The bitting or bridling of a horse is more of an art than a science. Speeding up the activity, the increased excitement of the horse and/or rider, and the adrenalin rush of competition further complicate the process.

Various dental problems in horses affect performance in a variety of ways. Oral discomfort causes the horse to focus on the pain rather than on the performance. The horse may not respond to bit cues, may evade the action of the bit, or simply may run off, ignoring the bit completely.

A variety of equipment can cause discomfort to dental abnormalities. Problems may range from failure to shed premolar caps to sharp enamel points along the edges of the cheek teeth. Various cave-sons, hackamores, full cheek snaffles, and even halters can press soft tissue into these dental projections when leads or reins are pulled laterally. Dr. Khris Kirkland’s study of several hundred slaughter horse heads revealed that more than 80% had significant mucosal erosions associated with sharp dental projections.

Bits function by moving laterally and/or posteriorly when pressure is applied to the reins. This action moves soft tissue before it moves the bars of the bit. Tissue such as the tongue and the commisures of the lips can be cut across the surface. Tissue trapped by the bit may bunch between the bit and the anterior surface of the first lower cheek tooth, where it may be pinched, lacerated, or forced up onto the anterior occlusal surface of the lower P2, where it splits or hangs up. The result is a large, very painful ulcer under the mouthpiece of the bit. Every time the bit moves it irritates the tissue. Horses by natural instinct tend to push into pain. Many horses actually lean on the bit on the tender side and then gap their mouths and throw up their heads when the rider attempts to reprimand them for misbehavior.

The shape and size of a horse’s mouth affects the action of the bit. Because of the continued eruption of teeth, a horse’s mouth shape changes as the horse ages. The shape, thickness, and relative mobility of a horse’s tongue varies. Bit elevators, tongue ties, figure-eight headstalls, and numerous bit mouthpieces are designed to keep a horse’s tongue in its proper place within the mouth and between the mandibular cheek teeth.

Add to this the temperament, attitude, timing, and sensitivity horse and rider and it is surprising that some horses will wear a bit at all. In most instances, as action speeds up the rider’s reactions become quicker and stronger, which increases the risk of injury to the horse.

Finally, the more complicated the mouthpiece of a bit and the more contact used by the rider, the greater the risk for oral discomfort and/or injury. Therefore, persons performing dental procedures on performance horses need to fully understand where soft tissues may contact the teeth.
Fig. 1. Normal male skull.

Fig. 2. Parrot mouth.

Fig. 3. Preparing to perform a manual exam of the oral cavity.

Fig. 4. Palpating the upper premolars.

Fig. 5. Palpating the lingual side of the lower premolars and molars.

Fig. 6. Bit seats on near second premolars.
Rounding off the buccal/occlusal surfaces of the maxillary cheek teeth, the lingual/occlusal surfaces of the mandibular cheek teeth, and the anterior/occlusal surfaces of all four first cheek teeth, which are often called ‘bit seats,’ will help reduce the risk of discomfort induced by bits and bridles. In addition, smoothing and shaping the posterior surfaces of the last molars will allow the horse to more comfortably relax its lower jaw and to go more softly on the bit.

All of these areas may be effectively shaped with hand-operated instruments or power-driven equipment. The amount of shaping is often customized to the horse’s occupation. Polo ponies in gag bits often have more deeply shaped bit seats than do Western pleasure horses that are shown in grazer curb bits. But the basics are the same. The more aggressive the demands of the sport, the more justified is an aggressive approach to shaping the cheek teeth.
To allow for proper mastication, these procedures are usually performed following the basic shape and balance of the horse's mouth. Although these procedures are useful in high-performance horses, there does not appear to be a need for them where only maintenance procedures are needed. Be aware that a too-aggressive technique may cause damage to teeth. Power equipment, especially that without water cooling ability, can cause thermal damage and therefore it is important not to expose pulp chambers during the routine care of equine teeth. Other routine procedures and the incisor teeth should not be ignored.

Many young performance horses may need frequent inspections throughout the performance season as well as occasional touchups to keep their mouths comfortable. A nationally known trainer indicated that he has his futurity mounts checked every 90 days to make sure no problems develop. He indicated that many times little or nothing is needed, but he would rather take these preventive measures than discover that a horse has poor performance in a class that could have been prevented if the teeth had been properly cared for. Many trainers whose colts come in for basic training have the teeth done before the colt goes to the round pen to begin ground work. If a problem develops, the trainers don't want it to be because dental procedures were neglected.

In summary, be aware of what a horse does for a living, become familiar with what is expected, and provide the kind of dental care that helps the horse live a more comfortable and productive life.

Fig. 11. Horse yielding to a full Spanish Spade mouthpiece with a Santa Barbara frame.