# Placing PEG and Jejunostomy Tubes in Dogs and Cats

## I. Gastrostomy tube

### A. Percutaneous Endoscopic Gastrostomy (PEG) tube placement

**Supplies for PEG tube placement:**
Supplies and equipment for general anesthesia and perioperative pain control
Pezzar tube appropriate for the size of the dog (sterile)
Flexible upper GI endoscope
30-60 inches of 2-0 Vetafil (2 pieces)
Tom cat catheter trimmed at a 45$^{o}$ angle, one inch past the tapering point (or 18g Sovereign)
18-gauge needle
#11 or #15 surgical blade
Sterile water-based lube
Small surgical pack, as used for lacerations

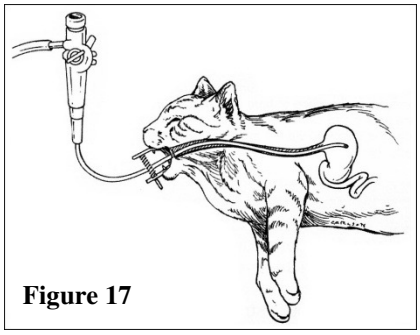


**Figure 17**

Instructions for placement of a PEG tube:

1. Patient should be fasted for 24 hours prior to PEG tube placement.
2. Anesthetize the patient, intubate, and place in right lateral recumbency.
3. Surgically prep an area about 4-5 inches square around the gastrostomy site (see figure 8, section C), approximately 1-2 cm caudal to the costal arch, and one-third the distance from dorsal midline to ventral midline.
4. Pass the lubricated endoscope through the esophagus and into the stomach.
5. Insufflate the stomach with air, so that the gastric wall comes into contact with the abdominal wall, and the spleen is displaced caudally (see figure 17 previous page).
6. Direct the tip of the endoscope against the fundus as it contacts the body wall. The lighted tip of the endoscope will be seen pressing upward against the abdominal wall.
7. Have an assistant pass an 18-gauge needle or around the needle catheter perpendicular to and through the skin just adjacent to the tip of the endoscope, and pass it through the abdominal wall and gastric wall, until the hub is snug against the skin (see figure 18 right). Air will be released as you enter the stomach lumen.
8. Have the assistant thread one end the 30-60 inch piece of Vetafil through the 18-gauge needle and into the stomach.
9. The other end should be secured by grasping with a hemostat.
10. Use the retrieval endoscopic forceps to grasp the free end of the Vetafil and pull it out through the mouth as the endoscope is withdrawn (see figure 19 right).
11. Thread the free end of the suture into the trimmed tom-cat catheter, small end first.

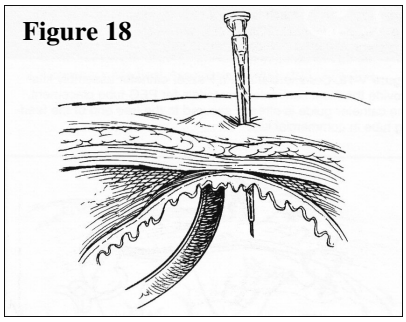


**Figure 18**

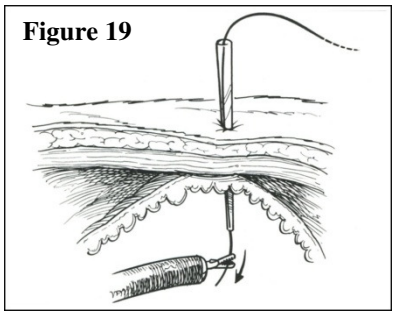


**Figure 19**

12. Use the 18-gauge needle as a suture passer, to pass the free end of the suture through the pointed trimmed end of the Pezzar catheter, for 2-4 passes. Pull at least 10-12 inches of suture through each time.
13. Tie the free end and the fixed end of the sutures together with a square knot.
14. Pass the free end of the suture back through the tom cat catheter, big end first.
15. Pulling on both ends of the suture, pull the pointed end of the Pezzar catheter snugly into the tomcat catheter.
16. Pull the free end of the suture rostrally and smoothly along the Pezzar catheter.
17. A second "safety suture" of Vetafil is placed through the holes in the mushroom tip of the Pezzar catheter (see figure 20 right). Pull this suture through so both ends are even, and secure the ends with a second hemostat. The safety suture is used to retrieve the feeding tube from the stomach should it becomes detached from the pulling suture during placement.
18. Lubricate the tube with sterile gel.
19. Use the first hemostat to pull the suture and attached tube through the gastrostomy site (see figure 21 right).
20. As soon as the tomcat catheter appears through the gastrostomy, pull the free end of the suture through the gastrostomy so that you have 2 sutures to pull the tube through. Grasp sutures, tomcat catheter and the point of the Pezzar tube with the first hemostat, and pull through the gastrostomy until the tube is fully exposed. Resistance will be encountered as you pull the catheter and tube through the gastrostomy (see figure 21 previous page). Enlarge the gastrostomy with a scalpel blade if needed. Take care to avoid excising the stomach wall.
21. Pull the tube through the gastrostomy by hand, until the mushroom tip can be palpated snugly against the body wall.
22. Release one end of the safety suture from the second hemostat, and pull on the other end to remove the safety suture (see figure 22 on the previous page).
23. Reinsert the endoscope to make sure mushroom tip is snug against the mucosa, and not too close to either the upper or lower gastric esophageal sphincter.
24. See section F below to secure, bandage and remove the gastrostomy tube.

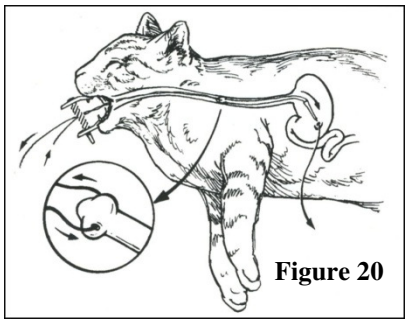


**Figure 20**

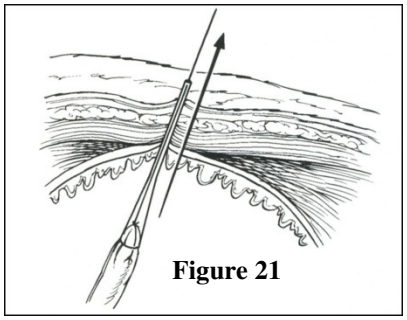


**Figure 21**

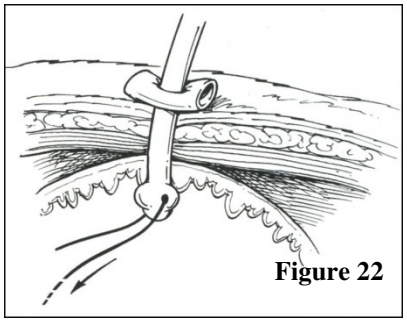
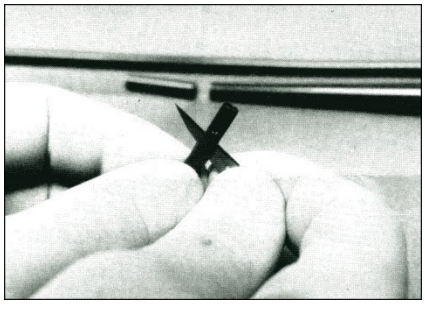


**Figure 22**

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

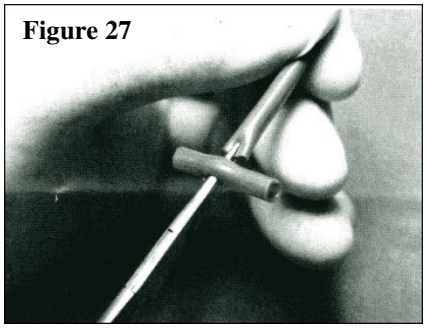
Supplies:
2-0 non-absorbable suture, to attach tube to skin
Bandage material, stockinette or infant t-shirt, to protect the tube.
Plug for the end of the tube
10 days broad spectrum prophylactic antibiotics



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, open them, and 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).
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 26**

**Figure 27**



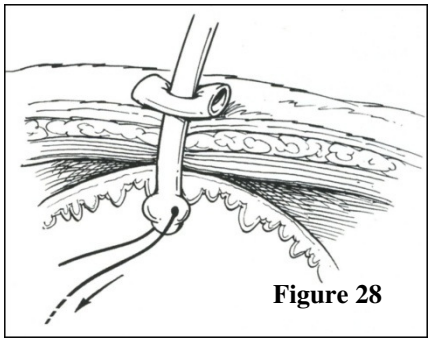


**Figure 28**

**Figure 29**

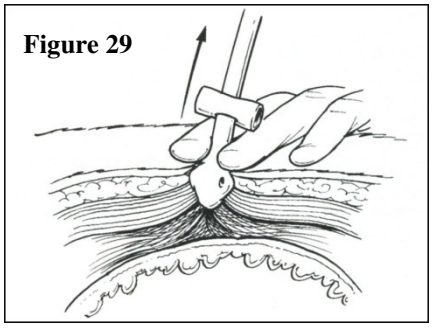
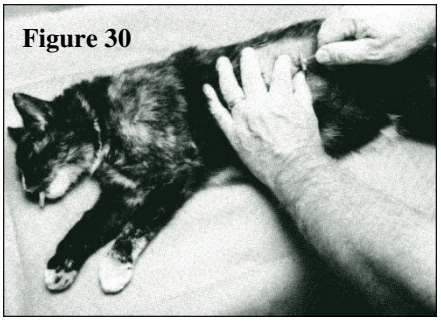


**Figure 30**



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

## II. Jejunostomy tube

A. Ideal for pets with gastric or pancreatic disease
    1. advantages
        a. Can give consistent nutrition when patient is vomiting cannot be controlled.
        b. Minimal stimulation of the pancreas
    2. disadvantages
        a. requires abdominal surgery for placement
        b. only liquid diets can be administered
        c. food must be administered by CRI most of the time (some patients will tolerate frequent small bolus feedings)

B. Supplies for jejunostomy placement
    1. Supplies and equipment for general anesthesia and perioperative pain control
    2. infant feeding tube appropriate for the size of the pet (sterile) – 5-8Fx36 inches
    3. General surgery pack
    4. surgical blades
    5. 3-0 and 4-0 absorbable suture material
    6. 2-0 non-absorbable suture, to attach tube to skin
    7. Bandage material, stockinette or infant t-shirt, to protect the tube.
    8. 10 days broad spectrum prophylactic antibiotics

C. Placement instructions for jejunostomy tube
    1. Patient should be fasted for 24 hours prior to surgery.
    2. Anesthetize the patient, intubate, and place in dorsal recumbency.
    3. Clip and surgically prepare the skin for a ventral midline Laparotomy, as well as an area of skin on the right or left abdominal wall for the jejunostomy site.
    4. Make a 2-3 mm stab incision through the skin, subcutaneous tissues and abdominal wall of the right or left abdomen, as prepared.
    5. Use hemostats to pass the distal end of a 5-8F infant feeding tube through the jejunostomy site and into the abdomen.
    6. Select a segment of jejunum that can be easily mobilized to the jejunostomy site on the body wall. Run the gut to determine which direction is orad, and which is aborad.
    7. Make a 1-1.5 cm partial thickness longitudinal incision through the peritoneum and the muscle layers at the anti-mesenteric border of the selected jejunal segment.
    8. Gently milk intestinal contents away from partial thickness incision, and occlude flow of ingesta back to the enterotomy site, using Doyen intestinal forceps, sterile bobby pins, or an assistant's fingers. Handles of Allis tissue forceps wrapped in moistened gauze can also be used.

9. Use a #11 scalpel blade to enter the lumen of the jejunum at the aboral end of the partial thickness incision.
10. Insert the distal end of the feeding tube through that incision and into the jejunum, passing 10-12 inches of tubing into the jejunum in an aboral direction.
11. Nestle the exiting portion of the tube into the "tunnel" formed by the partial thickness incision.
12. Invert the seromuscular layer over the tube with three or four Cushing suture of 4-0 absorbable suture material..
13. Pre-place four simple interrupted sutures along the feeding tube exit site, to be pexied to the abdominal wall, using 3-0 absorbable suture material.
14. Secure the feeding tube to the skin using 2-0 non-absorbable suture material, in a Chinese finger cot.
15. Close the abdomen as usual.
16. After the patient recovers, place an abdominal bandage to secure the jejunostomy tube.

D. Contraindications for jejunostomy tube – no 24-hour ICU care.