

1. Published in the *Veterinary Record*. 156, 751 2005 as part of a series of letters on the topic 'Feeding, management and equine dentistry.'

## Teeth, bones and brushing

SIR, - David McDowell asks what has caused the current escalation in equine dentistry (VR, April 16, 2005, vol156, p523). I suggest it has arisen because man's use and management of the horse fails to comply with its evolution.

First, 6000 years of usage has blinded us into assuming that a bit is necessary for control. Yet there are at least 118 reasons why a bit is both unnecessary and harmful (Cook & Strasser 2003, and online at [bitlessbridle.com](http://bitlessbridle.com)). As an advance in communication now gives us the option of discontinuing the use of the bit in all disciplines,<sup>1</sup> the extraction of wolf teeth and the creation of bit seats can also be discontinued. Because a bit commonly triggers painful bone spurs on the bars of the mouth and erosion of the lower second and third premolars (306, 406, 307, 407) both these defects and the trauma treatment that they necessitate can be avoided. Premolar erosion leads to shedding of the teeth; hook formation in the apposing upper premolars (106, 206); and alveolar osteitis. By removing the bit, a major source of pain, fear and neurological confusion, we can enhance the horse's welfare, improve performance, reduce accidents, and foster harmony between horse and rider: all of which reduce veterinary expenses.

Secondly, we have failed to ask ourselves what it is about our management practices that result in horses developing sharp enamel edges to their cheek teeth. *Equus caballus* has survived a million years without the need for dental prophylaxis, so what has domestication done to fuel the recommendation that horses should have their teeth rasped – some would say twice a year?

*Equus caballus* is a grazer, not a browser. It should spend 14-16 hours every day incising and grinding grass *with its muzzle at ground level*. In this position, a rostral subluxation of the temporomandibular joints permits full lateral excursion of the mandible during chewing and allows for the correct apposition of incisors and molars. Yet the stabled horse eats hay, rarely uses its incisors, and chews with its head erect, at nearly half the speed, and for briefer periods. Because the temporomandibular joints are retracted caudally, teeth no longer appose, hooks form on the upper second premolars (106, 206) and lower third molars (311, 411), and full lateral mandibular excursion is prevented. This leads to inefficient mastication and the development of sharp enamel edges due to lack of wear. A sequel may be shear mouth.

The more that equine management complies with evolution, the less that man causes equine diseases and defects. If horses could graze for even an hour or two a day, I believe they would rasp their own teeth; hooks would rarely develop; there would be no talk of temporomandibular arthritis, and no need for incisor orthodontics.

Just as walking rasps hooves, grazing rasps teeth. Until such time as horses graze and go bitless there will be work for equine dentists.

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### Reference

COOK, W.R. and STRASSER, H (2003). Metal in the mouth: the abusive effects of bitted bridles. Sabine Kells, Qualicum Beach, BC Canada

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<sup>1</sup> The Bitless Bridle. The Bitless Bridle Inc. 2020 South Queen Street, York, PA 17403 USA