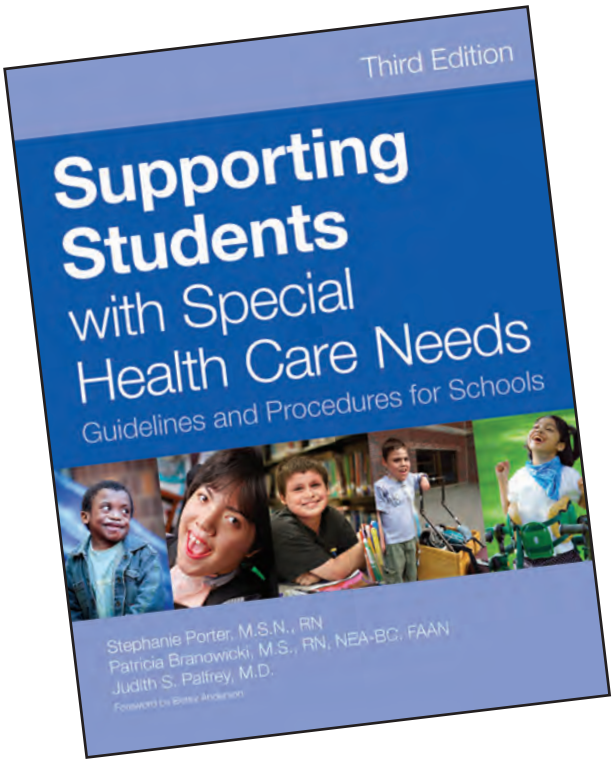
Thank you for downloading a free excerpt from



Supporting Students with Special Health Care Needs

Guidelines and Procedures for Schools

$59.95 | Stock # 70632 | 2014
520 pages | 8.5 x 11 | paperback

For more information or to purchase visit,
http://brookespublishing.com/students-with-special-health-care-needs

Connect with us online

and get access to exclusive ***FREE*** content and special offers!

@BrookesPubCo
www.facebook.com/brookespublishingco
http://pinterest.com/brookespubco
www.youtube.com/BrookesPublishing
http://www.brookespublishing.com/about-us/newsletters

Supporting Students with Special Health Care Needs

Guidelines and Procedures for Schools

Third Edition

edited by

Stephanie M. Porter, M.S.N., RN

Patricia A. Branowicki, M.S., RN, NEA-BC, FAAN

and

Judith S. Palfrey, M.D.

Boston Children's Hospital
Boston, Massachusetts

Illustrations by Marcia Williams
Photographs by Douglas Quagliaroli

PAUL H. BROOKES PUBLISHING CO.®

Baltimore • London • Sydney

Contents

About the Editors

Stephanie M. Porter, M.S.N., RN, is Program/Project Coordinator within the Medicine Patient Services Department at Boston Children's Hospital, where she has worked since 1986. Stephanie provides consultation to the Greater Boston, Southeast, and Northeast regions of Massachusetts through the Massachusetts Technology Assistance Resource Team program, funded through the Massachusetts Department of Public Health, working with school nurses and school staff assisting children with special health care needs to be able to attend educational programs. Stephanie also coordinates the Community Education Initiative at Children's Hospital, providing learning opportunities for school nurses and community providers. Stephanie is on the faculty of the Leadership Education in Neurodevelopmental and Related Disabilities program, which provides advanced interdisciplinary training for working with children and youth with developmental and related disabilities. Stephanie is also a Reiki Master Teacher. She has published a number of articles and book chapters on children with special health care needs, adolescent transition, and utilizing integrative therapies for school nurses and community providers in a school setting.

Patricia A. Branowicki, M.S., RN, NEA-BC, FAAN, is Associate Chief Nurse for Medicine Patient Services at Boston Children's Hospital and Associate Chief Nurse of Pediatric Oncology at Dana-Farber Cancer Institute. In these roles, Patricia is involved in all aspects of patient care operations. Certified by the Board of American Nurses Credentialing Center and in the final stages of completing her Ph.D. at Boston College, she is particularly interested in the areas of improving systems within health care settings to enhance the patient experience and transitions from hospital to home. She was inducted into the American Academy of Nursing as a Fellow in Fall 2013.

Judith S. Palfrey, M.D., is the T. Berry Brazelton Professor of Pediatrics at Harvard Medical School. Judith also serves as Director of the Global Pediatrics Program in the Department of Medicine at Boston Children's Hospital. She has served at Boston Children's Hospital for nearly 40 years and has held key positions, including Chief of the Division of General Pediatrics. Judith is former President of the American Academy of Pediatrics (AAP) and served as Chair of the AAP section on Developmental and Behavioral Pediatrics. She was also Director of Building Bright Futures and National Program Director of the Dyson Community Pediatrics Initiative. Judith is the recipient of the AAP's Milton Senn Award and the New York Academy of Medicine's Millie and Richard Brock Award. She holds a B.A. from Harvard University and an M.D. from Columbia University College of Physicians and Surgeons.

How to Use This Book

This manual and its guidelines are intended for use by professionals and parents who care for children and youth who are assisted by medical technology. Parts of this manual are written for people with little or no medical background. Other parts detail the specific technical procedures that are needed by children with specific conditions daily. Many of the materials are intended for distribution and daily use. Forms to use when developing individualized health care plans (IHCPs), emergency plans, and checklists about each procedure/technology are included, and some may be reproduced.

The manual is divided into two distinct sections: Section I, "Children and Youth Assisted by Medical Technology in Educational Settings," comprises Chapters 1–10, and Section II, "Guidelines for Care," comprises Chapters 11–18, the various procedures and guidelines themselves.

Chapter 1 provides an overview of children with special health care needs, the maternal and child health definition, the child's health conditions/disabilities that may be present, the concept of the medical home, care coordination, and family-centered care and respite and their importance in the life of the child and family.

Chapter 2 presents a team approach to providing a positive school environment for the child with special health care needs.

Chapter 3 provides an overview of significant laws and legal precedents for ensuring the rights of children and youth with disabilities, including information about federal, state, and case laws, as well as regulations and professional standards, as they relate to children and their health providers.

Chapter 4 describes the collaborative process and planning for the educational entrance of the child with special health care needs, from the referral process to the development of the IHCP and attendance of the child in the school setting. This chapter correlates how the nursing process can be used in preparation for the child to attend school. Roles of various team members in a team approach are outlined, and specific steps are reviewed for meeting with the child and family after referral, assessing, planning, developing and implementing an IHCP, training, monitoring, and evaluation.

Chapter 5 discusses preparing students for adolescent health care transition and discusses strategies that teams can utilize in the process. Several areas consider the role of the school nurse in the transition process. Several tools are available to use in the school setting.

Chapter 6 provides overview information on planning and providing safe transportation for children with special health care needs, including applicable laws and regulations, specialized seating and positioning, and personnel and training.

Chapter 7 reviews strategies for infection prevention in the school setting: infection transmission, prevention and control (including standard precautions), utilizing protective equipment, and special considerations in the school setting. Conditions that have an impact on the care of students in school are reviewed, including methicillin-resistant

Staphylococcus aureus, influenza, cystic fibrosis, and hepatitis. Environmental considerations are addressed, including sharps disposal, accidental exposure, cleanup of spills, and environmental cleaning.

Chapter 8 addresses planning for the child with latex and/or food allergies and legal protection under the law. Potential exposures and emergency responses to latex and food are discussed.

Chapter 9 explains the importance of disaster planning for children with special health care needs and disabilities. An overview of the phases of emergency preparedness and essentials in school-based disaster planning is presented. A discussion of the requirements of children with special health care needs, including medication supplies, medical and nonmedical supplies, and use of utilities (power, electricity, etc.), is considered.

Chapter 10 offers a discussion on working with families and students of diverse cultures and languages. Cultural competence and cultural proficiency are explored. Health disparities, inequities of care, and treatment are reviewed, as well as immigration and acculturation.

Section II (Chapters 11–18) addresses procedural guidelines for enteral feeding, intravenous lines, dialysis, clean intermittent catheterization, ostomy care, respiratory care, diabetes care, and medical care for children with neurological issues. Each procedural section reviews physical anatomy and function, disorders that may warrant a child to need that type of technology, the purpose of the procedure and equipment, suggested settings and personnel, and issues for consideration in developing an IHCP. Each procedure highlights points to remember and possible problems that may require attention.

In addition, included as downloadable material (see p. xi) are skills checklists that can be used for teaching and training nursing and school staff. Each skills checklist assists the trainer in assessing the learner's knowledge of preparing for the procedure, identifying necessary supplies, and performing the procedure. Each skills checklist should be adapted to each specific student and his or her needs and concerns.

Disclaimer

The recommendations contained in this volume reflect the best and most current medical, nursing, and educational advice that the authors could obtain. The contents of the publication do not, however, necessarily represent the policy of any of the agencies or foundations that have provided support for the three editions. Readers should not assume endorsement by the federal government.

Although it is expected that this book will play a part in establishing standards for the proper care of children assisted by medical technology in the school setting, there is no guarantee that the recommendations herein will be accepted by schools, courts, or others. Each school system must make its own determinations as to which recommendations to follow and which to reject.

This book was written to assist school systems in establishing a safe environment for students assisted by medical technology, conducive to receiving the public education to which they are entitled. The guidelines presented herein do not stand alone. They must be individually customized into a carefully developed health plan that takes into account the unique needs and circumstances of each student; establishes a comprehensive training program; and involves each student's primary health care provider, specialists who are knowledgeable about the student, the family, the school nurse, community health providers, and other medical and educational professionals. Together, this group can help establish a plan of care that best meets the student's educational needs and possibilities.

Mentions of any specific products within this book are for informational purposes and do not constitute endorsements.

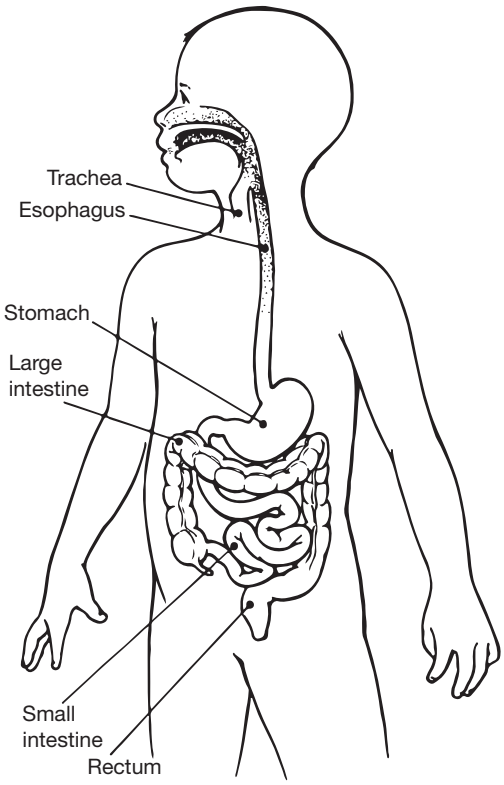
11

Tube Feeding

Julia M. Perkins and Fiona Paul

Gastrointestinal System Structure and Function

The gastrointestinal system breaks down food into basic nutrients that can feed the cells of the body. Functionally, the gastrointestinal tract is divided into two parts: upper and lower.



The upper gastrointestinal tract is where digestion and absorption of most of the nutrients occur. The mouth, throat, esophagus, stomach, and small intestine are components of this part of the digestive tract. The mouth is where processing of food starts. Chewing is important because digestion is more effective with smaller particles. The food is swallowed and passes through the throat, then through the esophagus.

The esophagus is a straight tube approximately 10 inches in length in an adult. It extends from the base of the throat behind the trachea to the stomach.

The stomach is a curved, pouch-like organ that is located under the diaphragm in the upper left portion of the abdomen. The stomach partially digests food and regulates passage of food into the intestine.

The small intestine is approximately 12 feet long in an adult. The duodenum, jejunum, and ileum are parts of the small intestine. Food passes from the stomach through the small intestine, where most digestion and absorption of nutrients take place.

The lower gastrointestinal tract consists of the large intestine, where water is reabsorbed and undigested food is consolidated into fecal waste. The large intestine extends from the end of the small intestine to the rectum. The anus is the opening to the outside of the body. Digestion takes place in two ways:

Excerpted from Supporting Students with Special Health Care Needs: Guidelines and Procedures for Schools, 3ed
Edited by Stephanie M. Porter M.S.N., RN, Patricia A. Branowicki, MS, RN NEA-BC. FAAN, & Judith S. Palfrey M.D.
Brookes Publishing | www.brookespublishing.com | 1-800-638-3775

1. *Mechanical:* Chewing and stomach contractions break down food.
2. *Chemical:* Digestive acids and enzymes break down food.

The digested food is absorbed through the lining of the intestine and then enters the bloodstream, where it is carried to the cells and tissues throughout the body.

Gastrostomy Tube

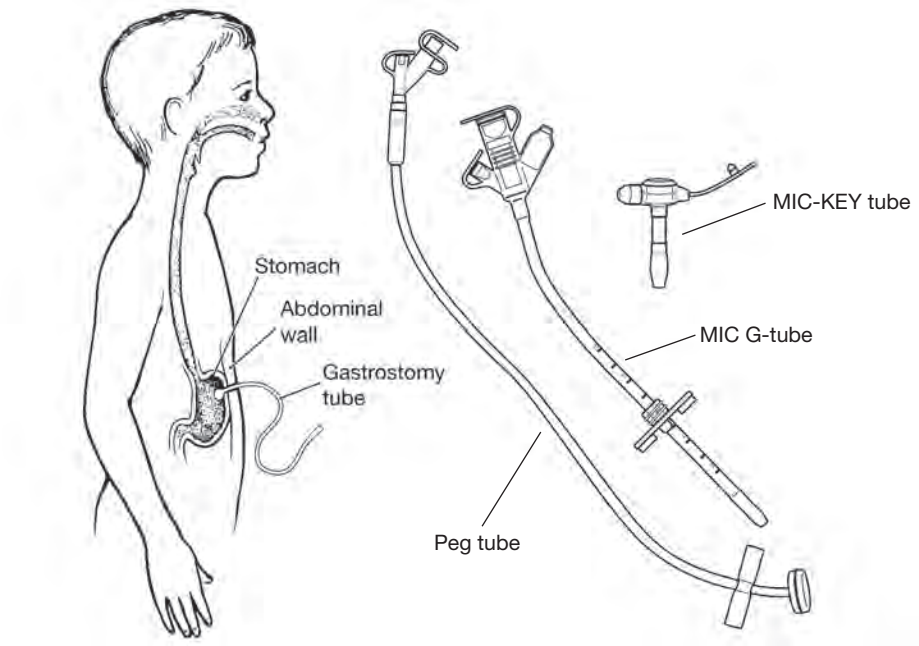
A gastrostomy is a surgical opening into the stomach through the surface of the abdomen. There are different types of gastrostomy tube (G-tube) devices. The G-tube is a flexible catheter held in place by an internal stabilizing device such as a balloon or a widened flat "mushroom" at the tip of the tube inside the stomach. The tube remains in place at all times and is capped between feedings to prevent leakage of stomach contents. After the initial healing stage, G-tubes should not cause discomfort.

The G-tube may be used to administer medications, nutrition, and fluids directly into the stomach. This method is used to bypass the usual route of feeding by mouth in the following instances:

- Obstruction or abnormality of the esophagus (i.e., food pipe)
- Impaired swallowing, creating a risk for choking/aspiration
- Difficulty taking enough food by mouth to maintain adequate nutrition

The G-tube may also be used as a way to provide supplemental nutrition in addition to oral feeding.

A student may receive a G-tube feeding by either the bolus or continuous method. A bolus is a specific amount of feeding given at once, over a short period of time. A continuous feeding is given at a set rate by pump over a number of hours.



Excerpted from Supporting Students with Special Health Care Needs: Guidelines and Procedures for Schools, 3ed
Edited by Stephanie M. Porter M.S.N., RN, Patricia A. Branowicki, MS, RN NEA-BC. FAAN, & Judith S. Palfrey M.D.
Brookes Publishing | www.brookespublishing.com | 1-800-638-3775

The G-tube may also be used to drain gastric contents or to release air or gas when venting is required.

Suggested Settings

There are no restrictions as to where a student may be fed. The setting should be clean and appropriate to the student's need/desire for privacy. The student may be fed with other students or, if he or she prefers, in a private setting (e.g., the health room). The frequency of feedings will depend on the students' individual schedules. Students who require more frequent feedings should be allowed to receive them in the classroom while they partake in sedentary school activities (e.g., reading, doing art, singing, working on a computer, or doing a project). Some students do not require routine feedings during school hours. Their G-tubes may only be used as needed to supplement oral intake of food and fluids when oral intake is not adequate.

G-tubes usually are covered by clothing. Students with G-tubes should be able to participate in all school activities with proper stabilization of their tubes, but participation in physical education should be determined on an individual basis and may require modification of activities.

Suggested Personnel and Training

A health assessment needs to be completed by the school nurse. State nurse practice regulations should be reviewed to ensure that the management of G-tube feedings can be considered a delegable task by the school nurse to unlicensed school personnel. If permissible by state regulations, a G-tube feeding may be administered by the school nurse, parent, teacher, students aide, or other staff person with proven competency-based training in appropriate techniques and problem management. The student should be encouraged to assist with the G-tube feeding as much as possible.

School personnel who have regular contact with a student who has a G-tube should receive general training that covers the student's specific health care needs, potential problems, and how to implement the established emergency action plan (EAP).

The gastrostomy tube feeding checklists provided among the downloads can be used as a foundation for competency-based training in appropriate techniques. These outline specific procedures step by step. Once the procedures have been mastered, the completed checklists serve as documentation of training.

The Individualized Health Care Plan: Issues for Special Consideration

Each student's individualized health care plan (IHCP) must be tailored to the individual's needs. The following section covers the procedure for G-tube care and possible problems and emergencies that may arise. It is essential to review it before writing the IHCP. A blank IHCP is included in Chapter 4 and among the downloads. It may be used to develop a plan for each student.

For a student with a G-tube, the following items should receive particular attention:

- Student's underlying condition and possible problems associated with the condition or treatment
- Obtain doctor's orders for procedures and treatments

Excerpted from Supporting Students with Special Health Care Needs: Guidelines and Procedures for Schools, 3ed
Edited by Stephanie M. Porter M.S.N., RN, Patricia A. Branowicki, MS, RN NEA-BC. FAAN, & Judith S. Palfrey M.D.
Brookes Publishing | www.brookespublishing.com | 1-800-638-3775

- Size and type of feeding device
- Type of portable pump
- Type of feeding the student is receiving (e.g., bolus/continuous; note that pureed food via the tube is not recommended, as it can become clogged)
- Activity level during and after feeding
- Positioning during and after feeding
- The need for and frequency of measuring gastric residuals
- The need for and frequency of venting the G-tube
- Patency of gastrostomy tract and time frame for reinsertion, should the G-tube fall out
- Concerns and possible problems (e.g., vomiting, abdominal distension, pain)
- Amount of food or drink a student can take by mouth
- Amount of oral stimulation during feeding, as ordered
- Procedure should tube fall out
- Medications and schedule for administering
- Student-specific guidelines for feeding administration during transport
- Latex allergy alert (see Chapter 8)
- Standard precautions (see Chapter 7; anticipating the tasks to be done, the risk involved, and the personal protective equipment needed will enhance protection of both the caregiver and student.)
- Manufacturer's specific directions
- Replacement tube, if appropriate

11.A. Procedure for gastrostomy tube feeding: gravity bolus method

Procedure	Points to remember
1. Wash hands.	Anticipating the tasks to be done, the risk involved, and the personal protective equipment needed will enhance protection of both the caregiver and student.
2. Assemble equipment:	Identify size and type of G-tube.
• Formula at room temperature • 60-mL/cc catheter-tipped syringe or other container for feeding • Clamp or cap for end of tube (optional)	Some students get cramps if the feeding solution is too cold. Shake can well to mix. Check expiration date.
• Water (if prescribed)	This is used to flush tubing after feeding.
• Tape • Gloves	This is used to secure G-tube to clothing.
3. Explain the procedure to the student at his or her level of understanding. Encourage the student to participate as much as possible.	By encouraging the student to assist in the procedure, the caregiver helps the student achieve maximum self-care skills.
4. Position student.	Student may be sitting or lying on right side with head elevated at a 30-degree angle. When positioning student, make sure clamp is not pressing on skin.
5. Wash hands. Put on gloves.	
6. Unclamp the tubing and check residuals (if ordered) by inserting a catheter tipped syringe and gently drawing back on the plunger to remove any liquid or medication that may be left in the stomach. Return residuals to stomach.	Note the amount that was withdrawn from the feeding tube. Adjust the feeding volume according to physician's orders if a residual is present. If the residual is greater than recommended, hold feeding, wait 30–45 minutes, and check again.
7. Clamp tubing, disconnect the syringe, and remove plunger from syringe.	
8. Reinsert catheter tip of syringe into tubing.	
9. Unclamp tube, and allow bubbles to escape.	
10. Pour feeding/fluid into syringe and allow to flow in by gravity.	Syringe should be held 6 inches above level of stomach or at prescribed height. If medications are prescribed, administer before or after feeding, according to student-specific recommendations. If a container other than a syringe is used for the feeding, unclamp tubing and allow formula to flow in by gravity, using the same procedure. Be alert to any 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 the formula is too cold.

(continued)

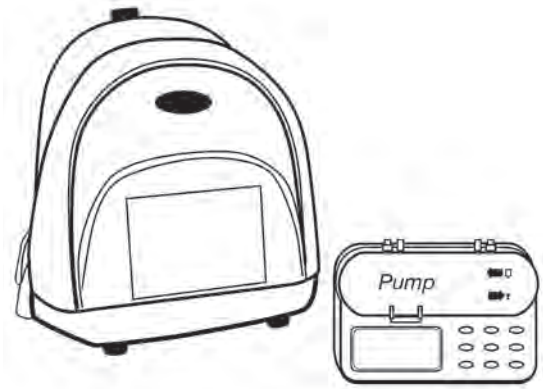
Excerpted from Supporting Students with Special Health Care Needs: Guidelines and Procedures for Schools, 3ed
Edited by Stephanie M. Porter M.S.N., RN, Patricia A. Branowicki, MS, RN NEA-BC. FAAN, & Judith S. Palfrey M.D.
Brookes Publishing | www.brookespublishing.com | 1-800-638-3775

Procedure for gastrostomy tube feeding: gravity bolus method *(continued)*

Procedure	Points to remember
11. Continue to pour feeding into syringe as contents empty into stomach.	Depending on the age and capabilities of the student, have him or her assist with the feeding by holding syringe or pouring fluid into it.
12. Raise or lower syringe or container to adjust flow to prescribed rate.	
13. When feeding is completed, pour prescribed amount of water into syringe and flush tubing.	This will clear tubing of formula and medication.
14. Vent G-tube if ordered. (Open G-tube to air.)	Venting allows drainage of fluid or release of gas bubbles in the stomach. Some students may have problems with gas otherwise.
15. Clamp tubing, remove barrel of syringe, and reinsert cap into end of tubing.	
16. Apply dressing, if needed, using standard precautions described in Chapter 7.	
17. Remove gloves. Wash hands.	
18. Make sure tubing is secure and tucked inside clothing, not inside diaper or underpants.	Tubing may be taped to shirt if parent follows this practice.
19. Refer to student-specific guidelines regarding position and activity after feeding.	
20. Wash syringe and other reusable equipment in soapy water. Rinse thoroughly, dry, and store in a clean area.	Most open formula is good for 48 hours when refrigerated. The exceptions are some elemental formulas that are only good for 24 hours. Open formulas should be stored in clean plastic, labeled containers (not the original can) in the refrigerator. Formula should be discarded after 48 hours.
21. Document feeding/medications residual amount and feeding tolerance on log sheet.	Report to family any changes in the student's usual pattern.

Excerpted from Supporting Students with Special Health Care Needs: Guidelines and Procedures for Schools, 3ed
Edited by Stephanie M. Porter M.S.N., RN, Patricia A. Branowicki, MS, RN NEA-BC. FAAN, & Judith S. Palfrey M.D.
Brookes Publishing | www.brookespublishing.com | 1-800-638-3775

11.B. Procedure for gastrostomy tube feeding: bolus or continuous feeding method by pump

Procedure	Points to remember
1. Wash hands.	Anticipating the tasks to be done, the risk involved, and the personal protective equipment needed will enhance protection of both the caregiver and student.
2. Assemble equipment.	Identify size and type of G-tube.
• Formula at room temperature • 60-mL/cc catheter-tipped syringe	Some students get cramps if the feeding solution is too cold. Shake can well to mix. Check expiration date.
• Feeding pump and IV stand (optional)	Feeding pumps have alarms. Become familiar with meanings of alarms and how to respond to them.
• Clamp or cap for end of tube (optional)	
• Water (if prescribed) • Feeding bag set	This is used to flush tubing after feeding.
• Tape • Gloves	This is used to secure G-tube to clothing.
	
3. Explain the procedure to the student at his or her level of understanding. Encourage the student to participate as much as possible.	By encouraging the student to assist in the procedure, the caregiver helps the student achieve maximum self-help skills.
4. Position student.	Student may be sitting or lying on right side with head elevated at a 30-degree angle. When positioning student, make sure clamp is not pressing on skin.
5. Vent G-tube if ordered. (Open G-tube to air.) Connect 30-60mL catheter tipped syringe with barrel removed.	Venting allows drainage of fluid or release of gas bubbles in the stomach. Some students may have problems with gas otherwise.
6. Wash hands. Put on gloves.	

(continued)

Excerpted from Supporting Students with Special Health Care Needs: Guidelines and Procedures for Schools, 3ed
Edited by Stephanie M. Porter M.S.N., RN, Patricia A. Branowicki, MS, RN NEA-BC. FAAN, & Judith S. Palfrey M.D.
Brookes Publishing | www.brookespublishing.com | 1-800-638-3775

Procedure for gastrostomy tube feeding:
bolus or continuous feeding method by pump *(continued)*

Procedure	Points to remember
7. Unclamp the tubing and check residuals (if ordered) by inserting a catheter tipped syringe and gently drawing back on the plunger to remove any liquid or medication that may be left in the stomach. Look at amount in tube and push fluid slowly back into stomach.	Note the amount that was withdrawn from the feeding tube. Adjust the feeding volume according to physician's orders if a residual is present. If the residual is greater than recommended, hold feeding, wait 30–45 minutes, and check again.
8. Pour feeding/fluids into feeding bag and run feeding through bag and tubing to the tip. Clamp.	If medication is prescribed, administer before or after feeding, according to student-specific guidelines.
9. Hang bag on pole and place tubing into pump mechanism and set for proper flow rate.	School activities may continue during feeding, provided the student is sedentary.
10. Insert tip of feeding bag tube into G-tube, and unclamp G-tube.	
11. Open clamp of feeding bag tubing.	
12. For *continuous feeding* with pump, add more fluid to bag when empty.	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 the formula is too cold.
13. When *single feeding* is completed (bag empty), clamp feeding bag tubing and clamp G-tube.	
14. Disconnect feeding bag from G-tube.	
15. Unclamp G-tube and flush with water.	This clears the tube of any feeding fluid.
16. Clamp and cap G-tube.	
17. Remove gloves and wash hands.	
18. Make sure tubing is secure and tucked inside clothing, not inside diaper or underpants.	Tubing may be taped to shirt.
19. Refer to student-specific guidelines regarding position and activity after feeding.	The feeding tube may be disconnected while the student is being transported to and from the school program.
20. Wash syringe and other reusable equipment in soapy water. Rinse thoroughly, dry, and store in a clean area.	Most open formula is good for 48 hours when refrigerated. The exceptions are some elemental formulas that are only good for 24 hours. Open formulas should be stored in clean plastic, labeled containers (not the original can) in the refrigerator. Formula should be discarded after 48 hours.
21. Document feeding and/or medication, residual volumes, and feeding tolerance in log.	Report to family any change in the student's usual pattern.

Excerpted from Supporting Students with Special Health Care Needs: Guidelines and Procedures for Schools, 3ed
Edited by Stephanie M. Porter M.S.N., RN, Patricia A. Branowicki, MS, RN NEA-BC. FAAN, & Judith S. Palfrey M.D.
Brookes Publishing | www.brookespublishing.com | 1-800-638-3775

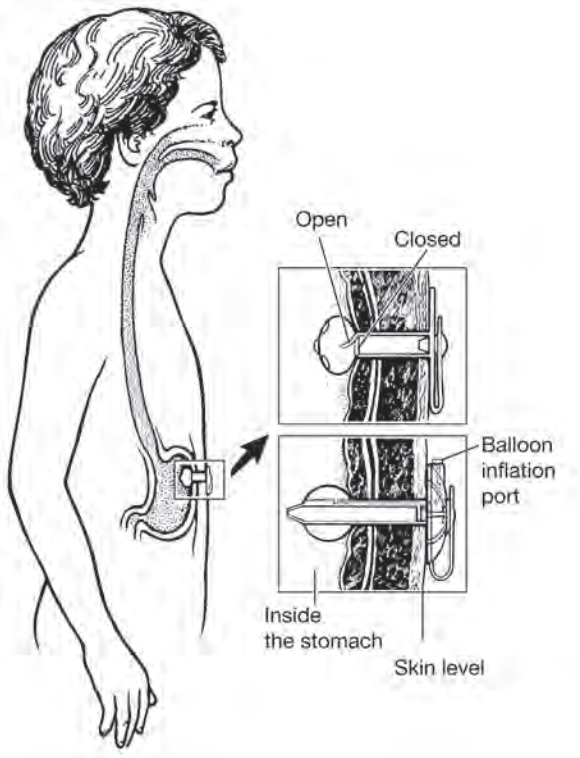
11.C. Possible problems that require immediate attention

Observations	Reason/action
Facial color changes/ breathing difficulty	This may be due to aspiration of feeding into lungs. Stop feeding immediately. Call nurse if not present. Assess situation. If problem continues, institute EAP, call 911, and notify family and physician.

11.D. Possible problems that are not emergencies

Observations	Reason/action
Nausea and/or cramping	Check rate of feeding—it may need to be decreased. Check temperature—formula may be too cold. If so, stop feeding, let feeding get to room temperature, then administer. If problem continues, notify school nurse, family, and physician.
Vomiting	If all the previous items have been checked, stop feeding, call school nurse and family. Remove residual if ordered.
Blocked G-tube	May be due to inadequate flushing or very thick fluid. Squeeze or roll G-tube between fingers, moving slowly down toward student's stomach. Try a catheter-tipped syringe filled with warm water, held high to facilitate movement of fluid. Try to draw back plunger of syringe. If blockage remains, notify school nurse or family.
Redness/irritation/ bleeding/drainage around tube site	Make sure tubing is not being pulled. Check G-tube site for leakage. Clean stoma site with soap and water if leakage of food/fluid/ medication comes in contact with skin. Refer to student- or equipment-specific guidelines for cleaning instructions. Notify school nurse and family of gastrostomy site problems.
G-tube falls out	The G-tube will need to be reinserted quickly in order to prevent closure of tract. Cover the site with a dry dressing or large bandage. Do not attempt to replace tube or place anything else in the tract. Notify family and school nurse. Only trained individuals should replace a G-tube. If student has a newly placed G-tube, it will require immediate replacement within 2 hours by a physician.

Excerpted from Supporting Students with Special Health Care Needs: Guidelines and Procedures for Schools, 3ed
Edited by Stephanie M. Porter M.S.N., RN, Patricia A. Branowicki, MS, RN NEA-BC. FAAN, & Judith S. Palfrey M.D.
Brookes Publishing | www.brookespublishing.com | 1-800-638-3775

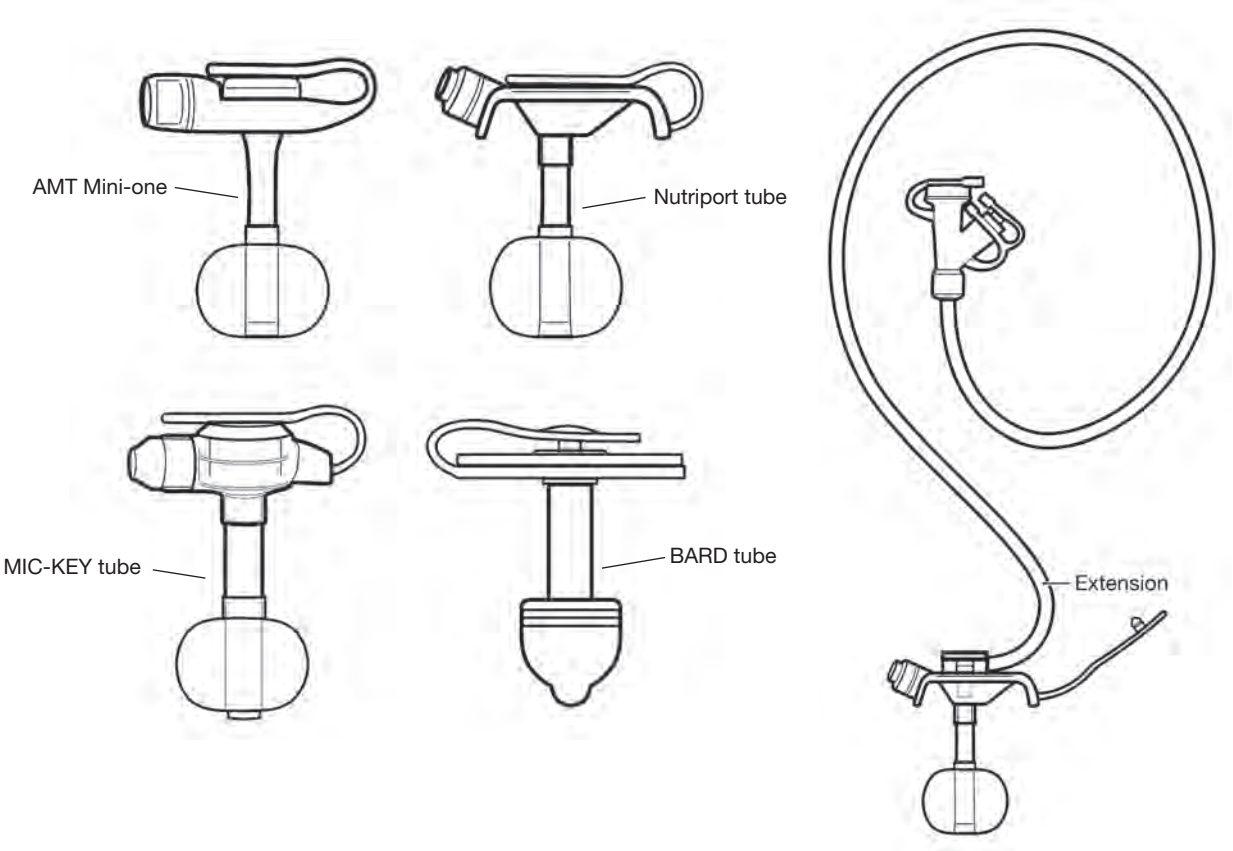


Skin-Level Gastrostomy Tubes

A gastrostomy is a surgical opening into the stomach through the surface of the abdomen. The skin-level gastrostomy feeding device is a "T"-shaped plastic device held in place by a mushroom-shaped dome or fluid-filled balloon inside the stomach. The device remains in place at all times and is capped by an attached safety plug between feedings. In addition, the tube has an antireflux valve to further prevent leakage of stomach contents. A feeding is administered by inserting a small extension tube into the device. When the feeding is complete, the tube is removed and the safety plug closed.

The gastrostomy device may be used to administer formula, fluids, and/or medications directly into the stomach. This method is used to bypass the usual route of feeding by mouth in the following instances:

- There is an obstruction or abnormality of the esophagus (i.e., food pipe).
- Swallowing is impaired, and the student is at risk for choking/aspiration.



Excerpted from Supporting Students with Special Health Care Needs: Guidelines and Procedures for Schools, 3ed
Edited by Stephanie M. Porter M.S.N., RN, Patricia A. Branowicki, MS, RN NEA-BC. FAAN, & Judith S. Palfrey M.D.
Brookes Publishing | www.brookespublishing.com | 1-800-638-3775

- The student has difficulty taking enough food by mouth to maintain adequate nutrition.
- The G-tube may also be used as a way to provide supplemental nutrition in addition to oral feeding.

A student may receive a G-tube feeding by either the bolus or continuous method. A bolus is a specific amount of feeding given at once, over a short period of time. A continuous feeding is given at a set rate by pump over a number of hours.

The G-tube may also be used to drain gastric contents or to release air or gas when venting is required. This is done by inserting a special adapter or tube to open the antireflux valve.

Suggested Settings

There are no restrictions as to when a student may be fed. The student may be fed with other students or, if he or she prefers, in a more private setting (e.g., the health room). The frequency of feedings will depend on the students' individual schedules. Students who require more frequent feedings should be allowed to receive them in the classroom while they partake in sedentary school activities.

Some students do not require feedings during school hours. Their devices are used to supplement oral intake of food and fluids or are used when the student is ill or oral intake is not adequate.

Gastrostomy devices are usually covered by clothing. Students with these devices should be able to participate in all school activities.

Suggested Personnel and Training

A health assessment needs to be completed by the school nurse. State nurse practice regulations should be consulted for guidance on performing and delegating health care procedures.

A skin-level G-tube feeding may be administered by the school nurse, parent, teacher, student's aide, or other staff person with proven competency-based 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 G-tube should receive general training that covers the student's specific health care needs, potential problems, and how to implement the established EAP.

The skin-level feeding gastrostomy checklists provided among the downloads can be used as a foundation for competency-based training in appropriate techniques. They outline specific procedures step by step. Once the procedures have been mastered, the completed checklists serve as documentation of training.

The Individualized Health Care Plan: Issues for Special Consideration

Each student's IHCP must be tailored to the individual's needs. The following section covers the procedure for skin-level G-tube care and possible problems and emergencies that may arise. It is essential to review it before writing the IHCP. A blank IHCP is included in Chapter 4 and among the downloads. It may be used to develop a plan for each student.

Excerpted from Supporting Students with Special Health Care Needs: Guidelines and Procedures for Schools, 3ed
Edited by Stephanie M. Porter M.S.N., RN, Patricia A. Branowicki, MS, RN NEA-BC. FAAN, & Judith S. Palfrey M.D.
Brookes Publishing | www.brookespublishing.com | 1-800-638-3775

For a student with a skin-level gastrostomy device, the following items should receive particular attention:

- Student's underlying condition and possible problems associated with the condition or treatment
- Obtain doctor's orders for procedures and treatments
- Size and type of feeding device
- Type of portable pump
- Type of feeding the student is receiving (e.g., bolus/continuous)
- Activity level during and after feeding
- Positioning during and after feeding
- The need for and frequency of measuring gastric residual
- The need for and frequency of venting the skin-level G-tube (familiarity with student-specific device and venting method)
- Monitoring concerns regarding feeding (e.g., vomiting, abdominal distension, pain)
- Amount of food and fluid a student can take by mouth
- Amount of oral stimulation during feeding, as ordered
- Procedure should tube fall out
- Student-specific guidelines for feeding administration during transport
- Latex allergy alert (see Chapter 8)
- Standard precautions (see Chapter 7; anticipating the tasks to be done, the risk involved, and the personal protective equipment needed will enhance protection of both the caregiver and student.)
- Manufacturer's specific directions
- Replacement tube, if appropriate

11.E. Procedure for skin-level gastrostomy tube feeding: gravity bolus method

Procedure	Points to remember
1. Wash hands.	Anticipating the tasks to be done, the risk involved, and the personal protective equipment needed will enhance protection of both the caregiver and student.
2. Assemble equipment:	Identify size and type of G-tube.
• Formula at room temperature	Some students get cramps if the feeding solution is too cold. Shake can well to mix. Check expiration date.
• 60-mL/cc catheter-tipped syringe or other container for feeding (e.g., bottle, bag)	
• Adapter with tubing and clamp	The adapter will vary with the size of the device.
• Water	This is used to flush tubing after feeding.
• Gloves	
3. Explain the procedure to the student at his or her level of understanding. Encourage the student to participate as much as possible.	By encouraging the student to assist in the procedure, the caregiver helps the student achieve maximum self-help skills.
4. Position the student.	Student may be sitting or lying on right side with head elevated at a 30-degree angle.
5. Wash hands. Put on gloves	
6. Vent G-tube if ordered. (Open G-tube to air.) Connect 30-60mL catheter tipped syringe with barrel removed.	Venting allows drainage of fluid or release of gas bubbles in the stomach. Some students may have problems with gas otherwise.
7. Open safety plug and insert adapter tubing into G-tube.	If medications are prescribed, administer before or after feeding, according to student-specific guidelines.
8. Unclamp the tubing and check residuals (if ordered) by inserting a catheter tipped syringe and gently drawing back on the plunger to remove any liquid or medication that may be left in the stomach. Return residuals to stomach.	Note the amount that was withdrawn from the feeding tube. Adjust the feeding volume according to physician'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 or pinch off tubing.	If another type of container is used for formula, unclamp tubing and allow to flow in by gravity.
10. Remove plunger from feeding syringe and insert catheter tip of syringe into tubing.	This is used to flush tubing after feeding.
11. Pour feeding into syringe.	Syringe should be held 6 inches above level of stomach or at prescribed height.
12. Elevate syringe and unclamp tubing.	
13. Continue to pour feeding into syringe as contents empty into stomach.	

(continued)

Excerpted from Supporting Students with Special Health Care Needs: Guidelines and Procedures for Schools, 3ed
Edited by Stephanie M. Porter M.S.N., RN, Patricia A. Branowicki, MS, RN NEA-BC. FAAN, & Judith S. Palfrey M.D.
Brookes Publishing | www.brookespublishing.com | 1-800-638-3775

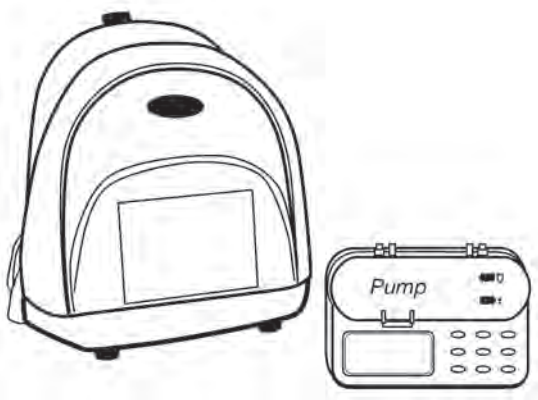
Procedure for skin-level gastrostomy tube feeding: gravity bolus method *(continued)*

Procedure	Points to remember
14. Raise or lower syringe or container to adjust flow to prescribed rate.	Depending on the age and capabilities of the student, have him or her assist with the feeding by holding the syringe or pouring the fluid into it. Keep syringe partially filled to prevent air from entering stomach.
15. Flush tubing and device with water when feeding is completed.	This will clear the device of feeding and medications.
16. When feeding is completed, remove the adapter with feeding syringe.	
17. Close safety plug.	
18. Remove gloves. Wash hands.	
19. Refer to student-specific guidelines regarding position and activity after feeding.	
20. Wash catheter-tipped syringe and tubing with warm water and mild soap. Rinse, dry, and store in clean area.	Most open formula is good for 48 hours when refrigerated. The exceptions are some elemental formulas that are good for only 24 hours. Open formula should be stored in clean plastic containers (not the original can) in the refrigerator, labeled correctly with student's name, date, and time opened. Formula should be discarded after 48 hours.
21. Document feeding/medication, residual amount, and feeding tolerance on log sheet.	Report to family any change in the student's usual pattern.

Excerpted from Supporting Students with Special Health Care Needs: Guidelines and Procedures for Schools, 3ed
Edited by Stephanie M. Porter M.S.N., RN, Patricia A. Branowicki, MS, RN NEA-BC. FAAN, & Judith S. Palfrey M.D.
Brookes Publishing | www.brookespublishing.com | 1-800-638-3775

11.F. Procedure for skin-level gastrostomy tube feeding: bolus or continuous feeding method by pump

Procedure	Points to remember
1. Wash hands.	Anticipating the tasks to be done, the risk involved, and the personal protective equipment needed will enhance protection of both the caregiver and student.
2. Assemble equipment:	Identify size and type of G-tube.
• Formula at room temperature • 60-mL/cc catheter-tipped syringe	Some students get cramps if the feeding solution is too cold. Shake can well to mix. Check expiration date.
• Feeding pump and IV stand (optional)	
• Adapter with tubing and clamp	The adapter will vary with the size of the device.
• Water	This is used to flush tubing after feeding.
• Feeding bag • Gloves	



3. Explain the procedure to the student at his or her level of understanding. Encourage the student to participate as much as possible.	By encouraging the student to assist in the procedure, the caregiver helps the student achieve maximum self-care skills.
4. Position the student.	Student may be sitting or lying on right side with head elevated at a 30-degree angle.
5. Wash hands. Put on gloves.	If medication is prescribed, administer before feeding.
6. Attach the adapter to feeding bag tubing.	School activities may continue during feeding, provided the student is sedentary.
7. Pour feeding fluids into feeding bag and run feeding through bag and tubing to the tip.	
8. Hang bag on pole and place tubing into pump mechanism and set for proper flow rate.	
9. Open safety plug and inset tubing into device.	

(continued)

Excerpted from Supporting Students with Special Health Care Needs: Guidelines and Procedures for Schools, 3ed
Edited by Stephanie M. Porter M.S.N., RN, Patricia A. Branowicki, MS, RN NEA-BC. FAAN, & Judith S. Palfrey M.D.
Brookes Publishing | www.brookespublishing.com | 1-800-638-3775

Procedure for skin-level gastrostomy tube feeding: bolus or continuous feeding method by pump *(continued)*

Procedure	Points to remember
10. Vent G-tube if ordered. (Open G-tube to air.) Connect 30-60mL catheter tipped syringe with barrel removed.	Venting allows drainage of fluid or release of gas bubbles in the stomach. Some students may have problems with gas otherwise.
11. Unclamp the tubing and check residuals (if ordered) by inserting a catheter tipped syringe and gently drawing back on the plunger to remove any liquid or medication that may be left in the stomach. Return residuals to stomach.	Note the amount that was withdrawn from the feeding tube. Adjust the feeding volume according to physician's orders if a residual is present. If the residual is greater than recommended, hold feeding, wait 30–45 minutes, and check again.
12. Open clamp of feeding bag tubing and adapter tubing and press start.	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 the formula is too cold.
13. For continuous feeding with pump, add more fluid to bag when empty.	
14. When single feeding is completed (bag empty), clamp feeding bag tubing	
15. Flush device with water.	This clears the device of any feeding fluid.
16. Close safety plug.	
17. Remove gloves. Wash hands.	
18. Refer to student-specific guidelines regarding position and activity after feeding.	
19. Wash feeding bag, tubing, and syringe in soapy water.	Most open formula is good for 48 hours when refrigerated. Exceptions are some formulas that are good for only 24 hours. Open formula should be stored in clean plastic containers (not the original can) in the refrigerator, labeled correctly with the student's name, date, and time opened. Formula should be discarded after 48 hours.
20. Document feeding/medication residual amount and feeding tolerance on log sheet.	Report to family any changes in the student's usual pattern.

Excerpted from Supporting Students with Special Health Care Needs: Guidelines and Procedures for Schools, 3ed
Edited by Stephanie M. Porter M.S.N., RN, Patricia A. Branowicki, MS, RN NEA-BC. FAAN, & Judith S. Palfrey M.D.
Brookes Publishing | www.brookespublishing.com | 1-800-638-3775

11.G. Possible problems that require immediate attention

Observations	Reason/action
Facial color changes/breathing difficulty	This may be due to aspiration of feeding into lungs. Stop feeding immediately. Call nurse if not present. Assess situation. If problem continues, institute EAP, call 911, and notify family and physician.

11.H. Possible problems that are not emergencies

Observations	Reason/action
Nausea and/or cramping	Check rate of feeding—it may need to be decreased. Check temperature—formula may be too cold. If so, stop feeding, let feeding get to room temperature, then administer. If problem continues, notify school nurse, family, and physician.
Vomiting	If all the previous items have been checked, stop feeding and call school nurse or family. Remove residual if ordered.
Blocked G-tube	May be due to inadequate flushing or very thick fluid. Squeeze or roll G-tube between fingers, moving slowly down toward student's stomach. Try a catheter-tipped syringe filled with warm water, held high to facilitate movement of fluid. Try to draw back plunger of syringe. If blockage remains, contact school nurse or family.
Redness/irritation/ bleeding/drainage around tube site	Make sure tubing is not being pulled. Check G-tube site for leakage. Clean stoma site with soap and water if leakage of food/fluid/ medication comes in contact with skin. Refer to student or equipment-specific guidelines for cleaning instructions. Notify school nurse and family of gastrostomy site problems.
G-tube falls out	The G-tube will need to be reinserted quickly in order to prevent closure of tract. Cover the site with a dry dressing or large bandage. Do not attempt to replace tube or place anything else in the tract. Notify family and school nurse. Only trained individuals should replace a G-tube. If student has a newly placed G-tube, it will require immediate attention.

Excerpted from Supporting Students with Special Health Care Needs: Guidelines and Procedures for Schools, 3ed
Edited by Stephanie M. Porter M.S.N., RN, Patricia A. Branowicki, MS, RN NEA-BC. FAAN, & Judith S. Palfrey M.D.
Brookes Publishing | www.brookespublishing.com | 1-800-638-3775