

A series of four letters first published in the 'Veterinary Record' (the journal of the British Veterinary Association) between February and June, 1998

USE OF THE BIT IN HORSES

W. Robert Cook

Veterinary Record, February 21, 1998

SIR, - I wish to applaud the initiative of Daniel Mills and Richard Geering at the behaviour clinic of De Montfort University, Lincoln, in launching a survey on headshaking in horses (VR, November 8, 1997, p 504). One of the aetiological factors they might consider, I suggest, is the part played in this frustrating problem by the bit. The survey provides an opportunity for testing a relatively unexplored hypothesis, that headshaking may often be caused by the bit.

Three horses I have observed recently that were headshakers when ridden in a traditional (bitted) bridle, behaved normally when ridden in a newly-developed bitless bridle [one that incorporates a crossover design]. In addition, improvements in performance were observed when this bridle was used on 'difficult' horses that were not headshakers. Even apparently trouble free horses that were not recognized as having any aversion to the bit showed an improvement in balance and gait. This experience has stimulated me to review what a bit really does. My conclusion is that use of a bit to control a horse is archaic and unkind. Fortunately, as the new bridle demonstrates, an effective and more humane method is available.

Since sometime before 1600 BC, horses have been controlled by means of a rod of metal in their mouths. In more recent times, two rods have been used. By attaching a long strap to this rod or rods, a rider sitting on the thorax can steer, slow down and stop a horse. Steering is achieved, in

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part, by lateral traction on the mouth, which inevitably results in an unnatural bending of the neck. Slowing and stopping is achieved by caudal traction on the lips and jaw which, apart from opening the mouth (something which in itself can be a source of trouble at speed), causes poll flexion, obstructs the nasopharyngeal airway and reduces the supply of oxygen.

Collectively, the lips, mouth and tongue are some of the most neurologically sensitive regions of the body. No human athlete would appreciate being controlled orally or by any method that interfered with their ability to breathe. Neither would human athletes be able to develop the freedom of movement so critical for top performance if their neck muscles were locked-up in the sort brace that results when a horse resists traction on a bit. Imagine running with a plaster cast on your neck.

Apart from the direct and purely mechanical effects of this method of control, there are many more indirect effects. For example, placement of a foreign body (the bit) in the mouth of a horse sets up a train of sensory responses that signal the brain to think 'Eat'. Accordingly, motor responses initiate lip movement, salivation and chewing. In addition, many different movements are stimulated in the tongue. As the tongue is anatomically linked to the larynx, a complex train of responses will also be initiated in the rima glottidis. Movement of the tongue causes movement of the soft palate. These reflexes and responses persist in various permutations for as long as the foreign body is present.

Having put a foreign body in its mouth, man now requires physical activity of the horse. Accordingly, responses from legs and lungs signal the horse to think 'Exercise'. Physiologically, what man is demanding is that the horse should eat and exercise simultaneously, something nature

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never intended. The two functions are mutually exclusive and incompatible. Understandably, the horse becomes confused. One of the body languages for confusion and frustration is headshaking (Cook 1992). Another effect might be the all too familiar dorsal displacement of the soft palate in racehorses. Readers should ask themselves how they might feel if they were required to run round the garden with a bunch of keys in their mouth.

From the above, one can understand why, when a horse is ridden in the [crossover] bitless bridle described above, its performance improves. Unlike a bitted bridle, the bitless bridle enables a rider to control a horse without excess poll flexion. It works by the application of poll pressure (but also by pressure on the whole of the head). From the rider's left hand, the rein passes lateromedially through a 'D' ring on the side of the noseband, crosses over, under the chin, and becomes what looks like a throat latch on the right side, joining the poll piece at the level of the browband, just behind the right ear. The rein on the right side runs in the opposite direction, joining the left rein at the poll. Traction on the left rein transmits a firm but painless pressure to the soft tissues behind the right ear, and the horse turns left in a natural motion, away from the pressure. The bridle pushes, whereas the bit pulls.

If when owners of headshaking horses contact the animal behaviour clinic at De Montfort University, they could be encouraged to try this kind of bridle, the survey questionnaire could be used to test my bit hypothesis. I believe that in this way, much valuable information on the cause, treatment and prevention of headshaking could be gained and many horses helped.

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Reference

COOK, W.R. (1992) *Compendium on Continuing Education for the Practicing Veterinarian* 14, 1369

The above letter was responded to as follows:

USE OF THE BIT IN HORSES

Graham Dowley

Veterinary Record, March 14, 1998, p 288

SIR, - Professor Cook (VR, February 21, p 200) is probably correct when he states that use of the bit to control a horse is 'archaic and unkind'. It is just as well then that a properly ridden horse can be made to go, slow down, stop and steer without 'lateral traction on the mouth' or 'caudal traction on the lips and jaw'. Using leg pressure, body position and, most importantly, balance it is possible to control a horse without pulling on its mouth. Any rider whose principal means of controlling a horse is through the reins, dare I suggest, is simply not riding correctly. It follows that a horse that improves with the application of a bitless bridle is showing up a deficiency in its rider's technique and skill, and not a deficiency in the style of bit.

On a related subject, the assertion that 'the horse turns ... in a natural motion, away from the pressure', when describing the action of the bitless bridle, is also surely incorrect. A simple test of pushing into a horse's flank will show that the animal will push back towards the pressure and not move away from it. Using such a system to control the head will

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have a similar action to 'neck-reining', and create more rather than less confusion and frustration.

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The above letter was answered as follows:

USE OF THE BIT IN HORSES

W. Robert Cook, *Veterinary Record*, June 13, 1998

SIR, - Graham Dowley (VR, March 14, p288) resists the advantages of the bitless bridle described in my letter in VR, February 21, p 200, on the grounds that, when a bit is used properly, it is a satisfactory method of control. The logic of his argument is similar to the reason why, in times past, people resisted alternatives to the axe as a method of execution. In the hands of a master, the axe was 'satisfactory' but skilled axemen were rare and the job was often bungled. Similarly, skilled horsemen are rare and even these have had to learn at the expense of the horse. One advantage of the bridle I described is that it may be used successfully by a complete novice without harm to the horse.

I concur, of course, with Mr. Dowley's observation that the reins, no matter to what or to whom they are attached, constitute only one part of control, and that the legs, body position and balance of the rider are also an important component. Nevertheless, my letter was about bits not bodies. The point is that, depending on the skill of the rider and compliance of the horse, a bit exerts its component of control by light, moderate, or severe pressure from one or more pieces of metal on a part of the anatomy that is acutely

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sensitive to pain. Due to the exigencies of the moment, pressure may vary from one to several pounds per square inch and it may be distributed or focal. The pressure is applied to bone, lips and tongue in varying proportions, and it changes from minute to minute. Let us imagine how a human athlete would respond to instructions by means of a thin metal rod applied, say, to the shin.

In contrast, the new bitless bridle controls by painless pressure from a length of strap (leather or nylon) on the skin and underlying muscle mass in the region of the poll.¹ A demonstration with this bridle would convince Mr. Dowley that, contrary to his belief, the horse does indeed move away from poll pressure, as it does, for that matter, from flank pressure exerted by the rider's legs.

Even when in 'good' hands, the bit cannot be exonerated from the charge that it is a foreign body in the horse's mouth. For the reasons laid out in my original letter, use of a bit is contraindicated on physiological grounds.

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¹ Errata 8/30/01: It should be added, by way of correction, that the pressure is distributed to the whole of the head, not just the poll. In fact, the poll probably receives less pressure than other parts of the head. None of these pressures have yet been measured