

Nasogastric tube placement and Maintenance for the Veterinary Technician  
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Nutritional support for sick/critically ill patients is paramount in veterinary medicine as most patients' appetites wane or cease when ill. This talk will review the placement and maintenance of Nasogastric (NG) and Nasoesophageal (NE) feeding tubes for dogs/cats. By the end of the discussion, technicians should be able to be familiar with the below categories.

- Indications for NG/NE tubes
- Limitations of NG tubes
- Contraindications for NG/NE tube placement
- Complications of NG/NE tube placement
- Supplies needed for NG/NE tube placement
- NG/NE tube placement procedure
- NG/NE tube maintenance
- Medication Administration thru NG/NE tubes

**Indications for NG/NE tubes**

- Anorexia or prolonged hyporexia
- Parvo puppies
- Gastric emptying/feeding in severe GI ileus
- Pre-op gastric emptying in upper outflow tract GI obstruction to reduce risks of anesthesia related regurgitation
- Constipated/Megacolon cats for PEG solution administration
- Hepatic lipidosis Cats
- Water CRI in patients with heart disease that need fluids
- Ventilator cases
- Initial stabilization for GDV
- *NG tube more often used but NE tube can accomplish all the above other than gastric emptying*

**Limitations of NG/NE tubes**

- Temporary/short term solution
- Have to be maintained in hospital by skilled vet staff
- Limited calorie replacement given size of diameter and 1kcal/ml liquid diets
  - Better for smaller patients
- Can be expelled by or swallowed by patient if vomiting
- Costs (minimal)
- Require serial radiographs to verify patient
- Patient cooperation – may need sedation

### **Contraindications for NG/NE tube placement**

- Severely dyspneic animal
- Concurrent Nasal disease/nasal mass
- Coagulopathy
- Facial trauma
- Uncontrolled /refractory vomiting or regurgitation
- Lack of functional gag reflex

### **Complications of NG/NE tube placement**

- Epistaxis
- Regurgitation/vomiting
- Aspiration pneumonia
- Placement of tube in trachea/bronchi
- **Pneumothorax** → DEATH
- Esophagitis
- Esophageal stricture

### **Supplies needed for NG/NE tube placement**

- Measuring tape.
- Proparacaine for nares
- Lube jelly
- 3-0 nylon suture material
- Needle drivers or 22 gauge needed
- Suture scissors
- Sharpie or permanent marker
- Empty 6 and 12ml syringe with 1 cc water in it
- Appropriate size tube
  - 5Fr silicone catheter for cats and small puppies/toy breeds
  - 8 Fr silicone catheter for small-medium breed dogs
  - 10 Fr silicone catheter for medium to large breed dogs

### **NG/NE tube placement procedure**

- Two people to place
- Have supplies ready
- Place in Xray if possible
- Give sedation
- Apply 2-4 drops of proparacaine in nares
- Measure **2 distances**
  - From tip of nose to caudal neck
  - From tip of nose to stomach/last rib
- Lubricate the distal tip of the NG tube
- make sure stylet (mila) all the way in catheter.

- Place initial stay suture at the area where the junction of wing of nostril meets the skin/fur with the point of the needle coming out dorsally.
- Leave needle in place, cut the needle off the suture and thread/run the 3-0 nylon suture thru the tip of the needle out the hub. Then remove then needle but leave the suture in place.
- Make sure the suture has equal length on both sides and tie 4 knots close but **NOT** tight to the skin and leave suture to the side for later.
- Assistant can grasp the animals muzzle to hold still - can use soft muzzle if needed as well
- Placer can use the thumb of non-dominant hand to push the nose back and up to open up the ventral meatus (opening) at the back of the nasal passages.
- With the other hand, introduce the distal tip of the tube into the nares at an angle that is downward and towards the mid forehead (ventromedially).
- Start to advance tube into nares
- If patient moves, move w/ animal and stop advancing tube. Let go of tube so as not to accidentally pull it out and regrasp once moving stops.
- Advance the tube about 1-2inches at a time until you reach the back of the nasal area.
- Once you reach the oropharynx area (back of mouth) the patient may or may not swallow.
  - Massaging the throat may stimulate a swallowing reflex which can aid in proper placement of the tube
- When you have the tube advanced to the **FIRST** measured position (distance from the nose to the bottom cervical region) then stop and take your fist lateral radiograph of the neck area.
- Have doctor confirm it is in the correct location on Xray BEFORE advancing further.
- If proper location, then continue to advance the feeding tube further down **with stylet in place** until you reach the 2<sup>nd</sup> premeasured distance (the last rib).
- Once there, remove the stylet carefully.
- Push in 1 ccs of water followed by 6-7mls of air.
- Coughing????
  - Yes -- stop and take radiograph to confirm location as you may be in the trachea.
  - NO -- then aspirate with the syringe. If you are getting gastric fluid/material in syringe. Then flush with 3mls of water and cap off.
- Take post placement lateral thoracic/abdominal radiograph
- Have doctor verify appropriate placement
- Use previously placed suture to place Chinese finger trap to secure next to nares
  - Use at least 5 crossings
  - +/- additional tacking to skin at end
- Then apply 2<sup>nd</sup> location of suture to side of face below ear with short
  - 3 crossings Chinese finger trap as well.
- Aspirate tube until negative pressure
- Flush tube with 8-10mls of water and cap off.
  - If patient starts coughing, stop flushing and notify doctor
- Place **E-collar** on the patient.

### **NG/NE tube maintenance**

- Check distance of tube q4-6hr
- Always flush with 5mls first before giving with medication to make sure patent.
- If aspirating tube make sure flushing after
- Make sure to flush with water If disconnecting from CRI for walk/treatment
- If patient looking nauseas (drooling/swallowing), notify doctor
  - May add anti-emetic meds or check placement
- If patient coughing. Disconnect tube from any CRI's and notify doctor immediately.

### Medication Administration thru NG/NE tubes

- Always check tube before and after giving meds/fluids
  - Before: check in correct place, give 5mls water first and make sure no coughing. Then give medication
  - After: flush with water (enough to clear line) after giving medications to keep line from becoming occluded later
- If patient coughing??
  - STOP giving medication.
  - Disconnect from tube, notify doctor immediately.
  - Do not give any thick liquid medications (sucralfate tablets crushed, lactulose, etc.) thru the tube

### **References**

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**10. Dove on the floor you tube video**

**<https://www.youtube.com/watch?v=sg5SQfbjjvw>**