Placing Feeding Tubes in Dogs and Cats

References:

Fossum TW, Hedland CS, Hulse DA, Johnson AL, Seim HB, Willard MD, Carroll GL. Chapter 11, "Postoperative Care of the Surgical Patient," in *Manual of Small Animal Surgery*.

Marks SL. Chapter 71, "Enteral and Parenteral Nutritional Support," in Stephen J Ettinger and Edward C. Feldman *Textbook of Veterinary Internal Medicine, 5th Edition.*

Remillard RL, Armstrong PJ, Davenport DJ. Chapter 12, "Assisted Feeding in Hospitalized Patients: Enteral and Parenteral Nutrition," in Hand Thatcher Remillard Roudebush *Small Animal Clinical Nutrition, 4th Edition*.

Enteral feeding is for patients that can not or will not ingest adequate nutrition, but have adequate GI function for digestion and absorption of food delivered by tube.

A. **Surgical placement of gastrostomy tube** is the ideal gastrostomy tube method for dogs larger than 40 pounds. Their stomach capacity is large, and the stomach needs to be firmly attached to the body wall at the gastrostomy site. Stomach tubes can be placed using this percutaneous flank approach, or by laparotomy.

Supplies for surgical placement of gastrostomy tube:
Supplies and equipment for general anesthesia and perioperative pain control
Pezzar tube appropriate for the size of the dog (sterile)
General surgery pack
#11 surgical blade
2-0 PDS or Maxon
2-0 non-absorbable suture

This method can be used, or a gastrostomy tube can be placed similarly during exploratory laparotomy. Instructions for surgically placing a gastrostomy tube:

1. Patient should be fasted (no food) for 24 hours prior to surgery.
2. Anesthetize the patient, intubate and place in right lateral recumbency.
3. Clip and surgically prepare the left flank area. Gastrostomy site will be in the left paracostal area, just caudal and parallel to the last rib, with its dorsal limit just below the ventral edge of the paravertebral musculature.
4. Have an assistant pass a large bore stiff plastic stomach tube into the stomach, and manipulate until the tube is against the left body wall.

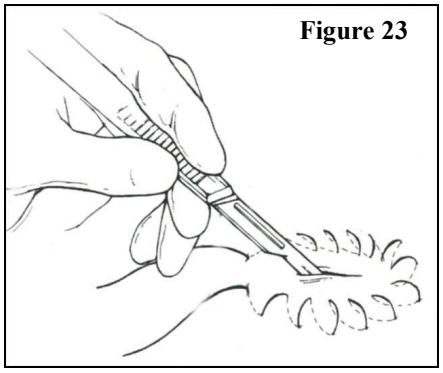
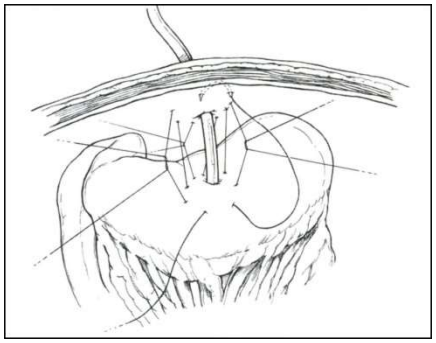


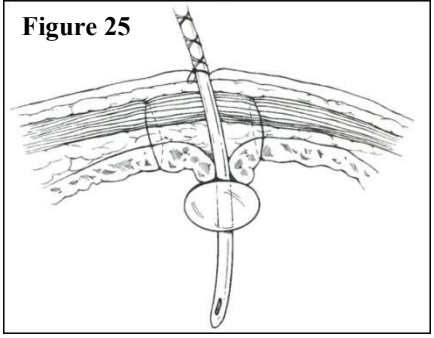
Figure 23

5. Don sterile gloves and palpate the left flank area, then grasp the end of the stomach tube.
6. Hold the tube stable, and make a skin incision over the end of the tube.
7. Bluntly dissect the subcutaneous tissues and abdominal musculature, to expose the wall of the stomach over the tube; take care not to enter the lumen of the stomach.
8. Place a purse-string suture in the stomach wall around the tube, using 2-0 PDS or Maxon (see figure 23 right).



9. Use a #11 surgical blade to make a stab incision into the stomach lumen, over and into the end of the stomach tube. **Figure 24**
10. Place the mushroom tip end of a Pezzar catheter into the gastrostomy site, and into the stomach tube.
11. Snug and tie the purse string suture around the mushroom tip. Take care not to apply excessive tension on the purse string, to avoid pressure necrosis of the stomach wall.
12. Have the assistant carefully remove the stomach tube.
13. Pre-place 3-4 simple interrupted stay sutures (2-0 PDS or Maxon) through in the stomach, and firmly pexy each to the adjacent abdominal wall (see figure 24 previous page).
14. Put gentle traction on the Pezzar catheter, withdrawing until the mushroom tip is snug against the stomach wall (see figure 25 right).
15. Close muscle, subcutaneous tissues and skin around the gastrostomy tube in a routine manner.
16. See section F below to secure, bandage and remove the gastrostomy tube.

Figure 25



B. **Securing, bandaging and removing the gastrostomy tube**:

Supplies:
2-0 non-absorbable suture, to attach tube to skin
Bandage material, stockinette or infant t-shirt, to protect the tube.
Plug for the end of the tube
10 days broad spectrum prophylactic antibiotics

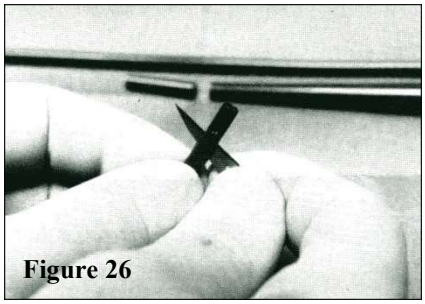
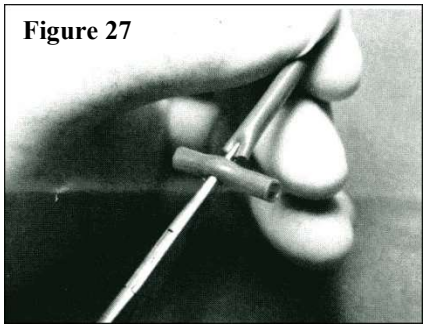


Figure 26

1. Use a scalpel blade or scissors to make a stab incision mid-length in the tube anchor (see figure 26 right).
2. Pass a hemostat through the stab incision, grasp the pointed end of the tube (see figure 27 right).
3. Pull the pointed end of the tube through the tube anchor, and snug the tube anchor to the body wall (see figure 28 right and below). Add a white tape butterfly to keep the tube anchor phlange in place, if desired.
4. Use a Chinese finger cot suture pattern to secure the tube in to skin (alternate crossing behind, and surgeon's knot in front, until the cot reaches the desired length).

open them, and

Figure 27



5. Allow the pet to recover from anesthesia, and then secure the tube as desired
   a. Some like to bandage, with 4x4 with antibiotic ointment on the gastrostomy.
   b. Some like the bandage secured with a piece or two of tape, and then the tube protected with an e-collar, infant t-shirt or stockinette.
   c. Heavy bandages can restrict breathing during anesthetic recovery, especially in obese pets.
6. I usually start feeding via the tube the next day.
7. The tube must stay in place for at least 10 days before it is removed. It takes this long for a strong gastropexy to form, preventing leakage of ingesta into the abdomen, and subsequent peritonitis when the gastrostomy tube is removed. Cats sometimes form poor gastropexy adhesions.

8. The stomach should be empty when the tube is removed. Sedation is generally not required for G-tube removal, unless the patient is particularly fractious.
9. To remove the tube, first cut and remove the suture attaching the finger cot to the skin. Grasp the tube with the right hand, and brace the abdominal wall with the left (see figure 29 and 30 below), to provide counter pressure. Exert firm traction on the tube until it is removed. Keep bandaged for a day or two, until healed.

Figure 29

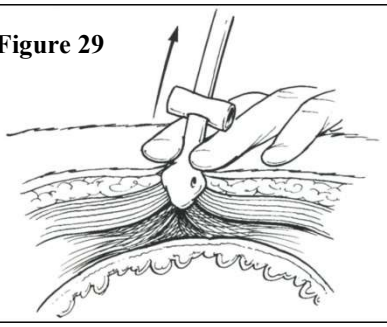
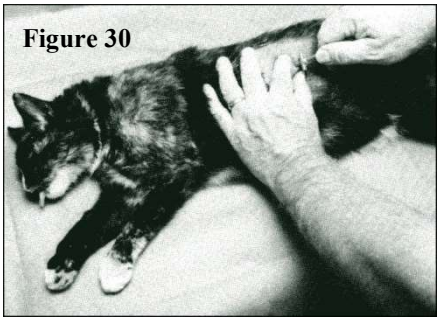


Figure 30



10. A second method of removal in dogs large enough to pass the mushroom tip is to trim the mushroom tip off at the body wall and push it into the stomach. This is not recommended in small dogs or cats, as it can cause intestinal obstruction.
11. A third method or removal is to thread a stylet into the tube to flatten the mushroom tip while applying traction to remove the tube.
12. Administer broad spectrum antibiotics, such as penicillin, potentiated penicillin or cephalosporin, for 10 days after gastrostomy tube placement.

C. What to do if the G-tube is removed prematurely
    1. If removed before the stomach wall is well adhered to the abdominal wall.
        a. Endoscopy to evaluate the gastrostomy site and replace the PEG tube.
        b. Exploratory surgery if evidence of perforation and peritonitis
    2. If removed after stoma is well healed
        a. Can replace Pezzar tube with a PEG procedure or LPGD.
        b. Can replace tube with a Foley type catheter.
        c. Can place a low profile gastrostomy device (LPGD).

D. Contraindications for gastrostomy tube placement:
    1. profuse vomiting
    2. decreased consciousness
    3. conditions where the stomach can not be easily apposed to the abdominal wall.
        a. Ascites
        b. Adhesions
        c. Space occupying masses
    4. primary gastric disease
        a. gastritis
        b. gastric ulceration
        c. gastric neoplasia