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LOOKING A GIFT HORSE IN THE MOUTH!!!-NORMAL DENTAL ANATOMY

Last month we discussed why regular dental checks are so important. This article will now help you understand the development and anatomy of the normal horse's mouth. This can be quite daunting to understand, especially as it can be tricky to see into a horse's mouth. This article will discuss tooth eruption and normal tooth anatomy. The following article will look more closely at the make up of the individual adult tooth.

How many teeth does my horse have?

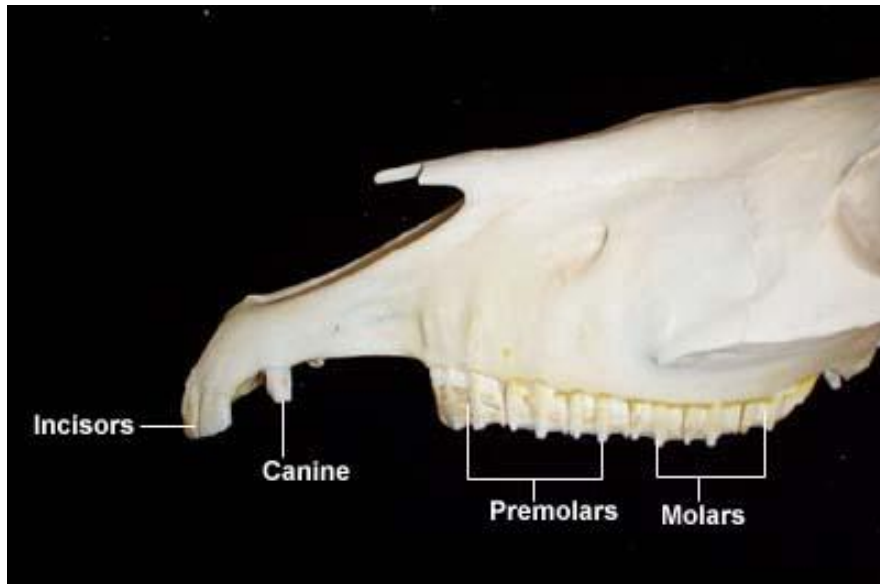
Horses have two sets of teeth, the deciduous and permanent teeth.

DECIDUOUS TEETH

There are between 24-28 milk teeth, comprising of incisors, canines and molars. These erupt from birth as in the table below:

Tooth	time of eruption
Deciduous 1st incisor	birth or 1st week of life
2nd incisor	4 - 6 weeks
3rd incisor	6 - 9 months
premolars	birth or 1st 2 weeks of life

The deciduous canines are very small and often don't erupt through the gums.

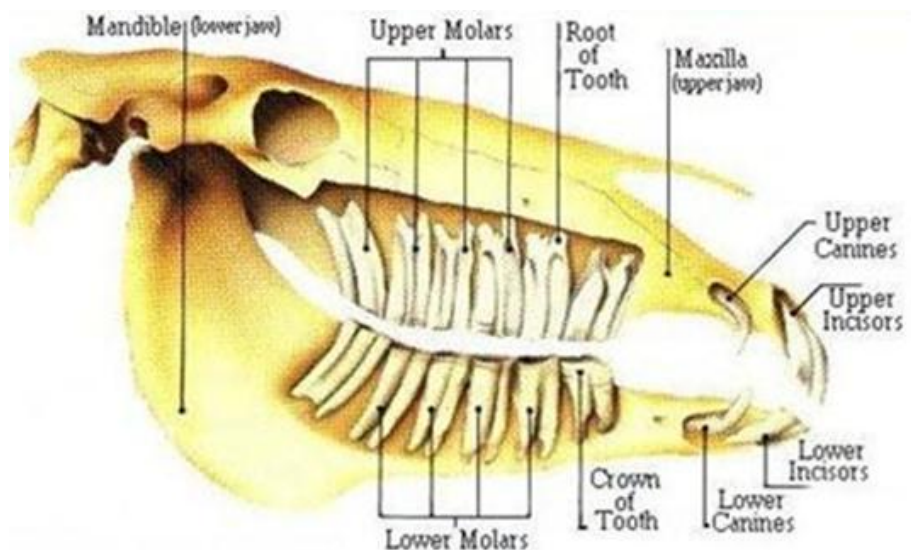


PERMANENT TEETH

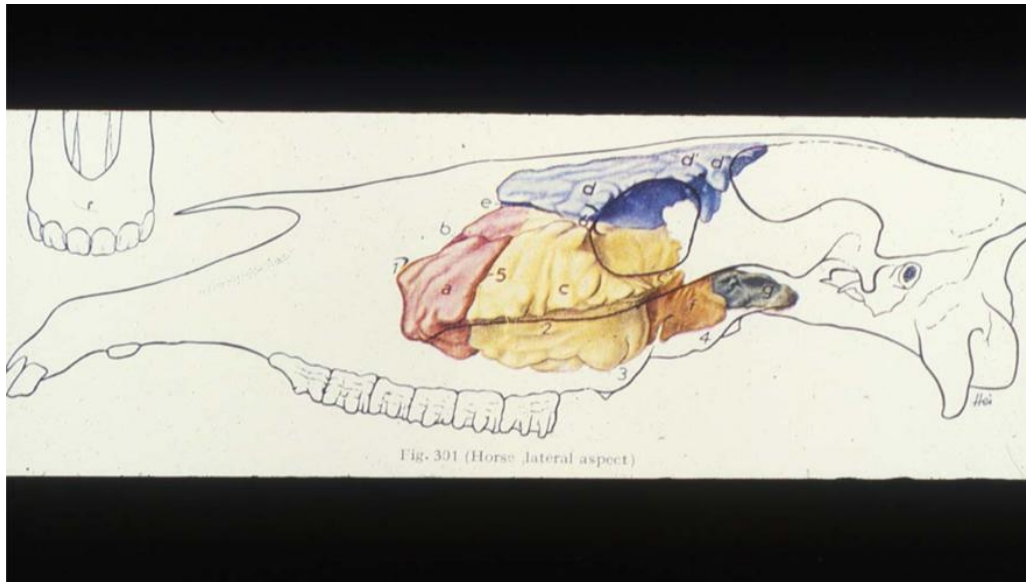
An adult horse can have between 36-44 adult teeth. These erupt at the times in the table below:

Tooth	time of eruption
1st incisor	2.5 years
2nd incisor	3.5 years
3rd incisor	4.5 years
canine	4 - 5 years
PRE MOLAR 1 (wolf tooth)	5 - 6 months
P 2	2.5 years
P 3	3 years (lower P3 may erupt at 2.5 yrs)
P 4	4 years (lower P4 may erupt at 3.5 yrs)
MOLAR 1	9 - 12 months
M 2	2 years
M 3	3.5 - 4 years

So the oldest tooth is the 1st molar. The permanent teeth are continuously erupting, they are 'hypsodont'. This allows horses to chew for a long time with efficiency, prolonging the effective life of their teeth. The hypsodont tooth erupts at about 3-4mm a year, which compensates for the daily wear from the grinding action of the food processing. The average molar will have a reserve crown of about 10cm.



The reserve crown of the upper premolar 4 and upper molars are within the sinuses of the horse's skull (caudal and rostral maxillary sinuses). Please see later information sheets for more information on sinus infections due to tooth problems.



Red- rostral maxillary sinus.
Yellow- caudal maxillary sinus.

What are wolf teeth and does my horse have them?

Wolf teeth are vestigial (i.e. no longer required) pre molars. These are the first premolars and may or may not be present in the maxilla. They can be present in the lower jaw as well. They can be present in male and female horses and shouldn't be confused with the canines. Their position, shape, root structure and eruption can be variable.

The ancient ancestor of the modern horse was the size of a dog and survived on a very different diet to today's horses. Eohippus or the "Dawn horse" ate low bushes and shrubs and had small cheek teeth similar to those of humans. Eohippus had seven cheek teeth and the modern day horse has 6 (each side and arcade). As the horse's diet changed (to grass) and horses grew bigger so their teeth increased in size to provide a larger chewing and grinding surface. When this happened the 1st cheek tooth (the wolf tooth) was no longer required and gradually began to disappear over generations of horses. Millions of years later, many horses still develop wolf teeth.

Blind wolf teeth are wolf teeth that fail to completely erupt. These can frequently cause biting issues as they sit further forward in the mouth and are covered with a sensitive layer of soft tissue, they are often missed without a detailed oral exam.

When a bit is placed into the horse's mouth, contact between the bit and the wolf teeth can cause the horse pain and sensitivity. For this reason it is often recommended to remove wolf teeth at a young age. It is far easier to remove a wolf tooth when a horse is 6-12 mths of age than as a horse ages. This is because the newly erupted tooth hasn't yet begun to

fuse to the surrounding bone of the jaw. Removal at this age also ensures that the teeth have been removed prior to any form of mouthing/breaking in.

Wolf teeth appear at around 6 - 12 months of age where as Canine teeth usually erupt around 4-6 years of age. Canines are much larger than wolf teeth and much closer to the incisors.