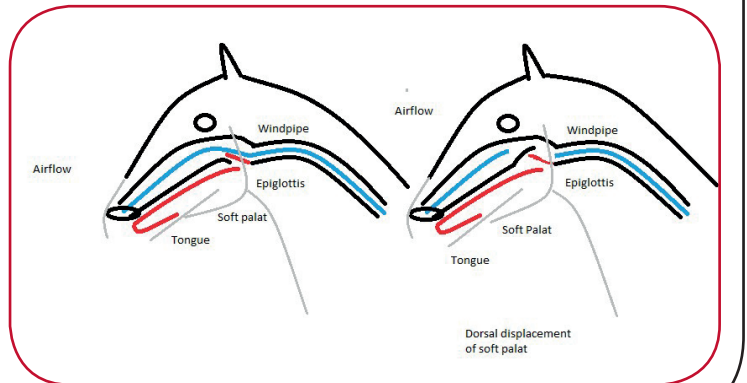


## Tie Forward Surgery

Dorsal displacement of the soft palate (DDSP) is a performance-limiting condition of the upper respiratory tract which occurs during fast exercise when the soft palate moves above the epiglottis (part of the larynx), creating a functional obstruction within the airway. This restricts airflow to the lungs and causes a sudden loss of performance and often a choking or gurgling noise.



### Diagnosis of DDSP

- Static endoscopy at rest can rule out some other causes of airway disease.
- Dynamic endoscopy (with the horse galloping), either on a treadmill or gallops is the only definitive way to diagnose this condition.

Following a diagnosis of DDSP, frequently a number of conservative management strategies are tried in an attempt to manage the condition. These may include:

- tongue straps
- crossed nosebands
- glycerine applied to the back of the tongue.

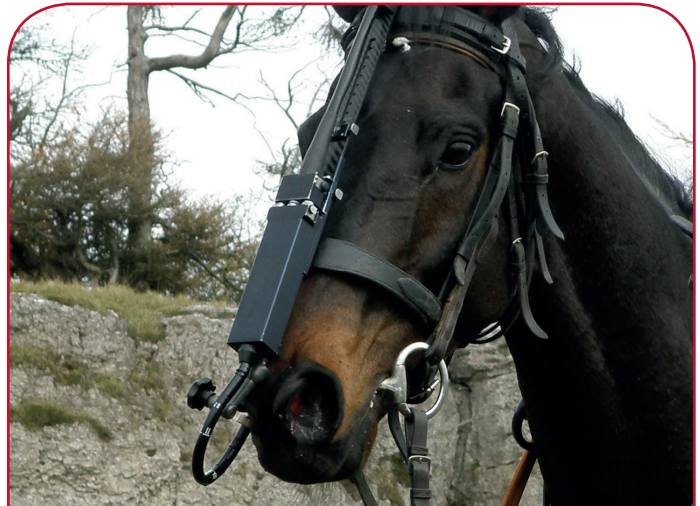
Cases that are non-responsive to conservative management are candidates for **tie forward surgery**.

### Surgical treatment

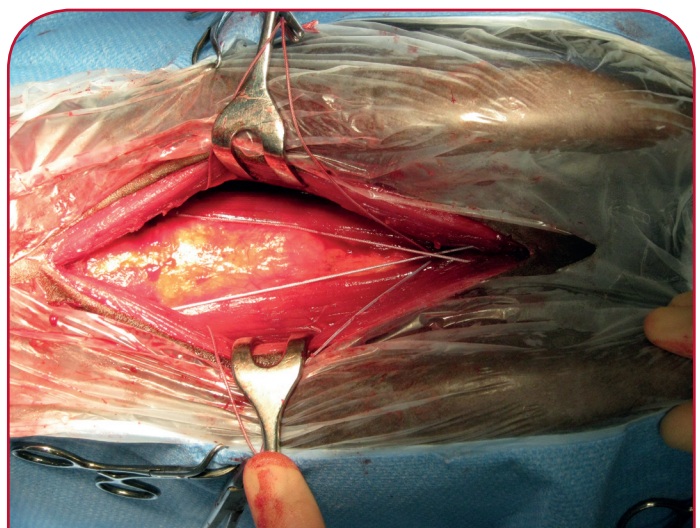
No surgical technique has been found that can replace the strength of the muscles. The operation is conducted through a sterile surgical incision on the underside of the throat. The aim of the surgery is to advance the larynx (voice box) forward, so it sits over the soft palate, forcing it to stay in the correct position. The voice box is held in position by permanent sutures.

In addition to the sterile surgery, cautery of the soft palate is performed via the mouth, causing the soft palate to scar and tighten.

**Recent studies have found tie-forward surgery to have 80% success.**



**AN OVER GROUND ENDOSCOPE FITTED TO THE BRIDLE ALLOWS EXAMINATION OF THE THROAT AREA WHILE THE PATIENT MOVES AT SPEED**



**SURGERY INVOLVES THE PLACEMENT OF PERMANENT SUTURES TO HOLD THE LARYNX FORWARD**

### Post-operative management

- Anti-inflammatory medications are administered post-operatively to reduce swelling around the incision.
- Antibiotics are usually administered prior to and following surgery to protect against bacterial infection of the operation site.
- The skin is held together immediately post-operatively using skin staples. These will usually be removed approximately 14 days after the surgery is performed.
- Following surgery, all food and water should be fed from a height for at least three weeks, and the horse should not be turned out to grass. Allowing the horse to lower its head results in stretching of the permanent suture material and may contribute to failure of the surgical procedure.
- Trotting exercise can begin following staple removal, however canter work should not recommence for approximately four weeks after the surgery



THE HORSE CAN NORMALLY RETURN TO TRAINING AFTER 4 WEEKS

### Post-operative complications

**Wound infection** - presents as heat, swelling and discharge at the wound site, treated with flushing and antibiotics.

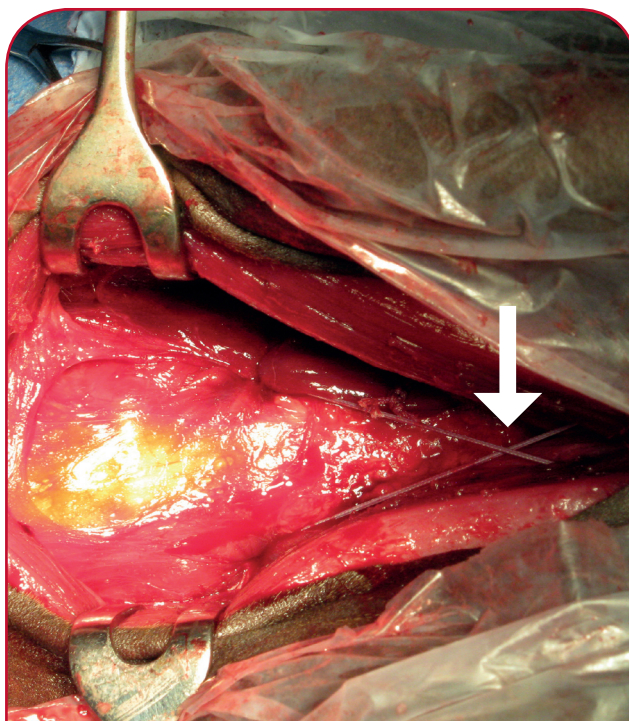
#### Infection of the implant sutures

- wound infections can spread to involve the sutures used to fix the larynx and can be difficult to treat, sometimes necessitating removal of the surgical implant sutures.

#### Surgical failure

- if the tension in the sutures holding the larynx is not correct it may not prevent the DDSP. Early turn out may contribute to this.

On occasion, the horse may be noted to make a **louder respiratory noise** at exercise than that noticed prior to surgery, this should resolve with increased fitness levels.



IF THE TENSION IN THE SUTURES HOLDING THE LARYNX IS NOT CORRECT IT WILL NOT PREVENT DDSP



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