paper from outer adhesive area of pouch and apply wafer/pouch over stoma. If two-piece setup used, place wafer barrier on skin around stoma, remove backing from pouch, and apply pouch to wafer and skin. Some two piece systems require pouch to be snapped together.
13. Firmly press the pouch and skin barrier so there are no wrinkles and no leaks. Hold in place for 30-60 seconds.

Body warmth will soften rigid wafer and improve adhesion to skin.

14. Use clamp to seal pouch. Make sure bowed end of clamp is next to body.

Bowed end conforms to body providing a better fit and keeping clamp from sticking out through clothing.

15. If a belt is used to fasten pouch, attach to pouch.
16. Remove gloves and wash hands.
17. Document in student log that procedure was done and condition of stoma and skin. Report to school nurse and family any change in stoma, skin, or tolerance of the procedure.

Sources:

Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (3rd ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 519-525.

Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE , 93-94.

Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 940-941.

Hollister. (2007). *Caring for your child with an ostomy*. Available online at https://www.hollister.com/us/files/pdfs/osted_pcb_pediatric.pdf

Hollister. (2007). *Punchkins two-piece pouching systems. Ostomy care tips*. Available online at https://www.hollister.com/us/files/care_tips/tips_Pouchkins%20Two-Piece%20Pouching%20Systems.pdf

National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health. (2014). *Ostomy surgery of the bowel*. NIH Publication No. 14-4641. Available online at http://www.niddk.nih.gov/health-information/health-topics/digestive-diseases/ostomy-surgery-bowel/Documents/Ostomy_Surgery_508.pdf

Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 299-303.

Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1041-1042.

Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 823-826, 846-853.

United Ostomy Associations of America. (2011). *Ileostomy Guide*. Available online: http://www.ostomy.org/uploaded/files/ostomy_info/IleostomyGuide.pdf?direct=1

Wisconsin Improving School Health Services Project. (2015). *Emptying ostomy pouch*. Available online at http://www.wishesproject.org/?page_id=262/?tab=5

Wisconsin Improving School Health Services Project. (2015). *Ostomy care*. Available online at http://www.wishesproject.org/?page_id=428/?tab=5

Possible Problems When Caring for a Student with an Ileostomy

- **Odor**

Odor should not be detected when the student keeps pouch closed. If there is an odor, check for a leak around the stoma or for a leak in the pouch itself. Do **not** make any pinholes in pouch to release gas because doing so destroys the odor proof seal. Commercial deodorants are available if family wants them.
- **Leakage**

Empty pouch and do not allow it to get over 1/3 full before emptying. Check to see if there are any wrinkles or leaks and if the pouch is the proper size for the stoma. Reapply pouch. Use skin barrier paste, if ordered, to help form a seal.
- **Bleeding from stoma**

Stomas are rich in blood supply and may bleed slightly if irritated or rubbed. Be careful not to rub during cleaning or nick with a fingernail. Check to see if the opening of the pouch may be cutting or rubbing the stoma. If the bleeding does not stop quickly, apply gentle pressure and notify the family. If a large area of the stoma appears to be bleeding, notify the family, school nurse, or health care provider.
- **Dark, dusky colored, or black stoma**

Activate the emergency plan and notify family and/or health care provider immediately. Integrity of stoma may be compromised.
- **Irritation or skin breakdown around stoma; discharge from area; itching or burning under the pouch**

Make sure pouch and skin barrier are sized correctly. If leaking or incorrectly sized, replace with proper sized pouch and barrier. Follow student-specific guidelines for skin care. Apply protective paste between barrier and skin, if ordered. Check to see if student is using any new ostomy products which could be causing an allergic reaction. Notify the school nurse, family, or health care provider.
- **Red rash; rash may extend beyond peristomal area**

Student may have a yeast infection. Clean and dry the skin carefully and notify the school nurse and the family. Keep skin dry.
- **Stoma appears to increase in size; part of intestine showing through stoma, or stoma sinks below skin surface**

If the amount of intestinal tissue showing is more than usual, the stoma may be prolapsing (intestine being pushed out through the opening). The tissue may appear swollen, and the student may experience cramping and vomiting. If stoma sinks below skin level, it may be retracting. **Contact the school nurse, family, and/or health care provider immediately.**

 - **Change in stool pattern**

Assess recent diet history for changes. Assess for other signs of infection or illness such as fever or pain. If the student experiences a significant change in the number or consistency of stools, contact the family.

- **Pain and tenderness in the stoma or abdominal area, no output from the stoma for 4-5 hours, cramping, nausea and/or vomiting; watery green or ribbon-like output** Intestine or stoma may be developing an obstruction. **Notify school nurse and family immediately.**
- **Student has body image concerns**
Encourage student to voice concerns. Discuss with family as appropriate. Refer to United Ostomy Association of America (www.UOAA.org or 1-800-826-0826) or nearest enterostomal therapy nurse (wound ostomy certified nurse) for assistance. (Wound Ostomy and Continence Nurses 1-888-224-9626). Videos and brochures are available from UOAA and other organizations such as the Crohn's and Colitis Foundation of America.

Sources:

Bowden, V., & Greenberg, C. (2012). *Pediatric nursing procedures* (3rd ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 519-525.

Connecticut State Department of Education. (2012). *Clinical procedure guidelines for Connecticut school nurses*. Middlebury, CT: CSDOE , 93-94.

Hockenberry, M., & Wilson, D. (2015). *Wong's nursing care of infants and children* (10th ed.). St. Louis: Elsevier Mosby, 940-941.

Hollister. (2007). *Caring for your child with an ostomy*. Available online at https://www.hollister.com/us/files/pdfs/osted_pcb_pediatric.pdf

National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health. (2014). *Ostomy surgery of the bowel*. NIH Publication No. 14-4641. Available online at http://www.niddk.nih.gov/health-information/health-topics/digestive-diseases/ostomy-surgery-bowel/Documents/Ostomy_Surgery_508.pdf

Porter, S., Branowicki, P., & Palfrey, J. (2014). *Supporting students with special health care needs: Guidelines and procedures for schools* (3rd ed.). Baltimore: Paul H. Brookes Publishing, 299-303.

Selekman, J. (2013). *School nursing: A comprehensive text* (2nd ed.). Philadelphia: F.A. Davis, 1041-1042.

Smith, S., Duell, D. & Martin, B. (2012). *Clinical nursing skills: Basic to advanced skills* (8th ed.). Boston: Pearson, 823-826, 846-853.

United Ostomy Associations of America. (2011). *Ileostomy guide*. Available online: http://www.ostomy.org/uploaded/files/ostomy_info/IleostomyGuide.pdf?direct=1

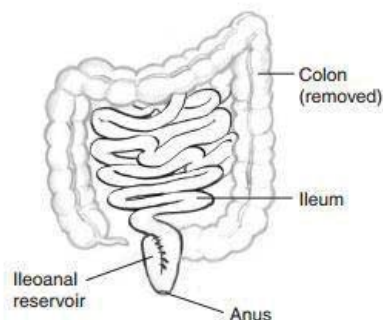
Wisconsin Improving School Health Services Project. (2015). *Emptying ostomy pouch*. Available online at http://www.wishesproject.org/?page_id=262/?tab=5

Wisconsin Improving School Health Services Project. (2015). *Ostomy care*. Available online at http://www.wishesproject.org/?page_id=428/?tab=5

Ileoanal Reservoir and Continent Ileostomy

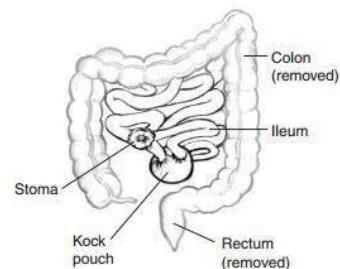
Ileoanal Reservoir

An *ileoanal reservoir* is a surgically-created internal pouch made from the end of the ileum. This surgery is an alternative to an ileostomy and does not require wearing an external pouch. After removing the colon, the surgeon creates an internal pouch and connects this to the anus. Also known as a J-pouch (for its shape), the ileoanal reservoir collects the stool until it is ready to exit the body through the anus during a bowel movement. The sphincter muscle around the anus must be intact to keep the pouch from leaking. It is most often used for students who have ulcerative colitis or familial adenomatous polyposis who need to have their colons removed.



Continent Ileostomy

A continent ileostomy also allows the student not to have to wear an external pouch. After removal of the colon, an internal pouch, sometimes called a Kock pouch, is created from the end of the ileum and is brought to the surface of the abdomen. The surgeon makes a valve inside the pouch so the intestinal contents do not flow out. The pouch can be drained by inserting a thin catheter or drain through the stoma 4-6 times a day. The stoma is covered by a patch or dressing between each draining. Due to the delicate nature of this surgery, it is no longer performed very often but may be used when a person does not have an intact, functioning anus.



Sources:

National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health. (2014). *Ostomy surgery of the bowel*. NIH Publication No. 14-4641. Available online at http://www.niddk.nih.gov/health-information/health-topics/digestive-diseases/ostomy-surgery-bowel/Documents/Ostomy_Surgery_508.pdf

United Ostomy Associations of America. (2011). *Ileoanal reservoir guide*. Available online at http://www.ostomy.org/uploaded/files/ostomy_info/IleoanalReservoirGuide.pdf?direct=1

General Information for Students with Ileostomies

Date: _____

To: _____
(Teachers, Instructional assistants, Bus drivers, etc.)

Name of Student: _____

This student has an ileostomy, or opening into the small intestine to allow the body to eliminate stool. The opening, or stoma, is covered by a pouch that collects stool.

The student usually empties the pouch and cleans the stoma. This procedure occurs in the bathroom and the student should be allowed to go to the bathroom on an as needed basis.

The student's privacy should be assured during this procedure, which may necessitate use of a private bathroom.

The student should be able to fully participate in physical education classes unless he or she has another condition that would interfere with full participation. It is very difficult to injure a stoma. The pouch should not come off during normal circumstances.

Contact _____ at _____ (phone number) for additional information or if the student experiences any problems with the ileostomy.

Source: Adapted from: Porter, S., Haynie, M., Bierle, T., Caldwell, T.H., & Palfrey, J.S. (Eds.). (1997). *Children and youth assisted by medical technology in educational settings: Guidelines for care* (2nd ed.). Baltimore: Paul H. Brookes Publishing.