Guttural Pouch Catheter: Production and Placement

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Our method, which uses traditional materials such as Chamber’s catheters and polyethylene tubing, is a simple, customized method of placing guttural pouch catheters. Authors’ address: Dept. of Clinical and Population Sciences, College of Veterinary Medicine, 1365 Gortner Ave., St. Paul, MN 55108. © 1997 AAEP.

1. Introduction
Because of the frequent occurrence of pathology in the equine guttural pouch and need for treatment by means of fluid flushing, we were in search of a method of catheter placement that would be functional and remain in place in the equine pouch for several days. Current methods did not work well for us. Soft pliable catheters, though easy to place, could be easily sneezed or blown out by the horse. The correct length of these catheters was a problem, and they were cost restrictive. Our method employs polyethylene tubing that is custom fit to each horse and is placed with a modified Chamber’s catheter. Coils are placed in the tubing with a hot air gun. We feel this method is effective, simple, and disposable, and it offers the most variety for adaptability for each horse’s needs and each clinician’s or practitioner’s needs. The catheter can also be made and adjusted in minutes while the animal is still sedated.

2. Methods
The supplies needed are as follows: a video endoscope (if available), or a regular endoscope and light source; polyethylene tubing, size 240 (3–4 ft)³, 1.67 mm i.d. and 2.42 mm o.d., or 0.095 in.; one modified Chamber’s catheter or uterine pipette 22 in. (~56 cm) or longer; 18-gauge wire; a large round screw driver ¾ in. (~1 cm) or larger; one wire cutter; one pair of pliers; a heat gun; a 22-gauge needle; and a 15-gauge tubing adapter.³

3. Catheter Preparation
We make the catheter from size 240 polyethylene tubing in a 3–4 ft. length. Eight to ten inches of 18-gauge wire is fed into the tubing, leaving 1 in. of wire out at the end. The wire-filled tubing is then wrapped around the screwdriver to create six coils. It is very carefully heated over an electric heat gun (too much heat will melt the tubing), just enough heat to form coils in the polyethylene tubing, and then cooled immediately by dipping or running under cold water. The 18-gauge wire remains in place in the tubing until the coiled tubing is ready for placement in the equine guttural pouch. These coiled polyethylene tubes can also be made up ahead of time and stored in quantities.
4. Catheter Placement

A ball-end Chamber’s catheter with a 2.42 mm i.d. (or 0.095 in.) or larger has been modified for this procedure. The lower end has been cut off, and a slight bend (30°) has been placed approximately 1½ in. from the ball end. This bend is slight so as not to cause a kink in the metal, which would prevent the polyethylene (PE) tubing from passing through the catheter smoothly.

1. Thread the noncoiled end of the prepared PE 240 tubing into the Chamber’s catheter from the ball end toward the handle. Thread the tubing until the coiled end reaches the ball.

2. Using the screwdriver, pull or push on the tubing to straighten the 18-gauge wire and the coils as you remove the screwdriver.

3. Remove the wire.

4. Back the PE coils into the catheter until there is only approximately ¼ in. remaining outside the ball end.

5. With the help of an endoscope or blindly, place the Chamber’s catheter in the guttural pouch.

6. Feed the PE tubing through the Chamber’s catheter and into the pouch while slowly withdrawing the Chamber’s catheter.

7. Cut excess PE tubing to the desired length and sew the distal end in place to the nostril.

8. Place an infusion plug can be used to cap off the tubing between flushes.

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5. Variations

1. A uterine pipette 22 in. or longer with 2.42 mm i.d./0.095 in. or larger can be used instead of a modified chamber.

2. The coils at the end of the PE tubing can be fenestrated with a 22-gauge needle (any needle larger than 22 gauge will cause the PE to kink when pulled into the catheter).

3. The coil size can be enlarged by straightening the wire coil and leaving the wire in place for varying time periods, depending on the coil size desired.

6. Results

We have had good results with this method. Catheters are easily placed with a minimum of stress to both horse and clinician. This is the method we use exclusively. We have treated approximately 1 dozen horses this way over the past 3 years. These catheters stay in place better than any others we’ve used in the past, and horses seem to tolerate them better than larger catheters. Horses can also be sent home with these in place, which allows the client to perform frequent flushing and is, therefore, cost effective for the client. Similarly, catheters can be easily placed in the field and maintained. Our clinicians like this method because it can be adjusted to each individual’s variations, and most importantly, these catheters stay in place.

7. Discussion

This method uses traditional materials such as Chamber’s catheters and PE tubing commonly stocked by equine practitioners. Catheters can be made and simply modified for each patient’s needs and each clinician’s personal preferences. The coils hold the catheter in place better than other catheters, which are more uncomfortable for the horse. Coil size can easily be adjusted to fit the horse’s size, and the length of the tubing is at the discretion of the clinician. In conclusion, this method provides a simple customized method of placing guttural pouch catheters in both referral and practice settings.

Footnotes

[a] Intramedic Polyethylene Tubing, Clay Adams, Division of Becton Dickinson Co., Parsippany, NJ 07054.