

Equine Odontoplasty

UTCVM EQUINE DENTISTRY



For thousands of years, dental care in horses has consisted primarily of “floating,” or rasping sharp enamel points. Ancient Chinese records describe rasping horses’ teeth to reduce these sharp points. Today, equine dental care continues to revolve around reducing sharp points from the teeth. What exactly is “floating”, and why is this procedure performed in horses and not in other species, such as dogs, and primates? While most human beings receive regular dental care, floating constitutes a very limited part of human dental care.

Odontoplasty can be performed to prevent “overgrowths.” Odontoplasty is a procedure in which a tooth, or a portion of the tooth, usually the enamel in the case of horses, is reshaped or reduced. The lay term for odontoplasty used by horse owners is “floating.” The term “float” means to level a structure (think of floating concrete), and when used in the context of equine dentistry, it is the process of reducing points, or overgrowths on the teeth in order to allow the horse to chew more comfortably and functionally. Veterinarians and lay dentist have been guilty of “over-floating” to make the teeth appear symmetrical or even. Floating should remove just enough of the tooth to restore normal, comfortable

mastication. Over-floating can result in serious damage to the internal living tissue of the tooth and may hasten eruption of the teeth, resulting in the teeth wearing out before their time. Floating, therefore, should be performed only by a veterinarian trained in the skill of floating or by a qualified layperson working with a veterinarian. The layperson could be a veterinary dental technician or a certified equine dental specialist. According to the law in Tennessee, teeth floating is the practice of veterinary medicine and should only be performed by a veterinarian or by a layperson who is under the direct supervision of a veterinarian.

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To understand floating, one must understand the structure and function of horses' teeth.

Unlike the teeth of dogs, cats, and human beings, horses' teeth continue to erupt and wear throughout a horse's life. Their mouths are designed to graze plants, otherwise known as roughage. Roughage, because of its high cellulose content, must be ground into a digestible form; horses spend a large percentage of their life just chewing roughage. When a horse chews, or "masticates" food, the teeth in the upper jaw contact those in the lower jaw to crush, pulverize, and shorten roughage, causing the teeth to wear. This is the first stage of digestion, and it prepares the food to be swallowed and further digested. Two to three millimeters are worn from the teeth of horses every year. To compensate for this loss in length of tooth, horses hold a large amount of their teeth in "reserve" below or above the gum line. This portion of the tooth is referred to as the reserve crown. Teeth erupt continuously to maintain a constant length of exposed crown, until a horse literally runs out of tooth, somewhere around the age of 25 years. The age at which a horse's teeth have worn to their roots (a "smooth mouth") depends on many factors, such as diet, breed, genetics, and the dental care that the horse has received during its life.

Any part of a tooth that fails to contact the teeth of the opposing jaw fails to wear, and consequently, a point is formed, as the unopposed portion of tooth continues to

erupt. Common areas where points form are the cheek side of upper cheek teeth and the tongue side of the lower cheek teeth; the upper cheek teeth and jaw are wider than lower cheek teeth and jaw. If a horse's lower jaw fails to move in a full range of motion from side to side and the teeth fail to contact and wear, the inside portion of the lower cheek teeth and the outer portion of the upper cheek teeth fail to contact and wear, causing points to form. This problem is common in horses fed a grain-based diet rather than a roughage-based diet. Any portion of a horse's row of teeth that fails to contact teeth in the opposing jaw fails to wear causing that portion of the tooth to elongate. This is how hooks or ramps form on the front or back of the cheek teeth. When a tooth is missing, portions of the teeth in the opposing jaw elongate, or erupt, into the unoccupied space, because they fail to wear. This overgrowth can result in a condition commonly referred to as wave mouth or step mouth.

Some horses may only need their teeth floated every few years, whereas others may need their teeth floated as frequently as every 6 months. Teeth floating should be performed based on the findings of a thorough oral examination by a veterinarian and not solely on the basis of signs that become evident during mastication, such as dropping feed (quidding) or turning the head to one side.