**Laryngohyoid reduction (tie forward)**

**Why do the surgery?**

Horses are obligate nasal breathers. They aryepiglottis forms a seal to prevent air or food from the mouth to enter its airways. The aryepiglottis is formed with the soft palate and the tongue. 4% of horses have a congenital palatal deformity that involve the caudal half or third of the hard palate, and occasionally the entire soft and hard palate. This defect may cause horses to aspirate any food they try to swallow as the aryepiglottis does not work as it should and shunts food into the pharynx instead of allowing it to go into the oesophagus. This deformity can cause the horse to develop a cough, respiratory blocks and even death from aspirated food and water.

**Procedure**

The horse should be given Penicillin, gentamycin and flunixin before the surgery to prevent secondary infections. The horse should then be sedated with xylazine and anaesthesia induced with ketamine. Anaesthesia should be maintained using isoflurane which should be delivered by an endotracheal tube inserted orally into the trachea. A cutaneous incision should be made through the ventral midline, 1cm caudal to the cricoids cartilage and extended to the rostral aspect of the lingual process of the basihyoid bone. The larynx and basohyoid bones are exposed.

After transecting the tendon of insertion of the left and right sternothyroideus muscles, a suture of 7 metric polyester should be passed through the left lamina of the thyroid cartilage, ventral to the level of the insertion of the tendon of the sternothyroideus muscle. A suture should be placed through the right lamina in a similar fashion. The dorsal limb of the suture on the left and the ventral limb of the suture on the right should be passed dorsal to the basihyoid bone, adjacent to the left surface of the lingual process of that bone, and the dorsal limb of the suture on the right and the ventral limb of the suture on the left should be passed dorsal to the basihyoid bone, adjacent to the right surface of the lingual process of that bone. With the head and neck flexed, and with the rostral border of the thyroid cartilage positioned slightly rostral to the body of the basihyoid 95 bone, the dorsal limb of the right suture should be tied to the dorsal limb of the left suture, and the ventral limb of the right suture should be tied to the ventral limb of the left suture, over the ventral aspect of the lingual process. The incision exposing the larynx and basihyoid bone should be closed in three layers.

**Post Surgery**

The horse should be given phenylbutazone for 5 days after the surgery, as well as antibiotics, and pharyngeal spray. The horse should be fed grass at shoulder level and restrict activity for 3 weeks. An endoscope can be used to assess the surgery site after a few months, as well as an assessment of the surgical site and sutures for an idea of the outcome of the surgery. The horses should initially be box rested, then allowed hand walking, and eventually turn on to pasture.