FOR VETERINARY USE ONLY

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Instructions for Use

Rev. 10/29/2024

Nasogastric Feeding Tube PLUS with Flushing Stylet
(non-weighted and weighted)

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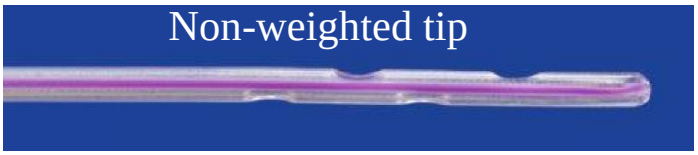
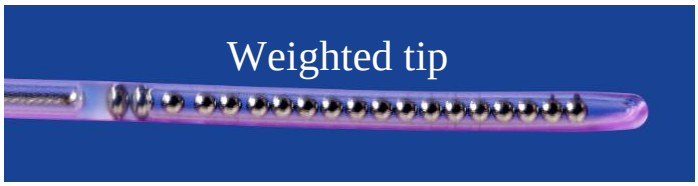
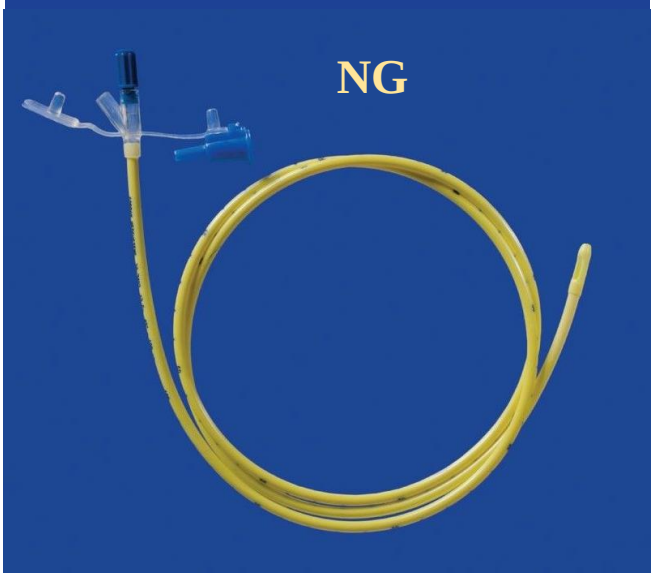
Nasogastric Feeding Tube with Stylet
(non-weighted and weighted)







Indications for Use

The MILA Nasogastric Feeding Tube with Flushing Stylet is a medical-grade polyurethane tube intended for use in patients that require gastric evacuation and/or administration of enteral nutrition via the nasogastric route.

Contraindications

Nasal trauma	Coagulopathy	Recent alkaline ingestion
Recent nasal surgery	Upper respiratory infection	Esophageal varices
Nasal tumor	Thrombocytopenia	Esophageal stricture
	Elevated intracranial pressure	

Potential Complications

Pneumothorax	Airway obstruction	GI perforation
Nasal or oropharyngeal trauma	Dacryocystitis	Epistaxis
Aspiration	Isocalothorax	Gastric pneumatosis
Gastroesophageal reflux	Rhinitis	Tube blockage

Other related complications or the need for additional medical procedures

Note: Placement and use of any feeding tube may result in patient discomfort.

Supplies Needed

(not included)

0.5% Proparacaine HCl Drops or 2% lidocaine	Sterile water-based or lidocaine lubricant	Waterproof tape or suture wing*
60mL syringes	2-0 or 3-0 nylon suture	Elizabethan ("E") collar

Refer to this symbol, ⚠, for warnings and precautions throughout the instructions.

Instructions

Read through all steps before the procedure.

The following instructions apply to normocephalic patients. Adaptations may be required for brachycephalic breeds. If using a sterile tube, follow your hospital procedure for aseptic technique.

Preparation

1. Before use, inspect all parts of the feeding tube. Do not use if damaged. Ensure that the stylet can move easily in the tube and has not exited one of the distal fenestrations. Close the side port and flush the stylet with water.

   ⚠ **Ensure that the stylet can move freely within the lumen and has not inadvertently exited one of the distal side holes. If the stylet is protruding from a side hole, retract it a few inches and reinsert it so that the tip fits well into the tip of the catheter.**

   ⚠ Flush the lumen of the tube with water to check patency and facilitate stylet removal.

2. Holding the patient's head pointed up, instill 5-10 drops of proparacaine or 1-2mL of 2% lidocaine into the nasal cavity. Application of topical lidocaine to the outer nares and rhinarium can help to reduce stimulation that may result in sneezing and patient discomfort.

   Restrain the patient in sternal recumbency or sitting upright.

   ⚠ Failure to properly immobilize the patient during the procedure may result in serious injury.

**Suture wings are only included with NG Plus. Also sold separately in packs of 10.*
Order numbers: 5Fr tube: 16Ga wing - #2550, 6Fr tube: 14Ga wing - #2560, 8Fr tube: 8Fr wing - #2572, 10Fr tube: 9Fr wing - #2575, 12Fr tube: 14Fr wing - #2580

3. Pre-measure the insertion depth and note and/or mark the measurement on the tube.
   Nasoesophageal landmark: 7th to 9th rib *Nasogastric landmark: 13th rib*
   ⚠ WARNING: The premeasurement of tubing length is essential. Occlusion may result from malposition or kinking if excessive tube is inserted.
   - If using a weighted tube, use the last hole before the weight to measure the insertion depth (not the tip of the tube).

   Optional: Measure the tube from the naris to the level of the thoracic inlet and mark this measurement on the tube with a permanent marker (or note the centimeter mark on the tube). This can be used to estimate the level at which the tube enters the esophagus, at which point the tube position can be verified prior to insertion to the final depth.

   Optional: Measure and mark the tube from the naris to the level of the ramus of the mandible to mark the depth of the pharynx (see TIP on step 8).

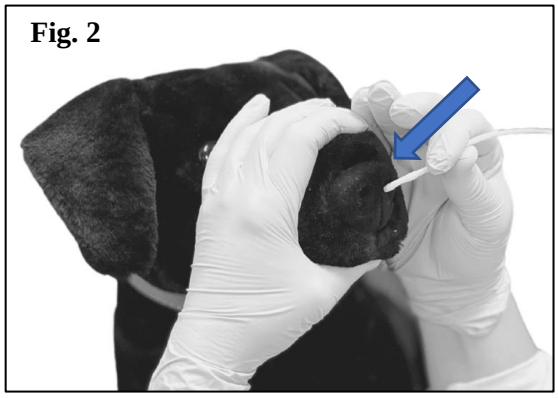
   Optional: Before inserting the tube, place a stay suture caudal to the lateral alar fold to facilitate immediate tube securement after placement.

Nasogastric/Nasoesophageal Tube Placement

4. Grasp the tube close to the tip and apply a liberal amount of lubricant.
   ⚠ Use only water-based lubricant
5. Hold the patient's muzzle with your non-dominant hand, keeping the head in a natural horizontal position. Holding the tube with your finger and thumb, rest the side of your dominant hand on the other side (Figure 1).
6. Introduce the tip of the catheter into the naris in a ventromedial direction (Figure 2). Using a pinch-and-push method, feed the tube into the nasal cavity in short increments.
   TIP: Release the tube if the patient sneezes or jerks to avoid pulling the tube out.

Fig. 1

Fig. 2



7. When the tip of the tube reaches the nasal septum, use the thumb of your non-dominant hand to push the rhinarium dorsally to guide the tube into the ventral meatus. If the tube hits the nasal turbinates, retract it and reposition it in a more medial and/or ventral direction before continuing.
8. Advance the tube with the patient's head in a neutral position. As the tube passes through the oropharynx and into the esophagus, the patient may or may not swallow. If the patient swallows voluntarily, advance the tube immediately to the pre-measured depth.
   TIP: When the tip of the tube reaches the level of the pharynx, tilt the head down to guide the tube to pass into the esophagus.

   ⚠ Coughing may indicate the passage of the tube into the trachea. If tracheal passage is suspected, remove the tube. The absence of coughing does not confirm placement in the stomach.
   ⚠ If resistance is encountered, immediately remove the tube.
   ⚠ Care should be taken if any type of endotracheal device is in place, as it may guide the feeding tube into the trachea.

⚠ Misplacement of the feeding tube into the trachea or lungs may result in serious injury.

Recommended: To avoid inadvertent tracheal intubation, take a lateral cervical radiograph of the nasopharynx when the tip of the tube reaches the level of the thoracic inlet to confirm that the tube is in the esophagus before proceeding.

Figure 3: Lateral cervical radiograph (L-R) verifies correct tube placement. Here the tip of the tube can be seen above the larynx, within the esophagus.

Note: The stylet in this nasogastric tube (item number beginning in NG*), terminates proximal to the tip opening. The stylet in NG Plus tubes (item numbers beginning in* NGP*), terminates at the tip of the tube, past the distal side holes.*

Source: Andrew Taylor, MS, DVM, DACVECC, Jay Gladden, DVM, DACVECC, Annie Wayne, DVM, MPH, DACVECC (2018). *Assessment of a Nasogastric Tube Placement Protocol to Minimize Iatrogenic Tube Misplacement Complications.* Poster Presented at: International Veterinary Emergency and Critical Care Symposium; September 14-18, 2018; New Orleans, LA

NOTE:

- For purple tubes (item numbers beginning with **NGP**), placement can be checked by aspirating through the stylet (see Figure 4).

- For yellow tubes (item numbers beginning with **NG)**, the stylet must be removed before aspirating. For this reason, it is recommended to take a placement radiograph before removing the stylet. See Step 11 for stylet removal instructions. *The stylet cannot be replaced if the tube is indwelling.*

9. Close the side port and aspirate with a syringe.
   - If negative pressure is felt, the tube may be in the esophagus.
   - If liquid gastric contents are aspirated, the catheter tip is in the stomach.
   - If the stomach is gas-filled and air is expected, smelling the aspirated gas may confirm placement into the stomach.
   - If air is aspirated, the tube may be in the airway and needs to be retracted to the level of the oropharynx before attempting to place again.
10. Confirm proper placement and desired depth per hospital protocol (e.g., radiograph, pH measurement, etc.).

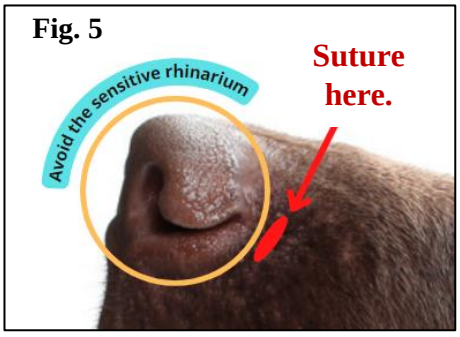
    ⚠ **WARNING: Tube position MUST be confirmed to be in the esophagus or stomach before flushing and use.**

    ⚠ The pH of the gastric fluid in patients receiving gastroprotectants may be altered and tube placement should be confirmed by other means.
11. Flush up to 10mL of water into the side port immediately before stylet removal.

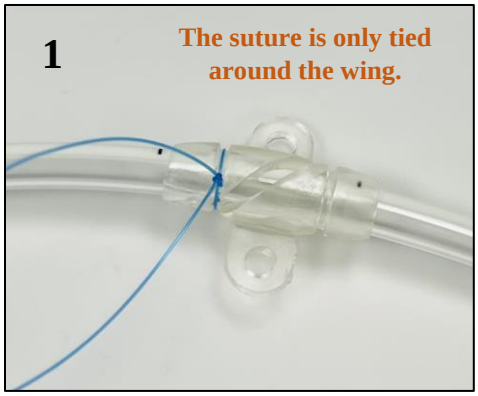
⚠ **WARNING:** The stylet must **never** be reinserted or re-advanced into the tube while the tube is indwelling. Reinsertion or re-advancement of the stylet may result in patient injury or damage to the tube.

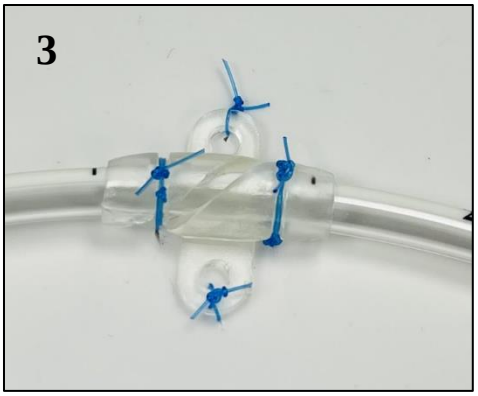
If the tube is to be reinserted and the stylet needs to be replaced, coat the end of the stylet with water-based lubricant to aid reinsertion into the tube. Do not use the stylet if it is bent.

12. Secure the tube to the patient's muzzle caudal to the rhinarium (Figure 5), per institution protocol (i.e., finger trap suture, tape butterfly, suture wing, etc.).

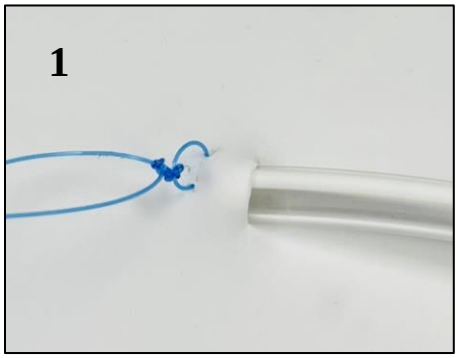


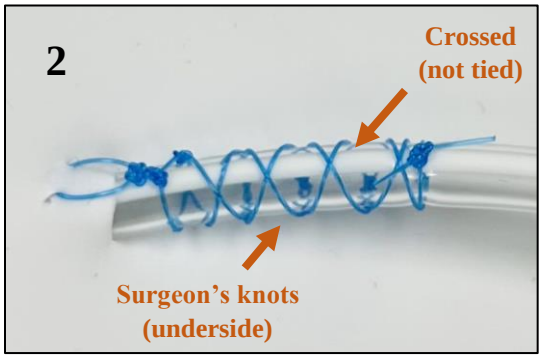
- Suture wing:
  1) Tie a surgeon's knot in one of the grooves of the suture wing to secure the wing in place on the tube.
  2) Do not cut the suture – use the loose ends to suture the wing to the skin under the groove.
  3) Repeat on the other side. Suture the wings to the skin through the eyelets. Take care to avoid over-tightening the sutures on the skin.





- Finger trap suture:
  1) Tie an anchor suture close to the exit site. Make sure the loose ends of the suture are the same length. **TIP**: Place the tip of a hemostat or other small cylindrical object between the skin and the surgeon's knot to prevent it from clinching down, thus creating a loop.
  2) Cut the needle off the suture. To tie the finger trap suture around the tube, alternate tying surgeon's knots on one side and crisscrossing the suture on the other side. Make sure to pull the knots tightly to cinch down on the tube.





13. Place an Elizabethan collar on the patient to prevent removal.

14. Document tube placement in the patient's medical record (see page 7).

Tube Maintenance

Follow your institution/facility/hospital protocol or clinician's order.

1. It is recommended the tube be irrigated every 4 hours with up to 20mL of water (or up to 10mL for small patients), before and after food or medication administration, or when continuous feeding is interrupted.

   ⚠ WARNING: Vigorous syringe force should not be used to irrigate, administer liquids, or unblock the tube. The use of syringes smaller than 50mL can create pressure greater than the bursting pressure of the tube (approximately 80psi).

2. The feeding tube should be monitored, regularly assessed, and replaced when clinically indicated based on functionality and patient condition.

3. Monitor the patient closely during feeding for any signs of discomfort or nausea (e.g., hypersalivation, lip-licking, etc.).

   Feeding Recommendations:

   a. Commercially available liquid diets and medications work best.
   b. If using a homemade diet, ensure that enough water is added and that it is blended sufficiently to completely liquify the food.
   c. If suspensions or liquid medications are not available, pulverize the tablets or capsule contents and mix them with enough water to completely dissolve. Note that some tablet coatings do not dissolve well and may clog the tube.

   ⚠ Never insert a guidewire, stylet, or any other stiff linear tool to attempt to unblock the tube.

Tube Removal

1. Cut the sutures and remove other securement devices.
2. Close both ports and pinch the tube closed.
3. Gently pull the tube out parallel to the nasal cavity.

   ⚠ If any resistance is felt, STOP. Gently push the tube back a few centimeters and try again. If resistance is still felt, direct visualization of the tube (e.g., via endoscopy) is recommended.
4. Document tube removal in the patient's medical record (see page 7).

DISCLAIMER: These instructions are for supplemental education and guidance only and do not substitute professional veterinary medical advice.

Questions or comments?

Call us at 859-957-1722 or 888-645-2468
(Monday-Friday 9am-5pm EST)

or email us at ProductSupport@milaint.com

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Nasogastric Feeding Tube Placement Record

Place or transcribe into the patient's medical record.

Date: _____ /_____ /_____ Time: _____ : _____ am pm

Patient Name: _____ ID Number: _____

☐ Canine ☐ Feline ☐ Other _____ Weight: _____

Owner: _____Veterinarian: _____

Indication or reason for placement: _____

Placed by: _____ Assistant/Restrainer: _____

Sedation required? ☐ Yes ☐ No Drugs, doses, route: _____

Tube Size: _____ Fr x _____cm ☐ NG ☐ NGPlus ☐ Weighted MILA Lot number: _____

Depth of placement: ☐ Nasoesophageal ☐ Nasogastric _____cm ☐ Left ☐ Right

Placement confirmed by ☐ radiograph ☐ pH measurement ☐ other: _____

Radiograph interpreted by _____ pH measurement: _____

Comments: _____

Stomach contents aspirated: ☐ Yes ☐ No Volume: _____mL of air, _____mL of fluid

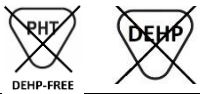
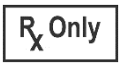
Description of fluid: _____

Prescribed diet: _____

Date & time of removal: _____ Removed by: _____

Reason/cause of removal: _____

SYMBOL GLOSSARY

	Batch code/ Lot number
	Caution
	Consult instructions for use
	Contains or presence of phthalate DEHP
	Date of Manufacture
	Does not contain natural rubber latex
	Does not contain phthalate DEHP
	Do not re-sterilize
	Do not reuse
	Do not use if package is damaged
	Keep away from sunlight
	Keep dry
	Non-pyrogenic
	Non-sterile
	Not MRI safe
	Prescription only
	Temperature limits
	Sterilized using ethylene oxide
	Sterilized using steam or dry heat
	Use-by Date