Key points:
- Motor nerve deficits, sensory reflexes and structural abnormalities can result in permanent DDSP.
- Treatments should target the cause of the permanent displacement.

There are multiple causes of permanent displacement of the soft palate (DDSP) and the treatment approaches must of course be targeted toward the cause. The three most common causes are 1) neurological motor deficits involving the pharyngeal branch of the vagus 2) tracheal aspiration either from laryngeal or cranial esophageal sphincter deficit (post arytenoidectomy or laryngoplasty) presumably a sensory reflex, 3) structural deformity of the epiglottic cartilage or soft palate.

Proper courses of treatment of horses presenting for permanent DDSP, must be based on the identification of the most likely cause of displacement. This process is assisted by a history identifying recent upper airway inflammation, prior laryngeal or upper airway surgery. This is followed by upper airway endoscopy where the focus is to identify nasopharyngeal morphology (see figure 1).

Figure 1: Two cases of permanent displacement: Left Pane: DDSP with normal epiglottis, right pane- DDSP with epiglottic deformity and redundant ary-epiglottic folds (arrows).

The epiglottic cartilage and the sub-palatal and epiglottic tissues must then be evaluated. Do not forget to assess the guttural pouch for evidence of guttural pouch mycosis. Horses with permanent DDSP due to tracheal aspiration should be treated with suture removal and/or volume enhancement of the affected vocal cord. We have used two products Aquamid® or Voice®. Horses affected with guttural pouch mycosis should have treatment directed at that problem: consider arterial occlusion with or without antifungal agents. Horses with palatal or sub-epiglottal cysts or ary-epiglottic entrapment should have those issues resolved first. Horses with grossly deformed epiglottic cartilage are treated in two steps. First the excessive sub-epiglottic tissue is removed with a diode laser followed by a laryngeal tie-forward to elevate the larynx and epiglottis. This step is associated with low morbidity. The second step is laser staphylectomy which adds potential morbidity to the procedure by exposing the horse to possible tracheal aspiration. The goal of the staphylectomy is to remove the center of the soft palate to allow the epiglottic cartilage to access the nasopharynx during a swallow while maintaining soft palate contact with the base of the epiglottic cartilage.

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