

Aim: Standardize discharge planning and follow-up needs for patients with new NG feeding tubes.

**Exclusion guidelines:**

- Existing NG tube before admission
- Patient with PEG/PEGJ or G-tube/GJ-tube
- Any post-pyloric feeding tube (NJ, PEGJ, etc)
- NICU or CVCC patient

**NOTE A:** Nasal bridle criteria:

1. Being discharged by a primary team who can replace bridled tubes on their own (general surgery). Of note, general surgery should not be consulted for the sole purposes of replacing bridles.
2. Is high risk for tube misplacement (anatomical abnormalities or intolerance of less invasive tube securement) OR may have difficulty in tube replacement (anatomical abnormalities, patient intolerance of tube replacement, burden on family/caregivers to travel for replacement)
3. Family/caregivers agree with nasal bridle option
4. No concern for skin or nasal disorder precluding bridle placement

Off guideline

No

**Patient with new NG tube in place with plans to discharge home with tube. Ensure all teams involved are aware. (ex. heme/onc, surgical teams, etc)**

Yes

Yes

Does the patient meet **ALL** of the criteria to get a nasal bridle? (Note A)

No

**Provider** to notify case management, nutrition, GI (if involved), speech (if involved), and RN that patient will discharge home with NG tube (goal of at least 48 hours' notice). Add dotphrase (.phmNGdischarge) to patient discharge instructions.



See page 2 for nutritional follow up and page 5 for bridled tube management

**Develop and Document Discharge Plan: All teams can add or edit dot phrase in patient instructions (.phmNGdischarge)****Case Manager:**

- ❑ Confirm home feeding plan in chart or by discussion with nutrition/team.
- ❑ Discuss DME (agencies/supplies) and skilled nurse visits with families. Assure supplies and formula for home are ordered.
- ❑ Confirm that DME company delivery of equipment and pump teaching is planned (could be inpatient or at home).

**Provider:**

- ❑ With nutrition/speech, develop feeding plan (including if overnight feeds necessary – Note 1) and nutritional advancement (see page 2).
- ❑ Confirm the tube replacement plan with case management (if dislodged day vs night and 30 day replacements) and then share with family (Note 2).
- ❑ When asked by case management: 1) place home care order and add "replace NG tube every 30 days," 2) sign DME orders, 3) sign complex care orders, and 4) order skilled nursing visits or weekly weight checks (if applicable).
- ❑ **(see Note 3 for provider discharge checklist)**

**Nutrition:**

- ❑ With provider team/speech, develop feeding plan and discuss necessity of overnight feeds with primary team (see Note 1).
- ❑ Update feeding plan and follow up needs in discharge instructions.
- ❑ Provide handout and education to patient/family on where to obtain formula, how to mix, how to administer, and transition or back up plans.

**Speech:**

- ❑ Update discharge instructions with oral feeding plan (i.e. are oral feeds allowed, what consistency, parameters around time doing oral feeds, etc) and follow up needs.
- ❑ Provide handout and education to patient/family on oral feeding plan and future recommendations.

**RN:**

- ❑ Complete family education using the following PFEM: Nasogastric (NG) Tube Feeding.
- ❑ During the course of the hospitalization, document in Cerner Education Powerform for "NG/NJ feeding tube" to ensure education is completed.

**Home care agency:**

- ❑ Plan follow up visits (i.e. weight checks) and confirm tube replacement plan (if applicable, see Note 2).

**Aim:** Standardize discharge planning and follow-up needs for patients with new NG feeding tubes.

**Exclusion guidelines:**

- Existing NG tube before admission
- Patient with PEG/PEGJ or G-tube/GJ-tube
- Any post-pyloric feeding tube (NJ, PEGJ, etc)
- NICU or CVCC patient

**Patient discharging home with a new NG tube (bridled or not) needs nutritional follow up managed by a provider.**

Work with nutrition (and GI if involved) to develop home feed plan (see Note 1 on overnight feeds).

Is GI involved?

Provider call PCP when patient identified as needing to discharge with NG tube (goal >48 hours before discharge) to discuss managing NG nutrition outpatient (see Note B).  
**Will PCP manage nutritional advancement?**

Consult GI

GI provider and/or MN GI feeding tube clinic (Note 4) to manage ongoing nutritional advancement.

Does the patient need ongoing speech therapy?

Discuss follow up with speech therapist

**Document nutritional advancement plan (and speech therapy plan, if applicable) in discharge instructions to family and narrative.** Discuss if Children's MN feeding clinic referral appropriate for *evaluation and connection* with outpatient services, *if not already established*, after inpatient stay (Note 4).  
**Refer back to page 1 for full discharge planning.**

**NOTE B: Conversation with PCP (Note 5) – Discuss the following:**

- ☐ Summary of hospitalization
- ☐ Who is currently involved in care of patient
- ☐ Ongoing needs outpatient (ex. feed advancement, weight checks)
- ☐ Anticipated duration of NG
- ☐ Follow up plan with nutrition/speech, if applicable
- ☐ Is PCP comfortable managing outpatient nutritional advancement?
  - Children's MN Nutrition clinic can offer PCP help with: NG feeding plan, including any planned advancements if not yet at goal; NG regimen adjustments based on tolerance, PO intake, weight trends, fluid status
  - Outpatient Nutrition 612-813-6777
- ☐ If patient will not have Children's Home Care at discharge, does their clinic replace NG tubes? (Note, most PCP's do not)
- ☐ MN GI referral options
  - Consider referral to GI if patient has had NG for 4-6 weeks and is still requiring mostly NG feeds, or sooner if no oral feeding progress made.
  - For this referral (or if needing consultation sooner), PCP can call MN GI on-call provider through Children's Physician Access (866-755-2121) to have provider to provider discussion.

**NOTE 1: Necessity of overnight feeds and tube replacements overnight**

- Provider to decide if patient will need tube urgently replaced overnight if it falls out. If the tube needs to be replaced because the patient is unsafe not receiving fluids/dextrose/feeds for the overnight period, the family will have to go to the emergency department. If the tube does not need to be urgently replaced overnight, follow daytime replacement plan in Note 2.
- Strongly consider feeding primarily during the day if it is physiologically appropriate (i.e. patient is not at an age where overnight feeds are typical) and safe to do so. This will limit overnight decisions regarding NG replacements if tube comes out.

**NOTE 2: NG Tube Replacement (non-bridled; for bridled tubes, see page 5)**

- Use table to determine who will be replacing NG tube every 30 days, or sooner if it becomes dislodged\*

Home Care Agency:	Children's Home Care			Other agency	
Time tube needs replacing:	8a-8p	8p-8a	~30 day replacement	Anytime	30 day replacement
Where tube will be replaced:	Home care nurse, depending on availability	Emergency Department, if needed (see Note 1)	Home care nurse (non-weekend, non-holiday; needs order); requires provider order	Emergency Department**	Case by case**

\*If patient discharges with weighted tube, replacement plan would need to specify if replacing weighted-tube (would require ED) vs non-weighted (could be done with Children's Home Care)

\*\*Typically, outside home care agencies do not replace tubes at home. If patient does not have Children's Home Care, please see Note B on page 2 about asking PCP if their clinic replaces NG tubes, but most clinics do not.

**NOTE 3: Provider discharge checklist: complete when patient meets discharge criteria for underlying medical condition to ensure NG discharge planning complete. Use dotphrase .phmNGdischarge in patient instructions.**

- ☐ DME supplies obtained or will be delivered to home by time patient arrives home
- ☐ Pump teach set up
- ☐ NG teaching complete by nursing
- ☐ Family feels comfortable with NG cares and feeds
- ☐ Hand off with PCP complete
- ☐ Nutritional plan documented
  - ☐ Ensure complex care orders and discharge patient instructions reflect most current feed plan
  - ☐ Make sure discharge instructions include relevant notes about oral feeds (amount, route, if safe by mouth, if thickener needed etc).
- ☐ Emergency NG replacement plan and 30 day replacement plan documented in discharge instructions
- ☐ Follow up needs documented in discharge instructions

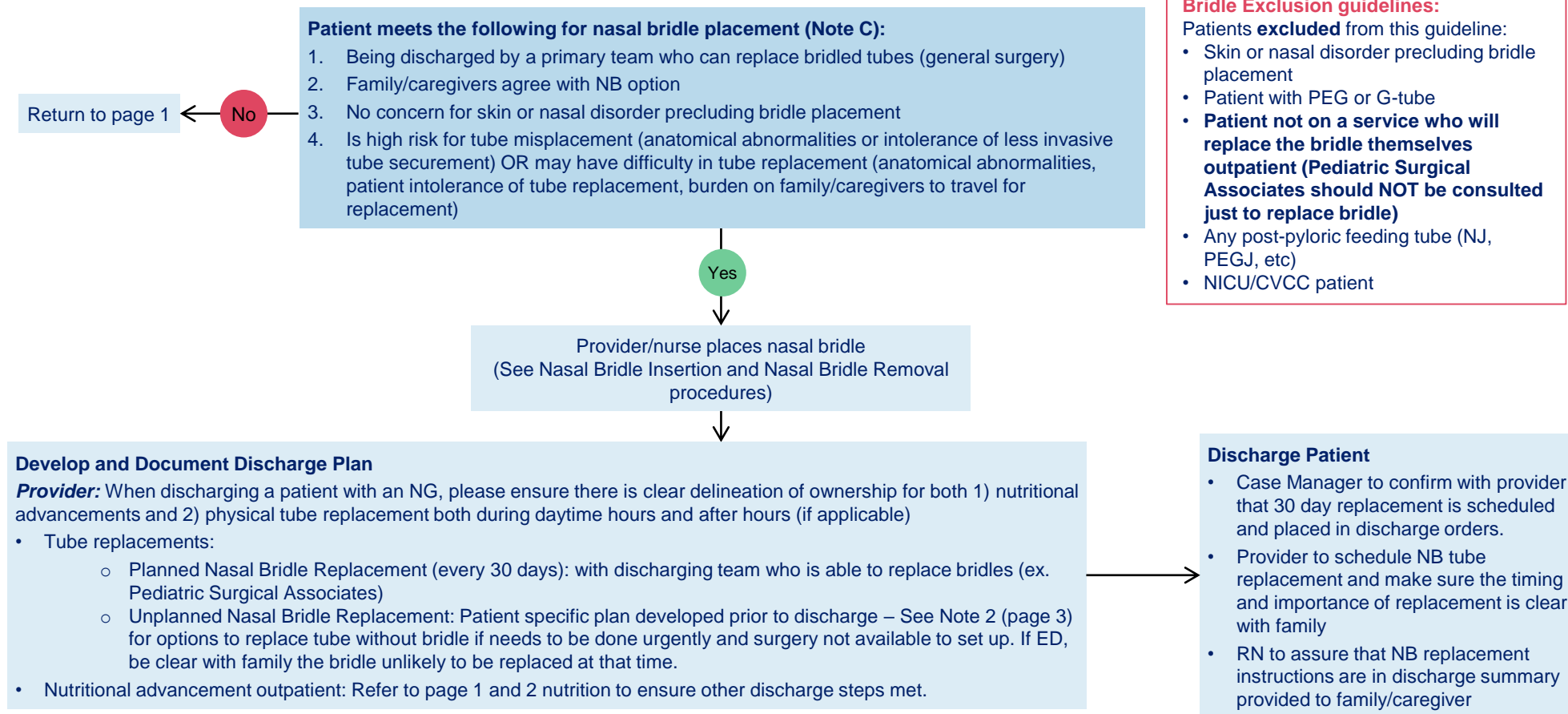
**NOTE 4: Feeding clinic and nutrition clinic descriptions**

- Children's MN Feeding Clinic (part of Rehabilitation Services):
  - Services: Multidisciplinary (nurse practitioner, nutrition, speech therapist, OT, and select visits with psychology) **evaluative** clinic to help connect patients with outpatient services. They generally do not follow patients over time once patient is set up with ongoing services. *If a patient is already established with ongoing speech therapy and dietitian supports at discharge, then this clinic is not necessary unless directed by treating therapists and dietitians.*
  - Phone: 6-6446 (651-220-6446, Fax 651-220-7699)
  - Mondays, Wednesdays, Thursdays: Feeding Clinic is hosted in St. Paul: Suite 601, Garden View Building
  - Tuesdays: Feeding Clinic is hosted in the Minneapolis CSC Suite 267 in the Rehab Department
- Minnesota Gastroenterology Feeding Tube Clinic:
  - Patient sees MN GI NP and a dietitian. No other therapies provided (speech, etc). Focus is addressing nutritional needs (calories, formulas), reflux, or other symptoms for patients with enteral tubes.
- Children's MN Nutrition clinic:
  - Can offer PCP help with: NG feeding plan, including any planned advancements if not yet at goal; NG regimen adjustments based on tolerance, PO intake, weight trends, fluid status
  - Outpatient Nutrition Clinic phone number: 612-813-6777 (generally M-F daytime hours)
  - Available on both campuses and via telehealth

**NOTE 5: Other PCP resources:**

1. Educational resources: Nasogastric (NG) Tube Feeding
2. Outpatient Nutrition: 612-813-6777, see Note 4
3. MN GI referral options: call MN GI on-call provider through Children's Physician Access to have provider to provider discussion (866-755-2121)

**Aim:** To provide a guideline to select which patients discharge home with nasal bridle NG securement devices.

**NOTE C: Nasal bridle benefits**

1. Misplaced feeding tubes in a home setting are challenging as the signs of tube misplacement can initially be subtle, but quickly escalate, or signs of an acute change in the child can present immediately<sup>12</sup>
2. The Nasal Bridle (NB) Discharge Guideline provides direction for safe discharge and follow up for the child requiring an NG/NJ following hospitalization<sup>12</sup>
3. Use of the NB is associated with a significant reduction in tube dislodgement as compared to taped tubes<sup>11</sup>
4. Misplacement of nasogastric feeding tubes may result in increased risk of aspiration or inadvertent administration of formula into the lung, more frequent trips to the hospital, increase in abdominal radiographs<sup>11</sup>
5. Nasal bridles are secured with flexible monofilament tubing found to be a safe effective method of securement. The soft silicone material does not adhere to mucous or blood.

**Aim:** To provide a guideline for sending patients home with nasal bridle NJ/NG securement devices.

**WORKGROUP:** K Brunsberg, S Wiplinger, T Prince, A Wiberg, E Kevan, J Short, L Gary, G Chawla, J Flynn, C Kenefick, F Loney, M Cardille, L Oberstar, M Behr, L Madson, J Olsen, K Martin, A Melin, C Rhiel, T Hilliard, C Larson

#### REFERENCES:

1. Bechtold, M. L., Nguyen, D. L., Palmer, L. B., Kiraly, L. N., Martindale, R. B., McClave, S. A. (2014). Nasal bridles for securing nasoenteric tubes: A meta-analysis. *Nutrition in Clinical Practice*, 29(5), 667–671
2. Black, C. M., Dungan, D., Fram, E., Bird, C. R., Reke, H. L., Beals, S. P., Raines, J. M. (1998). Potential pitfalls in the work-up and diagnosis of choanal atresia. *American Journal of Neuroradiology*, 19 (2), 326–329
3. FDA, May 26, 2015
4. Griffin, J. 2015. RS14 Focused on feeding-tube retention: A nurse-driven trial of nasal bridle system. *American Journal of Critical Care*, 24 (3), e36
5. Gurram, K. C. (2011) Nasal bridle: Married to your tube. *Practical Gastroenterology* 91, 27–34
6. Hardy A., Harrell, D., Gose, L., Mayes, T., Kagan, R. (n.d.). (Shriners Hospital for Children's – Cincinnati)
7. Kang, K. A., Elger, Breanna, Medina, M., DiSomma, N., Esparaz, J. R., Aprahamian, C. J., Pearl, R. H. (2018). Nasal bridling of nasoenteric feeding tubes. *Journal of Pediatric Surgical Nursing*, 7(1), 29–33. doi: 10.1097/JPS.000000000000162
8. Linford, L., McGinnis, C. (n.d.) Enteral tube dislodgement: Prevention and recognition. *Perspectives* 9(2), 2–7
9. Lynch, A., Tang, C. S., Jeganathan, L. S., & Rockey, J. G. (2018). A systematic review of the effectiveness and complications of using nasal bridles to secure nasoenteral feeding tubes. *Australian Journal of Otolaryngology*, 1(1).
10. Mayes, T., Brumbaugh, C., Vitolo, S., Buchert, M., Tabangin, M., & Myer IV, C. (2020). Efficacy of commercial nasal bridle use in reducing feeding tube dislodgements in pediatric patients following double stage laryngotracheoplasty. *International Journal of Pediatric Otorhinolaryngology*, 109979.
11. Newton L.E., Abdessalam, S.F., Raynor, S.C., Lyden, E.R., Cusick, R.A. (2016). Stabilization of Nasoenteric feeding tubes using nasal bridles in paediatric patients. *Maternal and Pediatric Nutrition Journal*, 2(2). doi:10.4172/mpn.1000111
12. Northington, L., Lyman, B., Guenter, P., Irving, S. Y., & Duesing, L. (2017). Current practices in home management of nasogastric tube placement in pediatric patients: a survey of parents and homecare providers. *Journal of Pediatric Nursing*, 33, 46–53.
13. Parks, J., Klaus, S., Staggs, V., Pena, M. (2013). Outcomes of nasal bridling to secure enteral tubes in burn patients. *AJCC* 22(2) 136–142
14. Seder, C. W., Stockdale, W., Hale, L., Janczyk, R. J. (2010). Nasal bridling decreases feeding tube dislodgment and may increase caloric intake in the surgical intensive care unit: A randomized, controlled trial. *Critical Care Medicine* 38(3), 797–801