

# ONE SWALLOW MAKES A RUNNER:

Letters to the editor, Veterinary Record, UK.

Robert Cook

The Veterinary Record is the official publication of the British Veterinary Association. The January 2015 issue of the journal contained an article by G.D. Trope which triggered three letters to the editor, two of them by myself. An excerpt of Trope's article is copied below, followed by the correspondence.

## Palatal dysfunction in horses: where next?

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PALATAL dysfunction, the term which describes both intermittent dorsal displacement of the soft palate and palatal instability, is one of the most commonly identified causes of upper airway obstruction in horses (Barakzai and Hawkes 2010). The reported prevalence of palatal dysfunction ranges from 10 to 20 per cent in young racehorses (Pollock and others 2009, Ducharme 2012). Dynamic endoscopic examination (high speed treadmill endoscopy or overground endoscopy) is required for definitive diagnosis of this condition (Barakzai and Dixon 2011). The reported incidence of palatal dysfunction in horses presented for poor performance or abnormal noise during exercise following dynamic endoscopy ranges from 20 to 50 per cent (Kannegieter and Dore 1995, Tan and others 2005, Lane and others 2006, Pollock and others 2009, Allen and Franklin 2010, Kelly and others 2013).

The full article can be obtained at **Doi:10.1136/vr.g7752**

As Trope continued ...

*“Numerous options exist for the treatment of palatal dysfunction in horses including, but not limited to:-*

- *conservative management*
- *the use of a tongue-tie or other alterations of tack*
- *palatoplasty techniques (including thermal cautery of the soft palate (SPC) and the laryngeal tie-forward (LTF) procedure.*

*This reflects both the unknown aetiology of the disorder and that most techniques have a similar success rate when a definitive diagnosis of palatal dysfunction has been reached ....”*

Trope drew attention to the fact that many horses were referred for palatoplasty on the basis of a presumptive rather than a definitive diagnosis. He concluded with the comment:-

*“While there have been great advances in our understanding of this complex disease, additional research to improve our understanding of the aetiopathogenesis of palatal dysfunction is required.”*

The gist of my letters was to emphasize that no treatment of any disease was likely to succeed unless the cause was both known and removed. With regard to so-called palatal dysfunction in the horse, I drew attention to the evidence indicating that the soft palate itself was physiologically normal and that its inability to function was caused by the presence of an oral foreign body, the bit.

Accordingly, the case-control studies called for by Trope might be most profitably directed towards studying foreign body removal rather than soft palate surgery.

### **1. Robert Cook, February 14, 2015**

In an editorial “Palatal dysfunction in horses: where next?” (Vet.Rec July 3, 2014) G.D. Trope avers that its aetiology is unknown. As no reference is made to an unrefuted causal hypothesis, I draw this to readers’ attention (Cook 1999, 2014).

My hypothesis states that:

- The proximate cause of palatal dysfunction in the horse is atmospheric pressure in the oral compartment and loss of what should be, physiologically, a negative pressure
- Vacuum packaging of the oropharynx (soft palate firmly opposed to the immobile root of tongue) is one of two vital contributions to patency of the nasopharyngeal airway in the feral horse when running
- The ultimate cause of palatal dysfunction in the domesticated horse when exercised is invasion of the oral cavity by one or more foreign bodies (bits), dissipating the oral vacuum by disturbing what should be an airtight lip seal
- Bit-induced limitation of physiological extension of head and neck at exercise may also disturb the airtight seal at the ostium intrapharyngium

Experiments are described whereby the hypothesis could, potentially, be refuted (Cook 2014). As the oral vacuum is created by swallowing before running, it might be said that one swallow makes a runner.

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## 2. Gordon Baker, February 28, 2015

I write to comment on the editorial 'Palatal dysfunction in horses: where next?' (*VR*, January 3, 2015, vol 176, pp 17-18) as well as the recent letter by Robert Cook (*VR*, February 14, 2015, vol 176, p 180) on thoughts concerning palatal dysfunction (PD) in horses.

I have some experience of this (these) 'problem(s)' and with the various modalities that have been used and recommended for their diagnosis and for surgical and other methods of management – both with success and with failure, as we all have! Watching current racing on television, I constantly hear that horses have had 'wind operations.' What were the diagnoses and what were the treatments?

In a lot of racing in the USA my observations are that 60 per cent or more of horses race with their tongue tied; in the UK it is less than 20 per cent. Do we have different racing stock?

Dr Cook has proposed an interesting causology based on his own hypotheses concerning atmospheric and oral compartment pressures. This may well be correct but I feel that in many cases the cause of the terminal palatal and pharyngeal malfunction is nothing more than fatigue plus/minus lameness and soreness, towards the end of extreme exercise (ie, racing) and the efforts of the horse to breathe and swallow at the same time. Swallowing may, and can be, accommodated by a change of stride in the running horse if the rider appreciates the problem, but it is not easily managed in the

harness horse, with a tight overcheck, where breaking stride is not permitted whether trotting or pacing in races.

I believe that the most common cause of racing fatigue and, therefore a factor in the plethora of 'wind problems' and the myriad options for the management of PD, is nothing more than soreness/lameness. It might be time to think that most of our current treatments involve anaesthesia and some form of surgery and a recovery period (ie, rest)! Hardly any of the reports on the diagnosis and treatment of PD document lameness examination in the workup protocol and might suggest some deficiencies in our evaluation of horses with 'wind problems.'

May I suggest that rest cures most things and saves owners money!

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### **3. Robert Cook, April 30, 2015 from Robert Cook**

If human athletes ran a race with one or more metallic foreign bodies protruding from the side of their mouth, attached by short straps to their hands, I doubt that their poor performance would be attributed by physicians in attendance to some occult lameness. We veterinarians seem doomed to seek the cause for palatal dysfunction in horses (ie, nasopharyngeal asphyxia) in something other than the commonplace (*VR*, February 28, 2015, vol 176, p 235). Dr. Theodore Woodward's aphorism for medical students comes to mind, "*When you hear hoof beats, think of horses not zebras.*" The trouble is that a bit has been so much part of a bridle for our lifetimes' and ancestors' back to the Bronze Age that it hides in plain sight. For someone who focused his research on the equine, ear, nose and throat, I was unforgivably 'blind.' I had been a veterinarian - staring at the bit for 45 years and using one - before I actually 'saw' it.

Gordon Baker was kind enough to concede that my hypothesis on palatal dysfunction in the horse being caused by the bit '*may well be correct.*' Nevertheless, a 'but' quickly follows and he adds a new hypothesis of his own that '*in many cases*' palatal dysfunction '*is nothing more than fatigue plus/minus lameness and soreness.*' If this were so I agree that a period of rest might be expected to commonly solve the problem. But it isn't so and it doesn't. The cause has not been removed.

Nasopharyngeal asphyxia, not lameness, is the common cause of 'racing fatigue.' The term 'palatal dysfunction' is euphemistic and physiologically incorrect. There is nothing wrong with the equine soft palate and everything wrong with the conditions under which

we humans arrogantly expect it to function. The term thwarts thinking and should I suggest be abandoned. Ultimately, nasopharyngeal asphyxia in the horse and the negative pressure pulmonary oedema ('bleeding'), catastrophic breakdowns, falls and sudden deaths that follow are caused by *Homo sapiens* mandating use of the bit for racing, dressage and many other competitions.

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