NASOGASTRIC TUBES IN RABBITS
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Anorexia in the rabbit is a very serious clinical sign, and if left untreated, carries a poor prognosis. While an extensive discussion of the myriad of causes for anorexia in the rabbit is beyond the scope of this discussion, in most cases it is the result of oral cavity disease, gastrointestinal disease, or pain. Once the rabbit enters a negative calorie state, hepatic lipodosis develops relatively rapidly and is difficult to reverse. In early cases of anorexia without dehydration, typically those of less than 24 to 48 hours’ duration, direct oral administration of a gruel consistency, high fiber food through the diastema is adequate. In more severe cases of longer duration or in those cases accompanied by dehydration, a more aggressive approach, including placement of a nasogastric tube is recommended. Tube size should be the largest that can be comfortably placed into the stomach. In most cases, a 5–8 Fr tube (red rubber, pediatric nasogastric tube, or Argyle feeding tube) is appropriate. The tube should be long enough to reach from the tip of the nose to the last rib with enough additional length to facilitate attachment to the rabbit’s head. Prior to placement, the author prefers to place one or two drops of an aqueous positive contrast medium (Renografin) into the distal tip of the nasogastric tube as an aid in validating proper placement of the tube into the stomach.

In most cases, no sedation is indicated for placement of a nasogastric tube. In fact, rabbits requiring tube placement are typically so compromised, that further sedation is contraindicated. A locally infused, topical anesthetic is generally recommended. Several drops of an ophthalmologic anesthetic, such as proparacaine (Ophthaine, Solvay Animal Health, Mendora, MN) instilled into the nostril will typically provide adequate local anesthesia for placement of the tube without resistance. Should the rabbit’s reaction be excessive, additional drops may be instilled, or an anesthetic-laden lubricating gel (Xylocaine 2% Jelly, Astra USA) may be applied to the tube.

Several minutes following introduction of the topical anesthetic, the rabbit may be positioned for nasogastric tube placement. Appropriate and adequate physical restraint is important to assure safe and proper tube placement. Wrapping the rabbit in a towel to create a “bunny burrito” is helpful in controlling the rabbit’s legs and protecting its back from iatrogenic injury. With the rabbit in a normal sternal posture, the head is flexed ventrally. Restraining the animal adjacent to the edge of the table may facilitate access to the nostril. The lubricated tube is introduced into the medial, ventral meatus and gently advanced to the level of the stomach. Pre-marking the tube to assure proper placement is recommended. If the rabbit’s resistance is too vigorous, remove the tube, re-anesthetize, and repeat the procedure in a few minutes.

While ventro-flexure of the head typically results in the proper direction of the tube into the esophagus, it is not guaranteed. Should the epiglottis remain in its normal position, entrapped dorsal to the soft palate, the tube is easily directed into the trachea. In the author’s experience, rabbit’s rarely cough when the tube is improperly placed; therefore, care must be taken to assure that the tube is situated in the stomach and not the lungs.

Several methods can be employed to verify proper tube placement. Radiography, particularly if the tip of the tube has been rendered radiopaque with positive contrast medium (Hypaque, Sanofi Winthrop, New York), is one method. Other less sensitive techniques include aspiration of stomach contents or the auscultation of the stomach while air is blown into the tube, listening for the “gurgling” sound.

Once proper placement has been verified, the tube may be secured to the top of the head with tape, sutures, or glue. Many rabbits will require placement of an Elizabethan collar to prevent them from removing the tube with their feet.

Unfortunately, there are at the time of the preparation of this manuscript, no enteral diets designed for use in nasogastric tubes in rabbits. As a result, the clinician is forced to balance the needs of the patient with the products available that can be passed through relatively narrow diameter tubes. Of particular importance is the balance between fiber and carbohydrate/fat. Ideally, diets will combine the physical and the chemical attributes of fiber, and contain little, if any carbohydrate. Realistically, however, products must be processed to such a fine powder to permit passage through the tube, that the physical effects of fiber are lost. Regardless, the clinician must be careful to select products that have as little carbohydrate or fat as possible. Products, such as V-8 juice, baby food, and canned pumpkin, have all been advocated for use, but have little or no fiber and excessive carbohydrate or fat.

One product that does appear to work well, if processed properly, is Critical Care for Herbivores (Oxbow Pet Products, Murdock, NE). Note that this product will NOT pass through a nasogastric tube if prepared according to the manufacturer’s directions. Proper processing includes diluting the powder with twice the normal amount of water and then processing it in the blender for 15 minutes. The resulting food should then be run through a similarly sized tube to assure proper particle size.

In most cases, a target of 40–60 kcal/kg/day should be set. The tube should be initially flushed with 3–5 ml of room temperature water, followed by 10–20 ml/kg of diet, and then flushed once more. Feeding frequency is established by integrating caloric requirements with gastric emptying. Overfilling an atonic stomach should obviously be avoided.

Typically, the rabbit will start to eat spontaneously and produce stools within 2–3 days. Once those landmarks have been reached, the tube may be removed.