PRACTICE TOOL

Guidelines for Replacement of a Balloon Gastrostomy Tube in Infants and Pediatric Patients: The American Society for Parenteral and Enteral Nutrition

Balloon gastrostomy (BGT) placements are increasingly used in medically complex children. Practices for routine and non-routine tube replacement—including verifying correct placement—vary widely, with no universal standard. This guideline provides recommendations on best practices, timing, and education for confirming newly replaced BGTs. Lyman B, Berman L, Carr K, et al. Guidelines for replacement of a balloon gastrostomy tube in infants and pediatric patients: The American Society for Parenteral and Enteral Nutrition. *JPEN J Parenter Enteral Nutr*. 2026.

Questions	Recommendations
Routine Replacement	
Question 1. In infants and pediatric patients receiving routine replacement of a BGT, does confirming gastric tube placement via gastric aspiration with pH vs gastric aspiration without pH result in fewer adverse events?	**Recommendation:** In infants or pediatric patients with a BGT requiring routine replacement, we recommend that the gastric fluid be aspirated to confirm placement. Gastric pH measurement may not be necessary as a first-line method.
Question 2. In infants and pediatric patients undergoing the initial replacement of a BGT, does waiting more time vs less time from initial placement result in fewer negative clinical outcomes?	**Recommendation:** In infants or pediatric patients with a BGT, we recommend waiting 6-12 weeks after BGT placement for the initial replacement.
Question 3. In infants and pediatric patients receiving a routine replacement of a BGT and in whom gastric aspirate is not attainable, does confirming gastric tube placement via ultrasound (US) versus radiologic contrast study result in fewer negative clinical outcomes?	**Recommendation:** In infants or pediatric patients with a BGT, when gastric aspirate is not attainable, we suggest using US, when feasible, to verify gastric position post replacement. Failure to obtain a verification of correct BGT replacement using US requires a radiologic contrast study to confirm the balloon is correctly placed within the stomach.
Question 4 and 5 combined **Question 4:** In infants and pediatric patients receiving routine replacement of a BGT who also has a peritoneal dialysis (PD) catheter or ventriculoperitoneal (VP) shunt, does confirming gastric tube placement via aspiration (with or without pH) versus radiologic contrast study result in fewer negative clinical outcomes? **Question 5:** In infants and pediatric patients receiving routine replacement of a BGT who also has a peritoneal dialysis (PD) catheter or ventriculoperitoneal (VP) shunt, does waiting more time vs less time post initial tube placement result in fewer negative clinical outcomes?	**Recommendation:** In infants or pediatric patients with a VP shunt requiring routine replacement of a BGT, we suggest aspiration of gastric fluid as the first-line method to confirm gastric placement. In infants or pediatric patients with a PD catheter requiring routine replacement of a BGT, where there is no fluid leakage onto the abdomen from around the stoma, we suggest aspiration of gastric fluid as the first-line method to confirm gastric placement. In infants or pediatric patients with a BGT and PD catheter or VP shunt receiving routine initial replacement of the BGT, we suggest waiting a longer time, i.e., closer to the previously mentioned 12 weeks post-placement, if peristomal fluid is leaking onto the abdomen. If feasible, waiting until the peristomal area is without fluid leakage is ideal. Otherwise, in the event of fluid leakage, we suggest following the institutional policy for when initial routine BGT replacement is performed. If replacement is indicated or necessary, we suggest observing the appearance of gastric aspirate before and after BGT replacement to compare for similarity of appearance. Alternatively, we suggest instilling a small amount of a colored beverage into the existing BGT prior to removal to compare fluid aspirated from the newly placed BGT for similarity of appearance. If indicated, or previous methods have been inconclusive, we suggest obtaining a radiologic contrast study to confirm placement of the newly replaced BGT. For institutions with proficiency in using US for BGT replacement verification, this would be preferred over a radiologic contrast study.

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Questions	Recommendations
Question 6. In infants or pediatric patients receiving routine initial replacement of a BGT, where the patient has conditions that could adversely affect stoma maturation such as kidney disease requiring a peritoneal dialysis catheter (PD), neurologic condition requiring a ventriculoperitoneal (VP) shunt, an oncologic condition requiring chemotherapy, diabetes, or a history of chronic steroid use, does waiting more time versus less time post initial placement result in fewer negative clinical outcomes?	**Recommendation:** In infants and pediatric patients who have both a BGT that requires initial replacement and an extenuating comorbidity that may delay wound healing and, therefore, tract maturation, we suggest waiting longer, i.e., closer to 12 weeks post placement, to perform the initial BGT replacement. We also suggest not changing the BGT if there is peristomal drainage such as fluid or blood, if possible.
Question 7. In infants and pediatric patients receiving a routine replacement of the initial BGT, does the use of a care bundle compared to the non-use of a care bundle result in fewer negative clinical outcomes?	**Recommendation:** In infants and pediatric patients with a routine BGT replacement, we recommend the use of a care bundle to standardize and manage patient care, including caregiver education post BGT replacement. While we acknowledge that each institution will customize specific information provided to caregivers and older children with a newly placed BGT, we recommend that the elements of the care bundle mimic those in the literature. The components that should be included in a care bundle for caregiver education (including the older child with a newly placed BGT) include: who is permitted to perform initial and subsequent routine BGT replacement, the time period between placement and replacement, what education is provided to caregivers, how that education is provided, and how healthcare literacy is addressed. Other components of the care bundle that deal with patient assessment before BGT placement should include: delineation of the process for initial BGT replacement including pre-procedure evaluation and determination of the preferred BGT placement method and setting, an algorithm for evaluating patients presenting to a healthcare facility for non-routine BGT replacement, and complication management with information on whom to call for help when their regular staff resources are not available. These elements provide a comprehensive care bundle that clinicians can use to standardize care of the child who requires a BGT replacement.
Question 8. In infants and pediatric patients receiving a routine replacement of a BGT, does the use of formal focused clinician education vs no formal focused clinician education result in fewer negative clinical outcomes?	**Recommendation:** In infants or pediatric patients with a BGT, we recommend implementation of a staff education program focusing on routine replacement with didactic and supervised components. We recommend the elements of the program should include, at a minimum, patient assessment, BGT stoma site and size assessment, routine replacement, routine verification of the replaced BGT, signs and symptoms for escalation to elicit support from more senior staff or more invasive interventions, replacement evaluation using non-routine methods, and protection of the BGT from accidental or premature dislodgement. Supervision of staff who are being trained on routine BGT replacement is recommended, but can be institution-specific in terms of the number of supervised routine BGT replacements.

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Questions	Recommendations
Non-routine Replacement	
Question 9. In infants and pediatric patients with a BGT that inadvertently comes out before the tract is considered established, does confirming placement of the gastric replacement tube via a radiologic contrast study vs aspiration of gastric contents with or without pH result in fewer negative outcomes?	**Recommendation:** In infants and pediatric patients with a BGT that becomes dislodged before the tract is considered mature or established, we recommend confirming the placement of the new BGT via a radiologic contrast study. Institutions with capability and proficiency in US might utilize this technology instead of a radiologic contrast study as the first-line method for confirmation of the newly replaced BGT in this clinical situation when feasible.
Question 10. In infants and pediatric patients with a BGT dislodgement (traumatic or accidental) after tract maturation, does confirming placement of the gastric replacement tube via aspiration of gastric contents with or without pH versus a radiologic contrast study result in fewer negative clinical outcomes?	**Recommendation:** In infants or pediatric patients with a mature tract where the BGT becomes dislodged accidentally (i.e., tube falls out with balloon deflated) or traumatically (i.e., tube removed with balloon inflated), we recommend aspiration of gastric contents over the use of a radiologic contrast study as a first-line method of BGT confirmation.
Question 11. In infants and pediatric patients with a BGT that is difficult to replace, does confirming placement of the gastric replacement tube via a radiologic contrast study versus aspiration of gastric contents with or without pH result in fewer negative outcomes?	**Recommendation:** In infants or pediatric patients with a mature tract and BGT that was difficult to replace but did not require dilation, we recommend aspiration of gastric fluid with or without pH as the first line method to confirm placement of the replaced BGT. If gastric aspirate is unable to be obtained, it may be appropriate to use a radiologic contrast study to confirm placement of the newly placed BGT. Where US of the BGT is an established practice and feasible, it could be used to verify the newly placed BGT instead of a radiologic contrast study, thereby avoiding radiation exposure.
Question 12. In infants and pediatric patients with a BGT that is difficult to replace and requires the use of a dilator, does confirming placement of the gastric replacement tube via radiologic contrast study versus aspiration of gastric contents result in fewer negative outcomes?	**Recommendation:** In infants and pediatric patients with a BGT and mature tract that required dilation prior to replacement, we suggest first attempting gastric aspirate and, if there is any concern about placement, obtaining a radiologic contrast study to confirm placement of the newly replaced BGT. Where US of the BGT is an established practice and feasible, it could be used to verify the newly placed BGT instead of a radiologic contrast study, thereby avoiding radiation exposure.
Question 13. In infants and pediatric patients with a BGT that inadvertently comes out, traumatically or accidentally, before the tract is considered established, does confirming placement of the gastric replacement tube via the use of US versus a radiologic contrast study result in fewer negative outcomes?	**Recommendation:** In infants and pediatric patients with accidental or traumatic BGT dislodgement that occurs prior to when the tract is considered mature, we suggest using US, which is an emerging confirmation technique that may be equivalent to a contrast study for confirming BGT position. If institutionally feasible, US has the advantage of minimizing radiation. If US is not conclusive, a contrast study should be performed.
Question 14. In infants and pediatric patients with a BGT that comes out traumatically or accidentally before the tract is considered mature, does the use of a care bundle by staff compared to non-use of a care bundle result in fewer negative outcomes?	**Recommendation:** In infants and children with a BGT that comes out accidentally or traumatically before the tract is considered mature, we recommend the use of a care bundle to standardize patient management and caregiver education.
Question 15. In infants and pediatric patients with a BGT that accidentally or traumatically comes out before the tract is considered mature, does the use of a formal clinician education program focused on BGT replacement confirmation versus no education program result in fewer negative outcomes?	**Recommendation:** In infants and pediatric patients with a BGT that becomes dislodged accidentally or traumatically before the tract is considered mature, we recommend the development and implementation of a formal education program for clinicians who replace and manage these tubes.