

Aging Horses by Their Teeth

Steven Jones
Associate Professor -
Animal Science

Dr. Nancy Jack
Director, Dorothy E. King
Equine Program
Animal Science
University of Arkansas

Dr. Patricia Evans
Assistant Professor
and Extension
Equine Specialist
Utah State University

Being able to pinpoint age within a fairly narrow range can be of use to owners of unregistered horses or horses whose age is unknown for any reason. Many health and nutrition management decisions are directly related to age and dental wear, making it even more important for all horse owners to have a general understanding of how a horse's mouth changes with age. From a historical perspective, up until recently when organized associations started keeping birth dates on registered horses, most professional horsemen took great pride in their ability to determine age by examining the teeth of any horse. Aging the horse by its teeth is not an exact science, but changes do occur

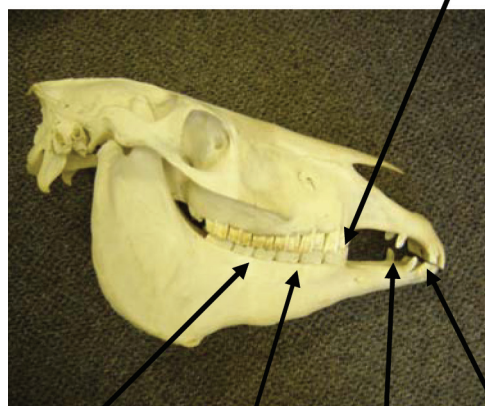
that can help determine approximate age. Anyone can learn the basics.

To use as a reference guide, Figures 1 and 2 indicate the names of the teeth.

Horses under 5 years of age go through some very typical dental changes. A good rule of thumb with foals is their milk teeth, or deciduous teeth, erupt, or come in, following a simple timetable of 8 days, 8 weeks and 8 months. Foals are born either without teeth or with four central incisors, two on the top and two on the bottom. If the central incisors are not present at birth, they usually erupt within 8 days. The intermediate

Figure 1

Wolf tooth does not appear in this picture, but it is considered the first premolar and would be found just in front of the first large premolar.



Molars –
last three
molars

Premolars –
first three
large molar

Canines

Incisors

Figure 2



*Arkansas Is
Our Campus*

Visit our web site at:
<https://www.uaex.uada.edu>

incisors erupt by 8 weeks (Figure 3) and the corner incisors by about 8 months. These are deciduous or temporary milk teeth that will be shed as the young horse ages. The deciduous teeth can be distinguished from permanent teeth because they are wider than they are tall and have shallow roots. Twelve pre-molars will also erupt, three on each side of the top and bottom jaws, within 2 weeks of age. However premolars are typically not used in aging horses as they are more difficult to view.

Figure 3



A weanling with central and intermediate deciduous teeth in, but corner incisors have not erupted yet. This means it is between 8 weeks and 8 months of age.

Other dental changes occur in yearly increments, and the young horse’s mouth changes like a child’s does as they shed their deciduous teeth. This systematic shedding of deciduous teeth is used to “age” horses until they have all of their permanent teeth at 5 years of age.

What follows is the pattern of deciduous tooth shedding. At 2½ years the horse’s deciduous central incisors are pushed out of the way as the permanent centrals erupt from below (Figure 4). At 3 years the upper central and lower central incisors have grown out enough to meet and, therefore, begin to grind against one another. This is referred to as being “in wear.” These wear patterns will be used later in the horse’s life to help determine age. At 3½ years the intermediate incisors will be shed, and at 4 years of age they will be in wear (Figure 5). At 4½ years the corner incisors will be shed, and 6 months later they will be in wear. Male horses have four canine teeth (tushes) located between their corner incisor and the molars. See Table 1 for list of dental changes.

Mares will occasionally have canine teeth. These are usually not as developed, and all four may not be present. These teeth appear during the horse’s fourth year. They should not be confused with wolf teeth, which are very shallowly rooted and found adjacent to the first premolar.

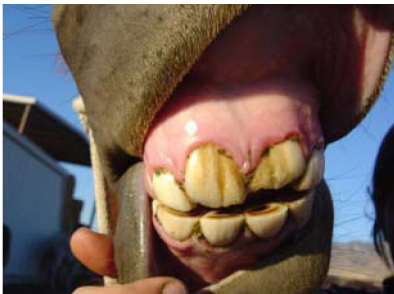
Wolf teeth are commonly extracted as they may interfere with the bit. Canine teeth are not extracted under normal circumstances. Horses are considered to have a “full mouth” at 5, which means that all permanent teeth have erupted and are in wear.

Table 1. The Average Times When Teeth Erupt

Tooth	Eruption
Deciduous:	
1st incisor (or centrals)	birth or first week
2nd incisor (or intermediate)	4 to 6 weeks
3rd incisor (or corners)	6 to 9 months
1st premolar	
2nd premolar	birth or first 2 weeks for all
3rd premolar	premolars
Permanent:	
1st incisor (or centrals)	2½ years
2nd incisor (or intermediate)	3½ years
3rd incisor (or corners)	4½ years
Canine (or bridle)	4 to 5 years
1st premolar (or wolf tooth)	5 to 6 months
2nd premolar	2½ years
3rd premolar	3 years
4th premolar	4 years
1st molar	9 to 12 months
2nd molar	2 years
3rd molar	3½ to 4 years

Table from *Horses* by J. Warren Evans.

Figure 4



2½ years old. Top central incisors are permanent but not in wear, but bottom centrals are still deciduous.

Figure 5



3½ years old. Centrals are permanent; intermediates are loose and ready to fall out.

Once all permanent teeth are present, other indicators assist with determining age. On the grinding surface of the incisors, a cup is seen as an indented area with a dark center in the middle of each tooth. The cups disappear from the bottom central incisors at 6 years of age, the intermediates at 7 and the corners at 8. The top incisors lose the cups from central to corners at 9, 10 and 11 years of age, respectively. The term “smooth-mouthed horse” applies to a horse 12 years of age or older when all cups are gone and the grinding surface is smooth (Figures 6a and 6b).

Next to appear on the grinding surface of the incisors is a dental star or yellowish-colored spot. It appears more toward the front of the teeth (closer to the lips) than the cups (Figure 6a). At first this star is rectangular in appearance, but as the horse ages, it becomes more rounded and moves to the center of the

tooth. The dental star will appear in the central incisors at 8 years of age, intermediates at 9 and corners at 10.

The shape of the grinding surface, amount of tooth seen below the gum line and angle of the teeth change with age. A horse under 9 years of age will have a rectangular grinding surface, a horse from 9 to mid-teens will have a more rounded grinding surface, while a horse in its later teens or older will have a triangular surface (Figures 7a and 7b). The younger horse will show a shorter tooth visible below the gum line, while a term used for the older horse is “long in the tooth” due to more visible tooth. When viewed from the side with lips parted, the young horse will exhibit a more vertical alignment to the incisors, while an older horse will have more of an angle with a more protruded appearance (Figures 8a and 8b.)

Figure 6a

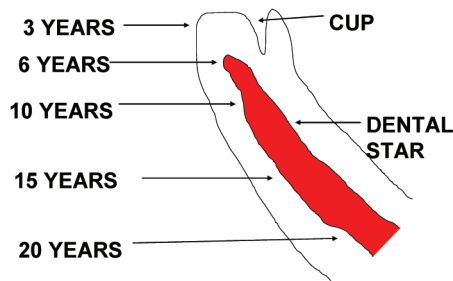


Figure 6b



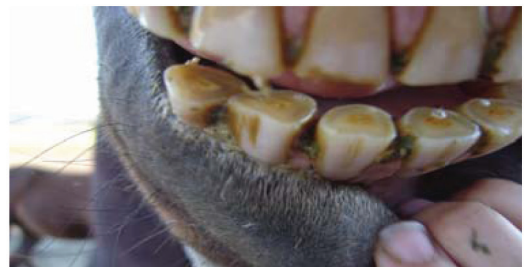
Cups as seen in a young horse less than 6 years of age. All cups are still present.

Figure 7a



Young horse's mouth with cups and rectangular table or grinding surface.

Figure 7b



Old horse's mouth with dental stars and triangular table.

Figure 8a



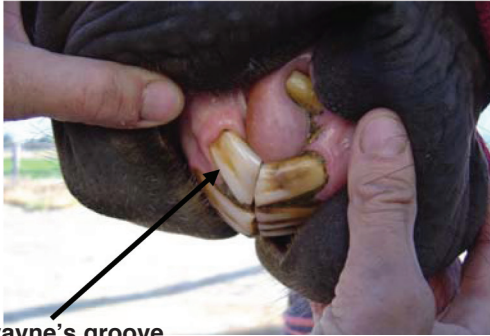
Young horse with a more vertical profile and less length of tooth visible.

Figure 8b



Older horse with a more angled profile and more length of tooth visible.

Figure 9

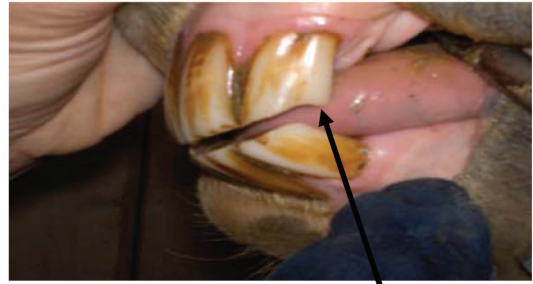


Galvayne's groove

A more subtle indicator that can assist with aging the horse over 10 years of age is the Galvayne's groove (Figure 9). This is a groove that appears near the gum line of the corner incisor. It begins at the center of the outer surface of the tooth in a 10-year-old. At 15 the groove extends halfway down the tooth, at 20 it extends the entire length of tooth, at 25 the upper half of the groove is gone so a groove appears only in the bottom half and at 30 the groove is completely gone.

Another subtle indicator on the same corner tooth is the 7- and 11-year hook. As the mouth changes shape, the rear of the top and bottom corner incisors may not meet, allowing for a hook to form on the top incisor (Figure 10). The first time this hook appears is during the seventh year, and it will disappear at 9 years of age. It will reappear at 11 years of age and may remain through the mid-teens.

Figure 10



This mare has hook at 11 years old due to lack of opposing surface at the back edge of the top molar.

These guidelines for aging by dental wear can vary depending on what the horse is eating and on vices. For example, horses that crib can wear down the top incisors, interfering with normal dental wear. While all horses do not follow the rules, these guidelines can be useful tools in evaluating a horse's age.

References

- Jeffrey, D. 1996. *Horse Dentistry, The Theory and Practice of Equine Dental Maintenance*. Norfolk, Nebraska: Norfolk Printing Company.
- Evans, J. W. 1981. *Horses*. San Francisco: W. H. Freeman and Company.

STEVEN JONES is associate professor - animal science, Department of Animal Science, University of Arkansas Division of Agriculture, Little Rock. **DR. NANCY JACK** is director, Dorothy E. King Equine Program, Department of Animal Science, University of Arkansas, Fayetteville. **DR. PATRICIA EVANS** is assistant professor and Extension equine specialist, Utah State University, Logan.

Pursuant to 7 CFR § 15.3, the University of Arkansas System Division of Agriculture offers all its Extension and Research programs and services (including employment) without regard to race, color, sex, national origin, religion, age, disability, marital or veteran status, genetic information, sexual preference, pregnancy or any other legally protected status, and is an equal opportunity institution.