PLACING NASOGASTRIC OR NASOESOPHAGEAL FEEDING TUBE

Supplies needed:
appropriately sized weighted feeding tube or argyle feeding tube, proparacaine drops, lubricant, 1” white tape, suture, needle holders, scissors, stethoscope, sterile saline, 3-6 ml syringe

1. The patient can be awake or mildly sedated. Heavy sedation or anesthesia is generally not necessary and should only be reserved for very difficult patients or those undergoing a second procedure requiring anesthesia.
2. Lubricate the inside of the nares using 3-5 drops of proparacaine; also place proparacaine in the corresponding eye.
3. Measure the length of the tube from the nose to the:
   a. Last rib (if placing NG)
   b. Point of the elbow (if placing NE)
4. Mark the length on the tube with a marker or piece of “butterfly” tape
5. Lubricate the end of the NG or NE tube with lidocaine gel or lubricant.
6. Push up the tip of the nose holding the head in a neutral position, and insert the tip of the tube into the nose directing it ventrally and medially.
7. Advance the tube; if you reach bone or feel “crunching” you are in the wrong place, back out and start again.
8. When you advance the tube to the region of the larynx, it often helps to flex the neck. This opens the esophagus while closing the larynx so the tube will be directed into the proper opening. The patient may swallow at this point.
9. Once the tube is advanced to the mark (or tape), the following four steps should be taken to check for proper placement:
   a. Apply suction to the tube
      i. If the tube is in the stomach, suctioning may result in a small to large amount of fluid and air. Aspirating gastric fluids means the tube is in the stomach. If air is encountered, continue suctioning until there is negative pressure. If negative pressure is not encountered, the tube is either in the lungs or turned around and coming back out the mouth. Open the mouth and look for the end of the tube. If you can’t find the end of the tube but aren’t reaching negative pressure, back the tube out to the level of the hard palate and try again. Occasionally, if the stomach is empty, suctioning may result in negative pressure immediately. However, this can also mean that the tube is in the esophagus, is kinked and turned back on itself, or is up against a wall in the stomach. If negative pressure is encountered immediately, advance a small amount and suction again. If you continue to get negative pressure and the tube is advanced past your marked area, the tube is most likely kinked. Back out and try again (a stylet will help if this is the case).
      ii. If the tube is in the esophagus, you will very quickly get negative pressure as you collapse the esophagus around the tube with suctioning.
   b. Inject a small bolus of air (5-8ml) into the tube and listen at the level of the stomach with a stethoscope. Air can be heard entering the stomach. If this is not heard, check placement another way before proceeding.
   c. Inject a small bolus of sterile water or saline (3-6ml) into the tube. Observe for coughing. If the animal coughs, the tube is likely in the trachea. Remove the tube and start over.
   d. Take a radiograph to confirm placement
i. NG tubes should be 2-4 inches into the stomach without being kinked or having excessive curling (which will lead to kinking). If kinking or curling is seen, pull back the tube until there is less in the stomach and the tube is straightened out.

ii. NE tubes should be in the distal 1/3rd area of the esophagus (generally right over or just past the heart). It should not be at the end of the esophagus, where it could rub up against the esophageal sphincter and trigger vomiting. It should also not be in the proximal esophagus, increasing the risk of aspiration pneumonia.

iii. Remember, on radiographs, the esophagus and trachea run together for the first half to two-thirds of their course, so it can be difficult to distinguish which your tube is within. Therefore, the above tests should be used to confirm placement, and the radiograph should be studied carefully to make sure the tube is within the esophagus. If there is any question at all, repeat the above tests or remove tests or remove the tube and start over.

10. Once the tube is in the proper position, suture the tube at the alar fold using a finger trap pattern. Apply a butterfly tape tab and suture to the side of the face.

11. Remember the e-collar!

Determining how much to feed:

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Resting energy requirement is calculated independent of the disease process – adding additional calories to make up for critical disease can lead to vomiting and diarrhea. Begin at ¼ RER and increase to full RER over 48-72 hours. Use current body weight (not ideal) when calculating:

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RER = 70 \times (\text{weight in kg})^{0.75} \quad \text{OR} \quad RER = (30 \times \text{weight in kg}) + 70
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Technicians can check residuals prior to the next feeding to determine how well the patient is tolerating the feedings and the decision can be made to either discard residuals or return all or part of the amount back to the patient.