

Incisor Corrections Using a Hand-Held Belt Sander

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Take Home Message

The Bosch 1278VS belt sander is a safe and practical instrument for shaping and reducing equine incisor teeth.

Introduction

Equine incisor abnormalities are frequently encountered in equine dental practice.¹ Treatment for the conditions encountered may vary from notation and future observation to the reduction of the clinical crown by various means of cutting and/or grinding of the occlusal surface of the offending incisors.^{2TPP} Removing the crown of the offending teeth may be accomplished using various devices, but in my experience, the use of rotary burrs or cutting discs has proven awkward and at times dangerous. For many years, I have used a small, hand-held belt sander to balance and reduce incisors. The device offers a safe and reliable alternative to the diamond disc/rotary burr.

Materials and Methods

Incisor abnormalities are readily noted during cursory examination of the horse's head and oral cavity. Extensive incisor malocclusion may interfere with the application of a full-mouth speculum, and consequently, the malocclusion may have to be corrected before the speculum can be applied. It is for this reason, that I usually correct incisor abnormalities before I apply a speculum or complete the oral examination and any equilibration to the cheek teeth that may be required.

The horse is placed in a secure stall and sedated with xylazine (0.2 mg/kg IV)^a and butorphanol (0.01 mg/kg IV).^b The horse is positioned so that its head extends to the threshold of the stall door. The steps required are as follows:

1. The horse's halter is exchanged for an exam halter that allows the horse to open its mouth widely.
2. The horse's mouth is flushed with 0.01% chlorhexidine gluconate solution.^c
3. The incisors are evaluated, and the range of mandibular excursion is noted and recorded. The cheek teeth are cursorily visually examined.
4. A 6.0-cm, Abar-style mouth gag^d is inserted into the horse's mouth and secured with an elastic strap over the horse's poll. A 30-cm bungee cord is affixed to one of the halter rings, directed under the upper lip and hooked to the opposite side of the halter. This cord retracts the upper lip and prevents it from being abraided by the sander. Another 30-cm bungee cord

is applied in similar fashion to retract the lower lip.

5. At this point, the horse's head is suspended or supported so that the incisors are positioned at comfortable working height.

6. A Bosch™ 1278VS electric belt sander is used to reduce overgrown incisors.

7. During the treatment, the speculum may be easily withdrawn from the horse's mouth so that correction can be evaluated.

8. After the incisors are suitably corrected, the speculum and the bungee cord retractors are removed. The full-mouth speculum is inserted, and other dental procedures are completed.

Results

I have used this belt sander to correct incisor abnormalities for many years with predictable results. The device has proven to be safe for the operator and the horse. Although I have not evaluated changes in temperature of the incisors caused by sanding, I have never observed signs of permanent damage to the pulp of any tooth reduced using this instrument.

Discussion

The benefits of correcting of incisor abnormalities of horses are well documented. Methods used to reduce incisors vary from manual reduction of the teeth using cutting devices and rasps, to motorized reduction using rotary grinders, burrs, and diamond discs. Most methods of reduction have drawbacks. Complications that may be experienced using other techniques include: pulp exposure, soft tissue injury, thermal damage, and potential injury to the veterinarian or to the patient. Using a belt sander to reduce incisors eliminates many of the problems encountered using other methods.



Figure 1. The Bosch 1278VS and case.



Figure 2. The mouth gag and bungee cords.



Figure 3. Before treatment.



Figure 4. After treatment.

References

1. Baker GJ, Easley J, Equine Dentistry, Philadelphia, WB Saunders, 1999, 199-203.
 2. Rucker BA, Incisor Procedures for field use, in Proceedings, American Association of Equine Practitioners 42, 22-25, 1996.
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 - b. Torbugesic 7. Fort Dodge Animal Health, Fort Dodge, IA 50501.
 - c. Chlorhexidine Solution. AmTech7, Phoenix Scientific, Inc. St Joseph, MO 64503.
 - d. Mouth Gag, PowerFloat7 Calgary, AB T2J5N8 CAN.
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