Age of Animals

- How to estimate the age of this animal ??!!

❑There are many methods used for aging of animals

1) External appearance

Used by well-trained people .but not have any scientific base

2)Number of parturitions

It is only used in females

Age of animal/year = number of parturition + 2.

It is not accurate method

3)Number of ring in horned animals

Age of animal/year = number of rings around the base of the horn + 1.

It is not accurate method as the owner may make rasping of these rings

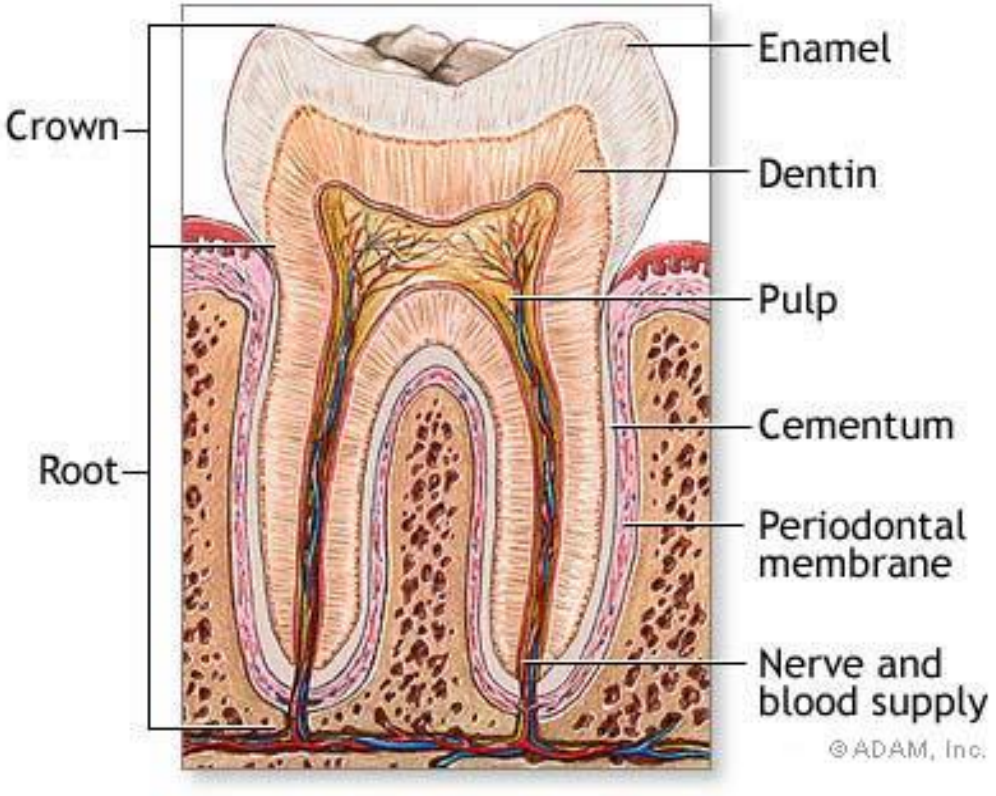
4)Dentition

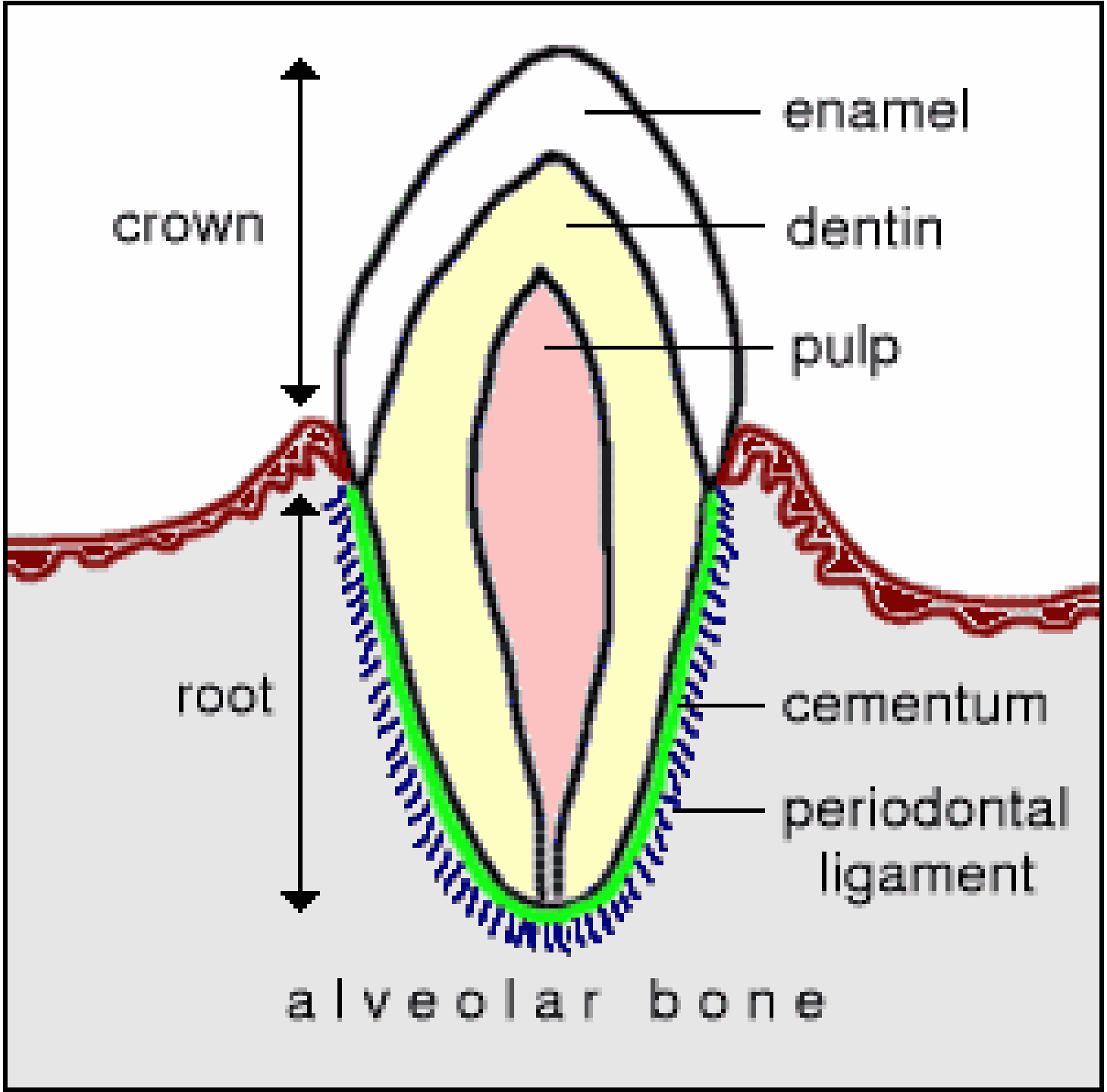
By using teeth

It is most accurate method used for detecting age of animals

❖Tooth

- It is solid bony structure arranged regularly in upper and lower jaws
- Structure of tooth
  - Externally
1. Crown
2. Neck
3. Root




enamel
dentin
pulp
crown
root
cementum
periodontal ligament
alveolar bone

- Internally

1. ***Enamel:***

Enamel is the hardest and most dense substance in the body

2. Dentin:

The bulk of the tooth is made up of dentin; a cream coloured softer tissue

3. Pulp:

Pulp is a collection of soft tissues including blood vessels, nerves and connective tissues

4. Cementum:

It acts as a protective covering over most portions of the tooth

Surfaces of Tooth

Types of teeth according to time of eruption

- There are 2 types:

1. Temporary (Deciduous-milky)Teeth

Teeth in the early stage of life which get erupted through gum then changed with permanent one

2. Permanent

It is the teeth that not changed

Temporary incisors and permanent incisors


Temporary incisors (6 months old)


Permanent incisors. (29 year old)

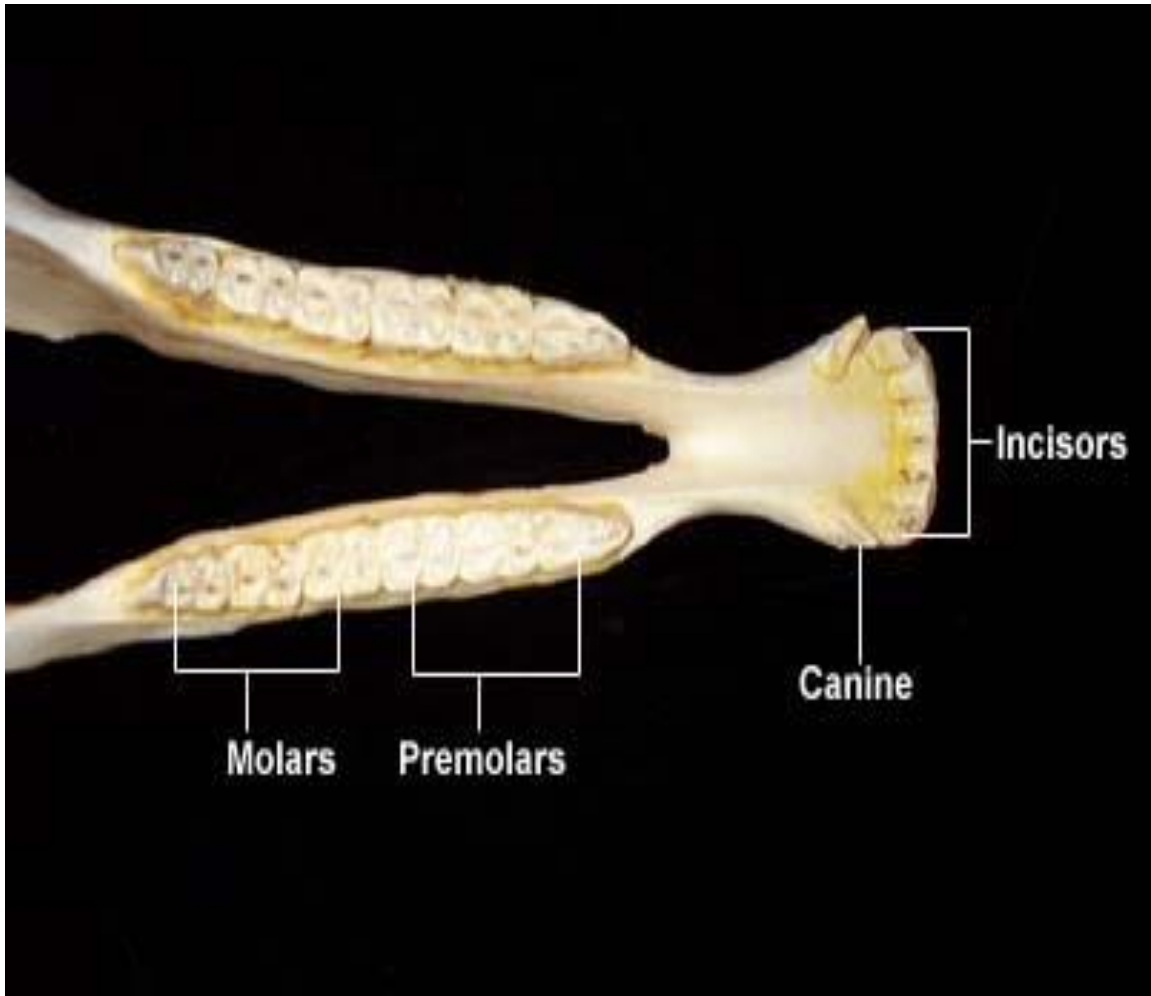
Temporary teeth are shorter and obviously bladed (shield shaped)
Permanent teeth are longer and have more or less parallel sides.
The shape of the occlusal surface is similar in young teeth but noticeably different in older permanent teeth.

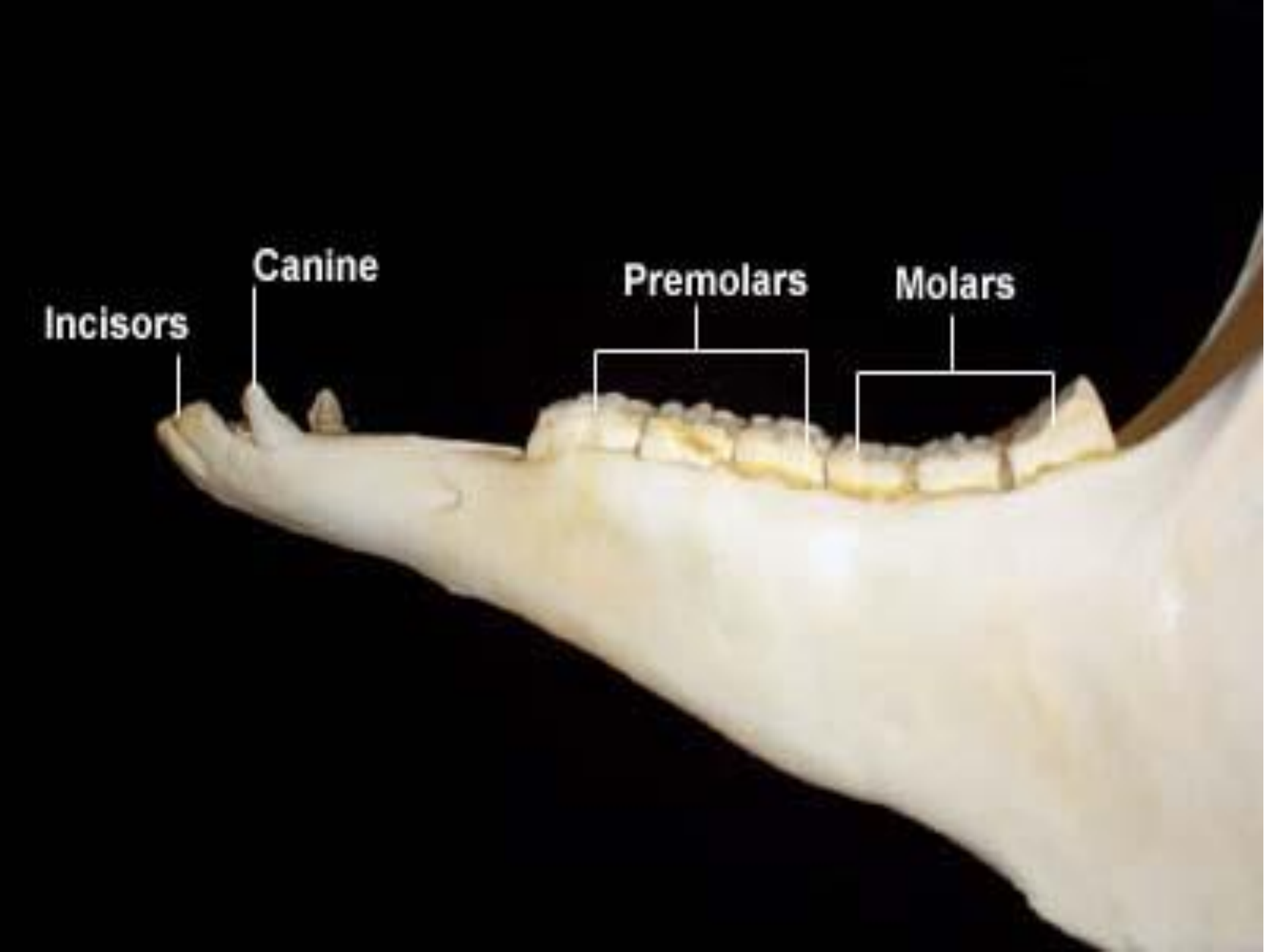
Difference bet temporary & permanent teeth

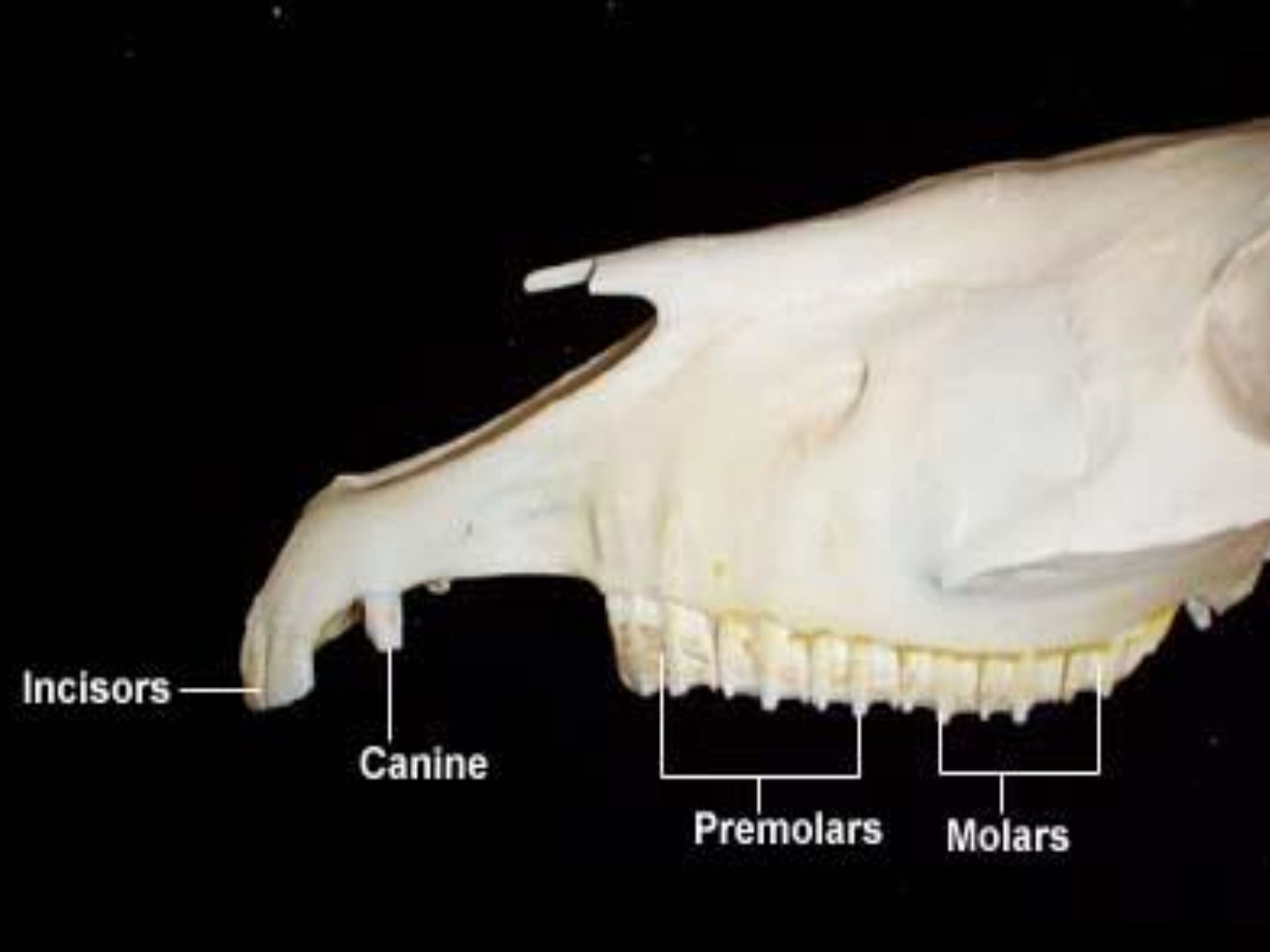
Features	**Temporary**	**Permanent**
Size	Smaller	Larger
Shape	More rounded	More longer
Color:	White	Yellowish or brownish white
Surface	Smooth	Rough
Space in between	Very distinct	Has no space

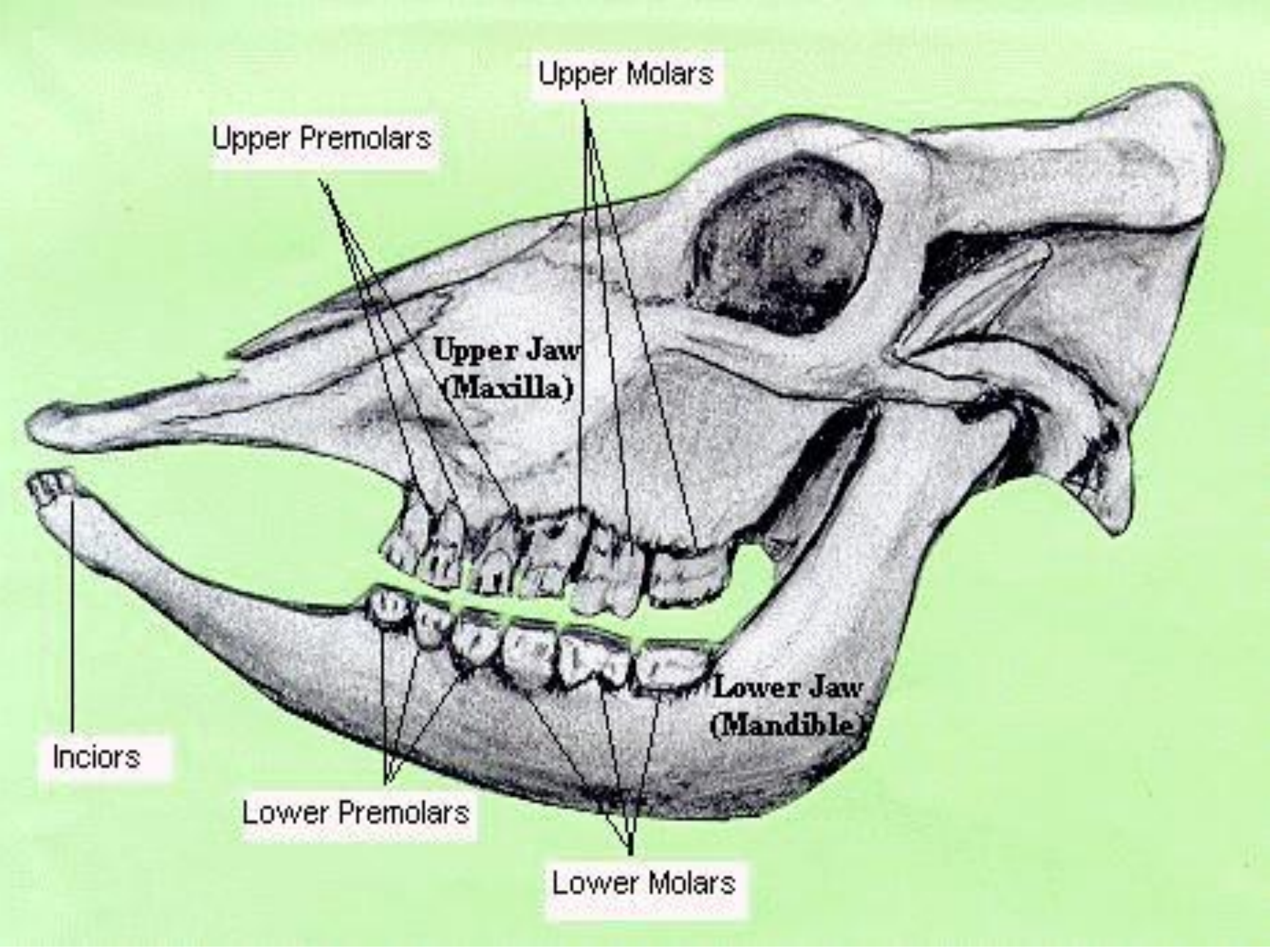
❖Classification of teeth according to its Position & Function

- Incisors
- Canines
- Molars…a)premolar
  b)molar



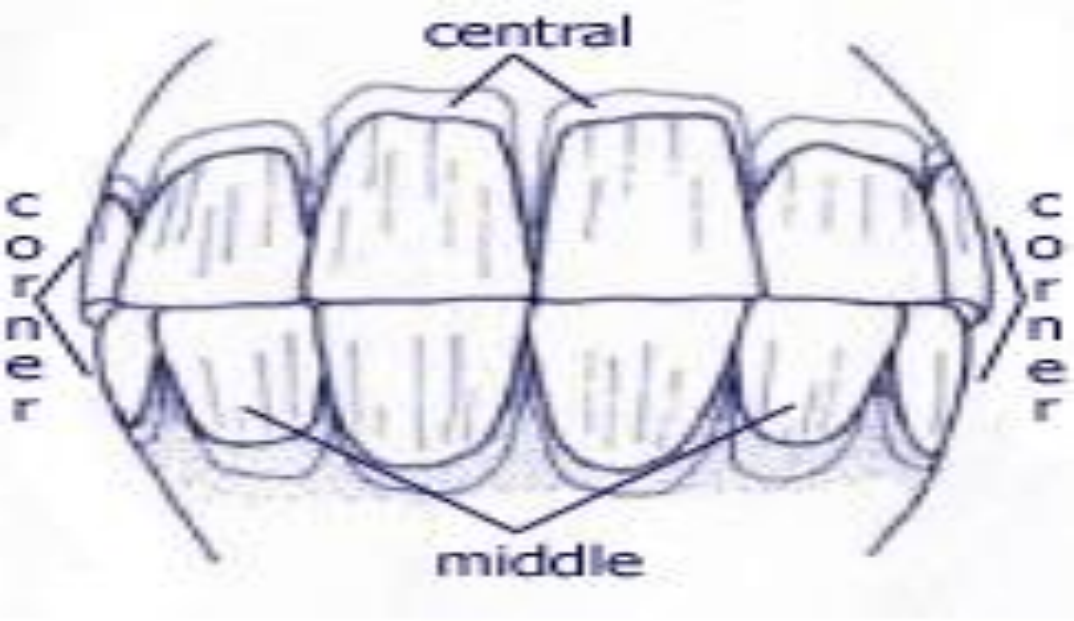

Incisors
Canine
Premolars
Molars


Incisors
Canine
Premolars
Molars


Upper Molars
Upper Premolars
Upper Jaw
(Maxilla)
Lower Jaw
(Mandible)
Inciors
Lower Premolars
Lower Molars

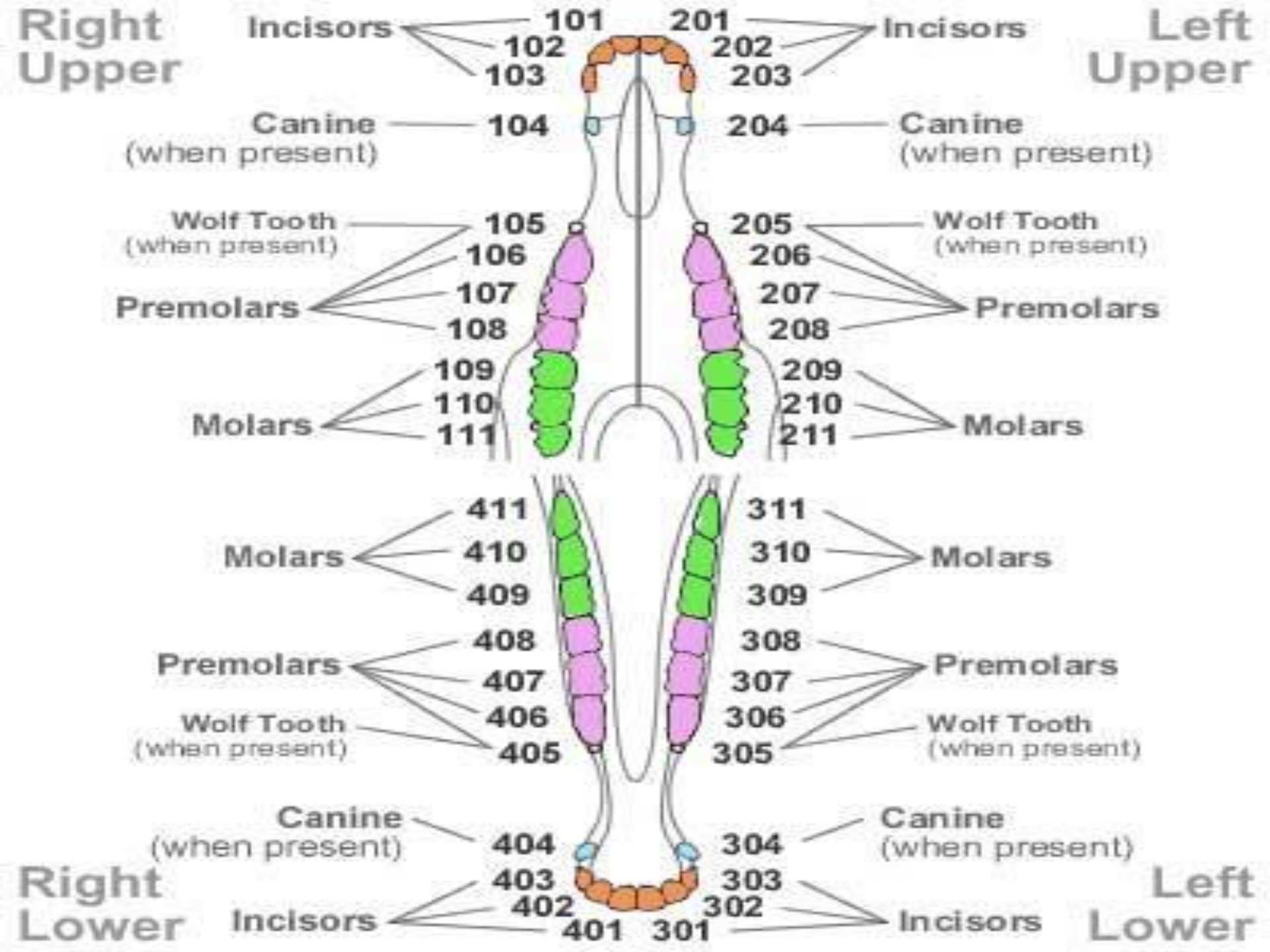
Dentition in Horse

- Horse has 3 pairs of incisors from inner to outer called “ central, intermediate and corner “ they appear at temporary stage and permenant stage in each jaw



- Horse has one pair of canine that appear permanent only in male not in female

- Horse has 3 pairs premolars appear temporary and permanent
- Also has 3 pairs of molars but appear only in permanent stage


Right Upper
Left Upper
Incisors
101
102
103
201
202
203
Incisors
Canine (when present)
104
204
Canine (when present)
Wolf Tooth (when present)
105
205
Wolf Tooth (when present)
106
206
Premolars
107
207
Premolars
108
208
109
209
110
210
Molars
111
211
Molars
411
311
Molars
410
310
Molars
409
309
408
308
Premolars
407
307
Premolars
406
306
Wolf Tooth (when present)
405
305
Wolf Tooth (when present)
Canine (when present)
404
304
Canine (when present)
Right Lower
Left Lower
403
303
402
302
Incisors
401
301
Incisors

Dental Formula

- For estimating the number of teeth in mouth

(½) incisors + canine + premolar + molar (U J)

D.F=.....✖ 2

(½) incisors + canine + premolar + molar (L J)

Temporary dental formula

$$3 + 0 + 3 + 0$$

- T.D.F=……✖2 = 24

$$3 + 0 + 3 + 0$$

So the T.D.F in male and female = 24 teeth

Permanent dental formula

- ***in male***

$$3 + 1 + 3 + 3$$

❖ ***P.D.F = ……. 2=40 teeth***

$$3 + 1 + 3 + 3$$

- ***So the P.D.F in male =40 teeth while in female is 36 due to absence of canine***

Tooth Eruption

- **In temporary stage**

- Central incisors → from birth to 2 weeks
- Intermediate, premolars → 2 – 4 wks
- Corner incisor → 7 – 9 months or 1 year

So the T.D.F completed at one year

2-4 wks

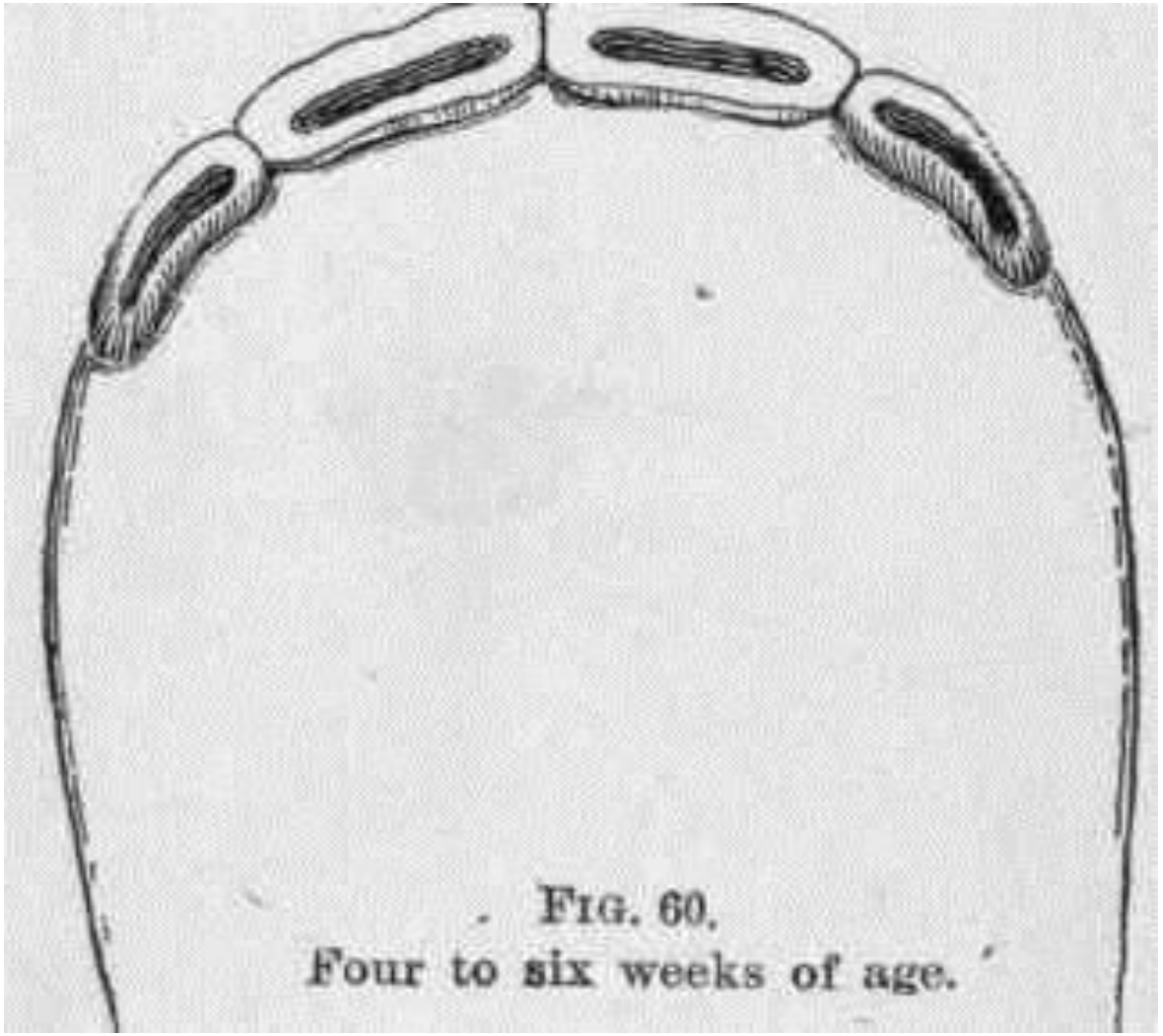


FIG. 60.
Four to six weeks of age.

1year

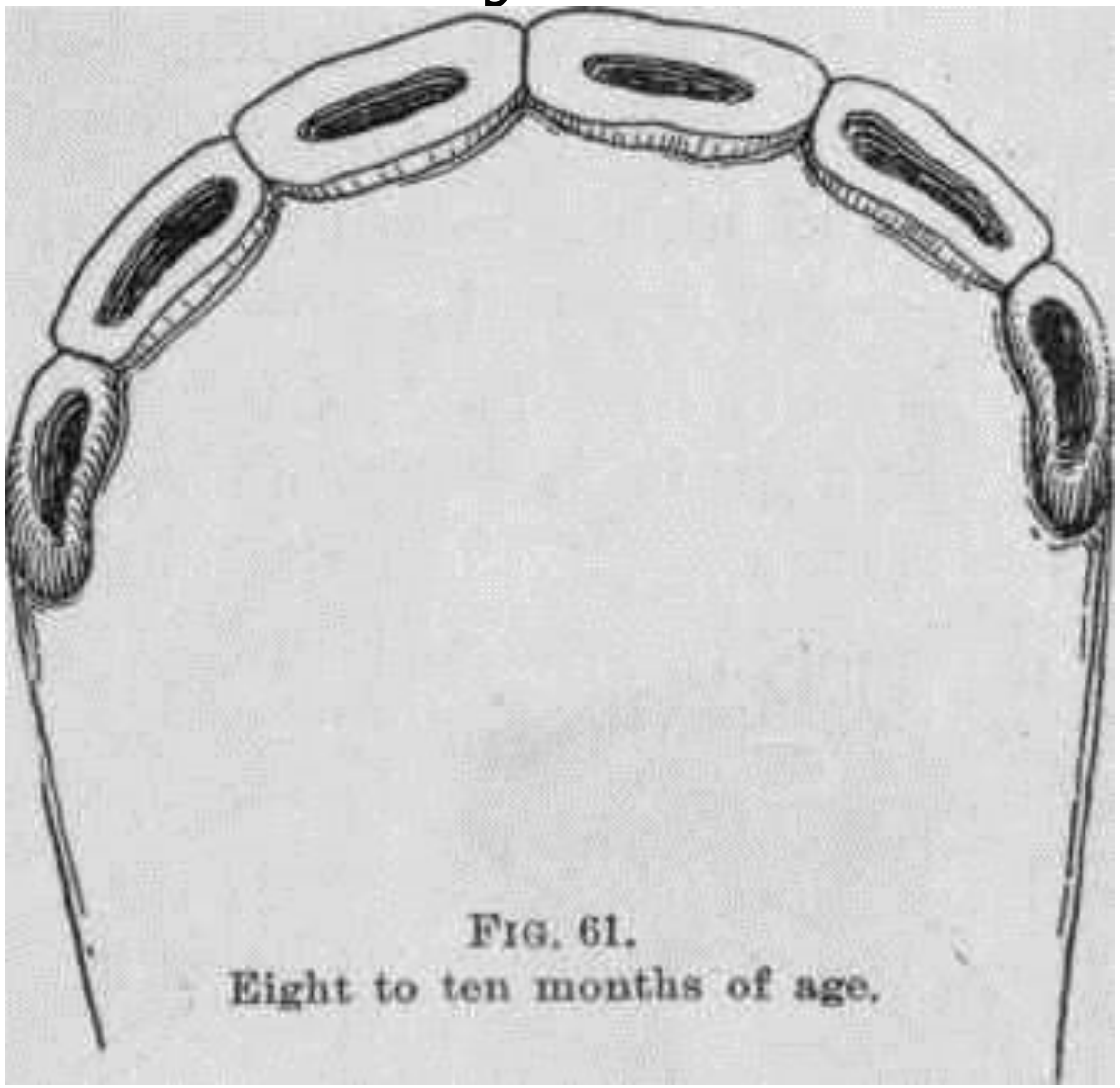


FIG. 61.
Eight to ten months of age.

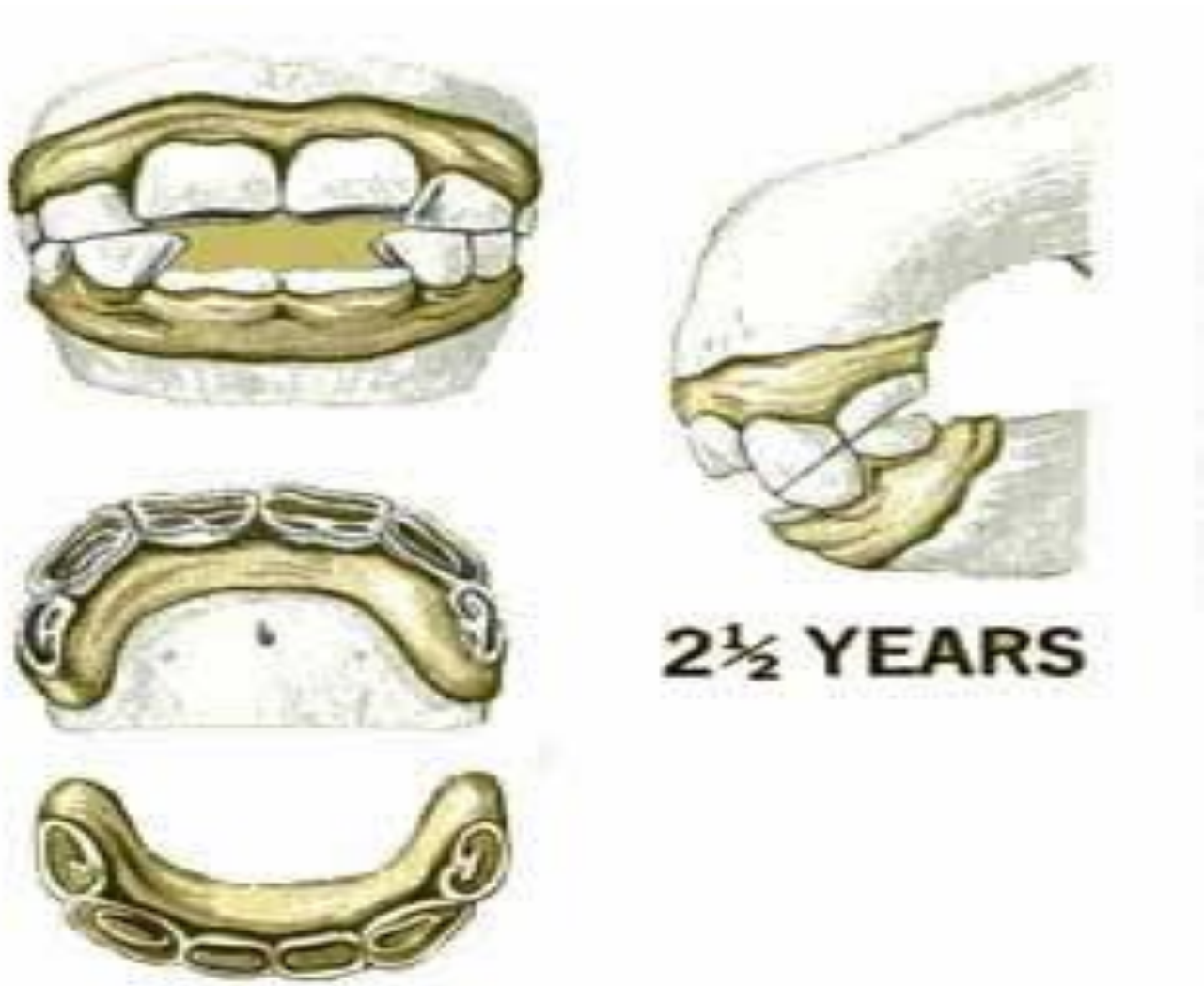
In permanent stage

- First molar → 7-9 or 12M.
- Second molar → 1.6-2Y.
- Central incisor +first +second premolar → 2.6-3Y
- Intermediate incisor + third molar + third premolar → 3.6 - 4Y.
- Corner incisor → 4.6 – 5 Y
- Canine (in male) → 4 – 5 Y

- So the P.D.F completed at 5 years

- This means that horse with “Full Mouth”

2.6 -3Years



Above 3Yrs but less than 3.6 Yrs

4- 4.6 years

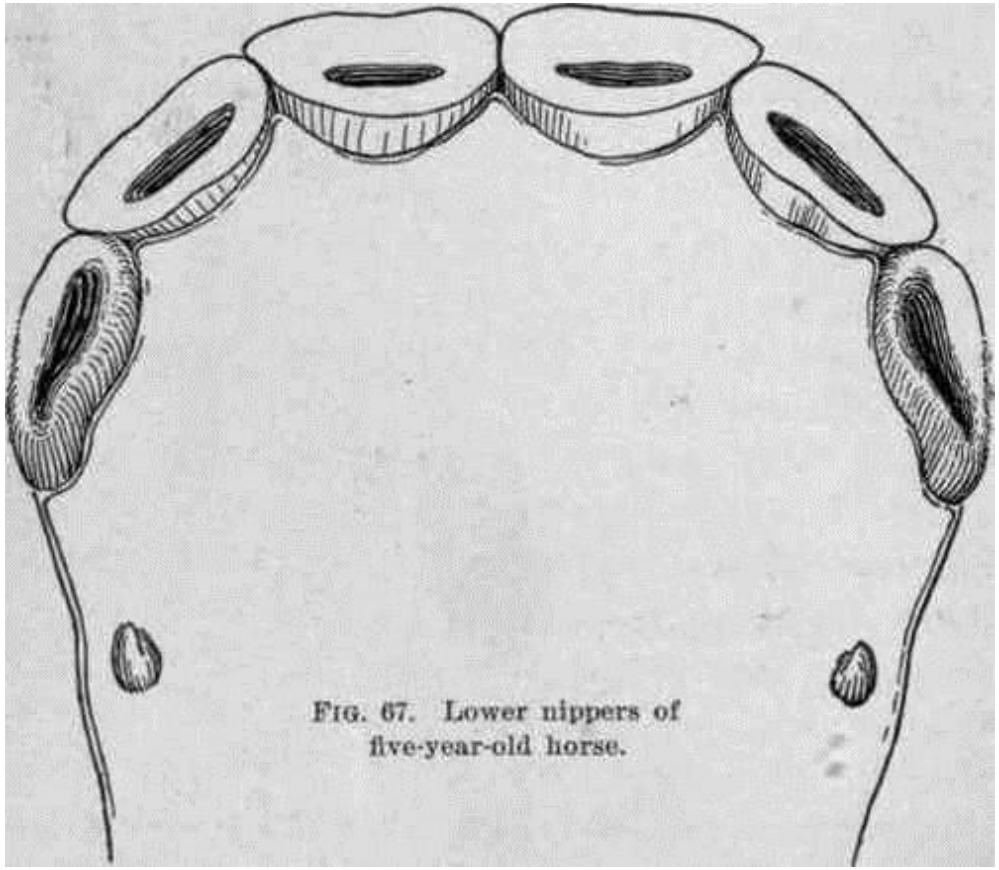
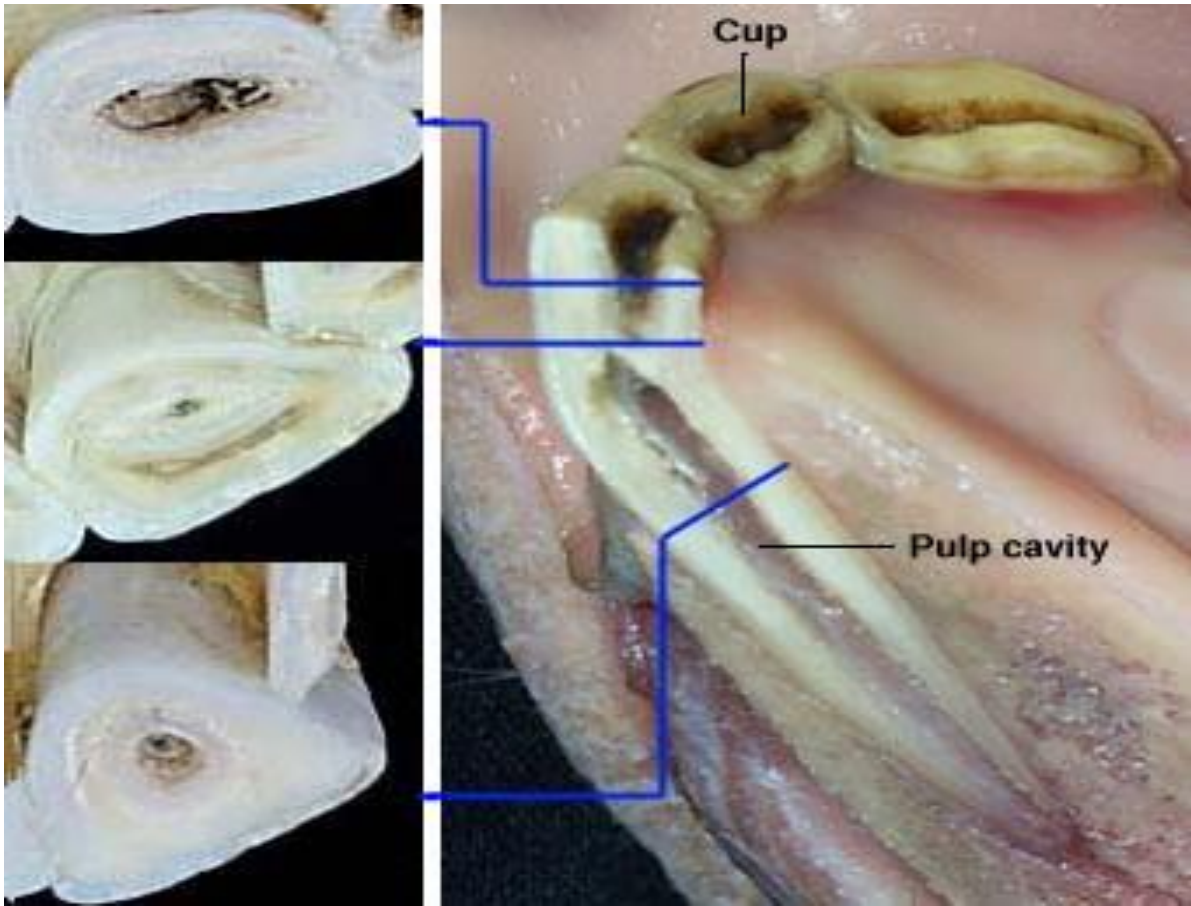


FIG. 67. Lower nippers of five-year-old horse.

5 years

Special marks on teeth

- **Closure of infundibulum &appearance of the dental star**

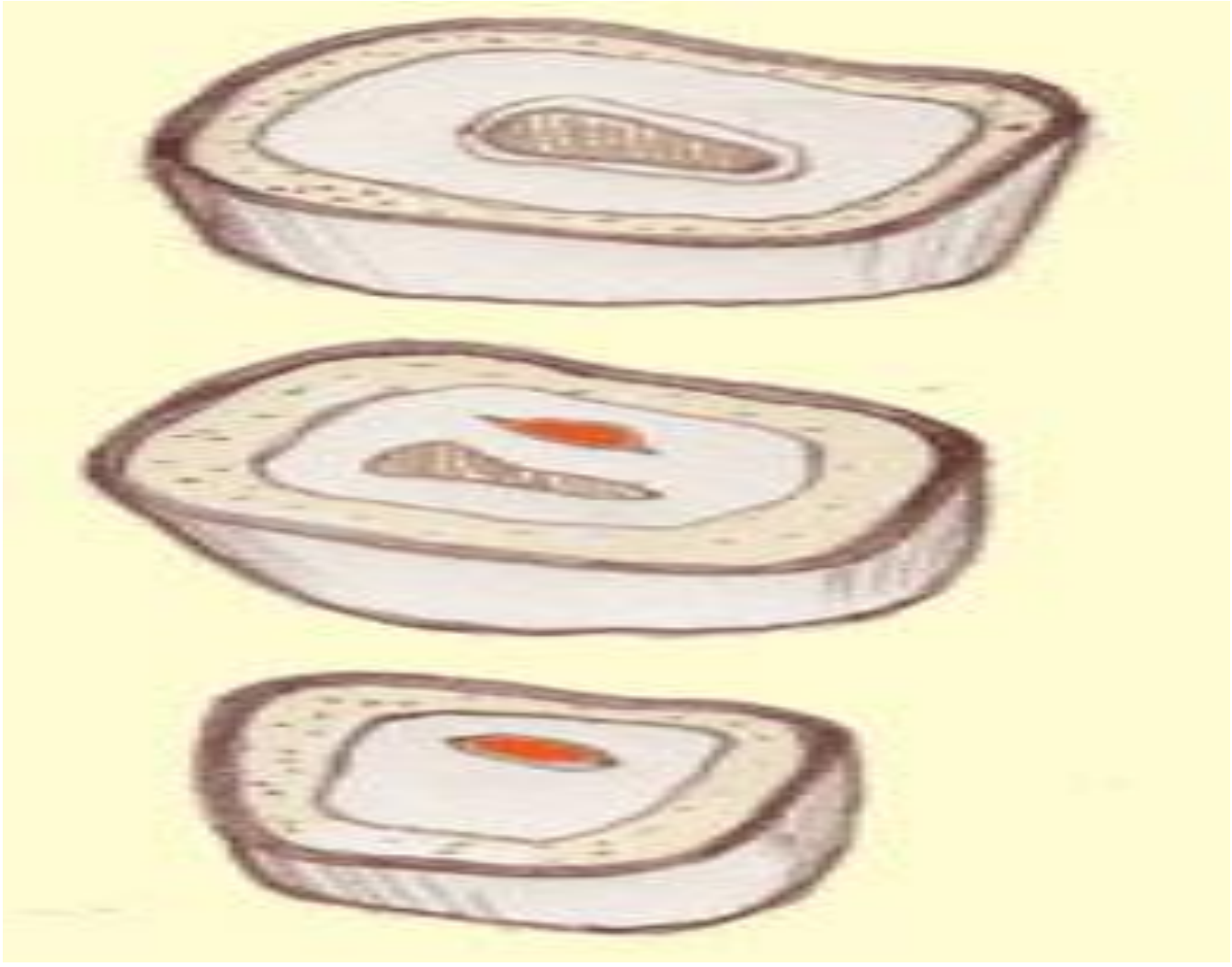


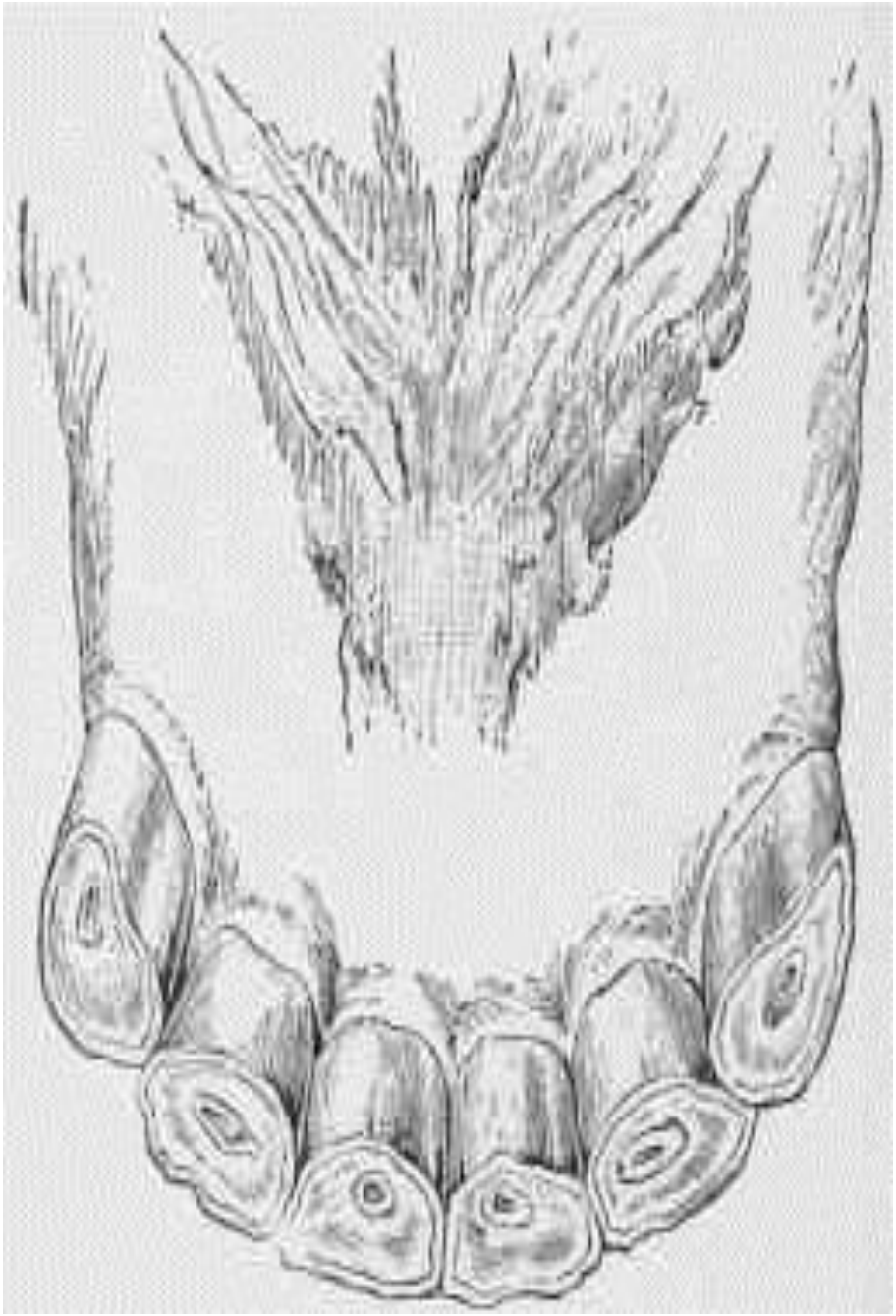
Appearance of dental star

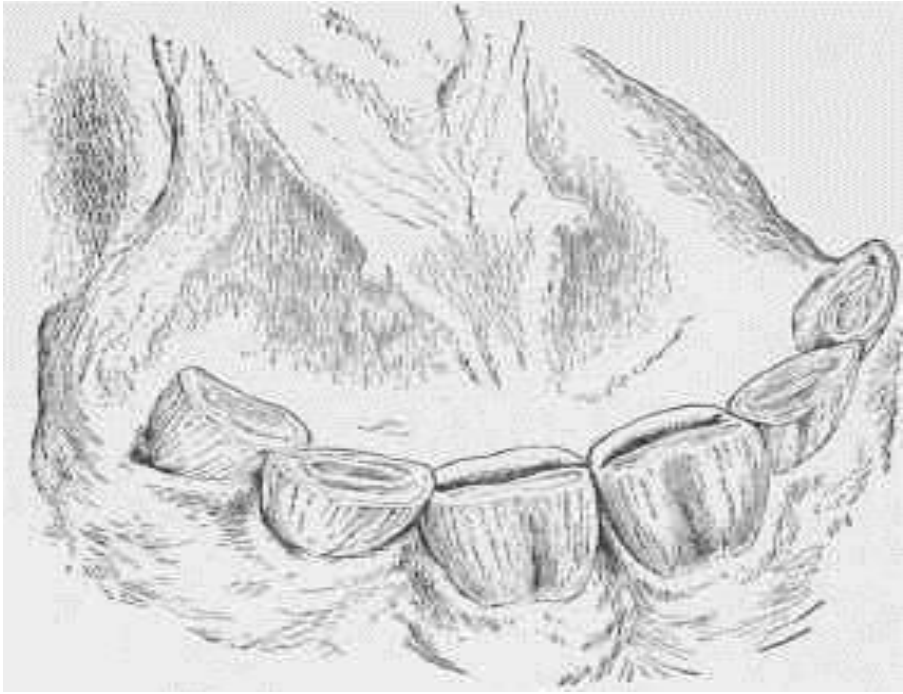
- Dental star appear in central incisor at 7-8Y
- While in intermediate incisor at 8-9 Y
- In corner appears at 9- 10 Y

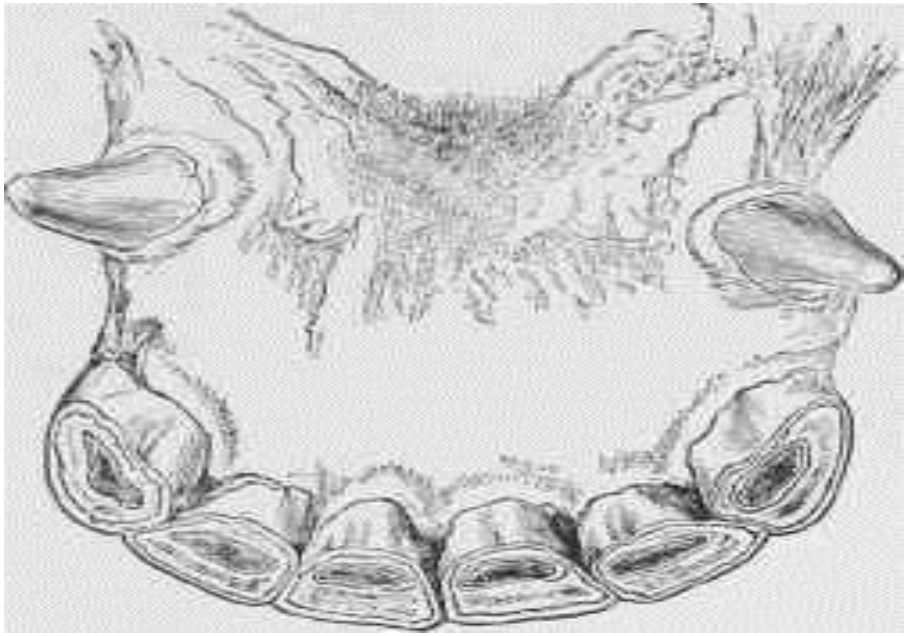
so appearance of dental star means above 10Y

Gradual closure of Infundibulum

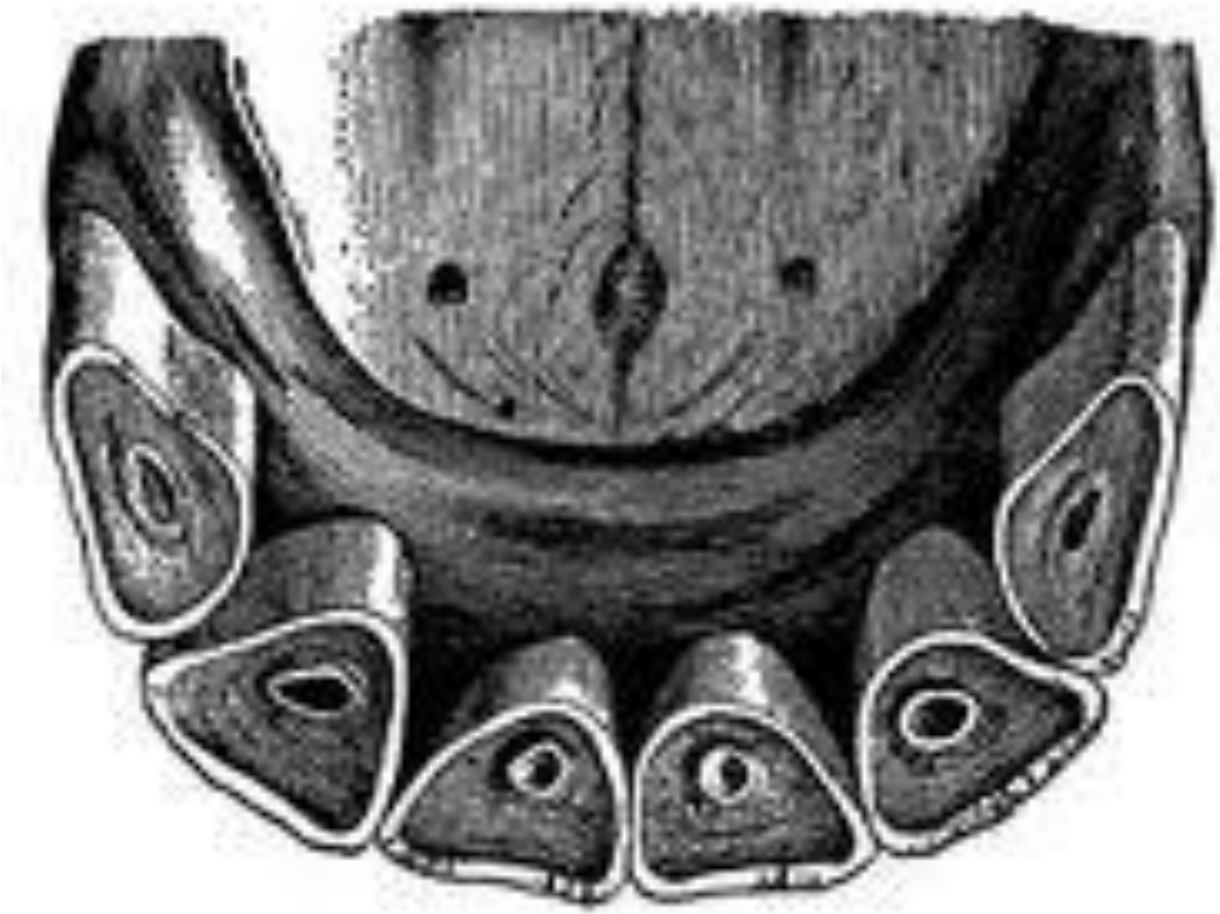








Above 10 Years



Shell like appearance

- It is present in corner incisor (upper and lower)

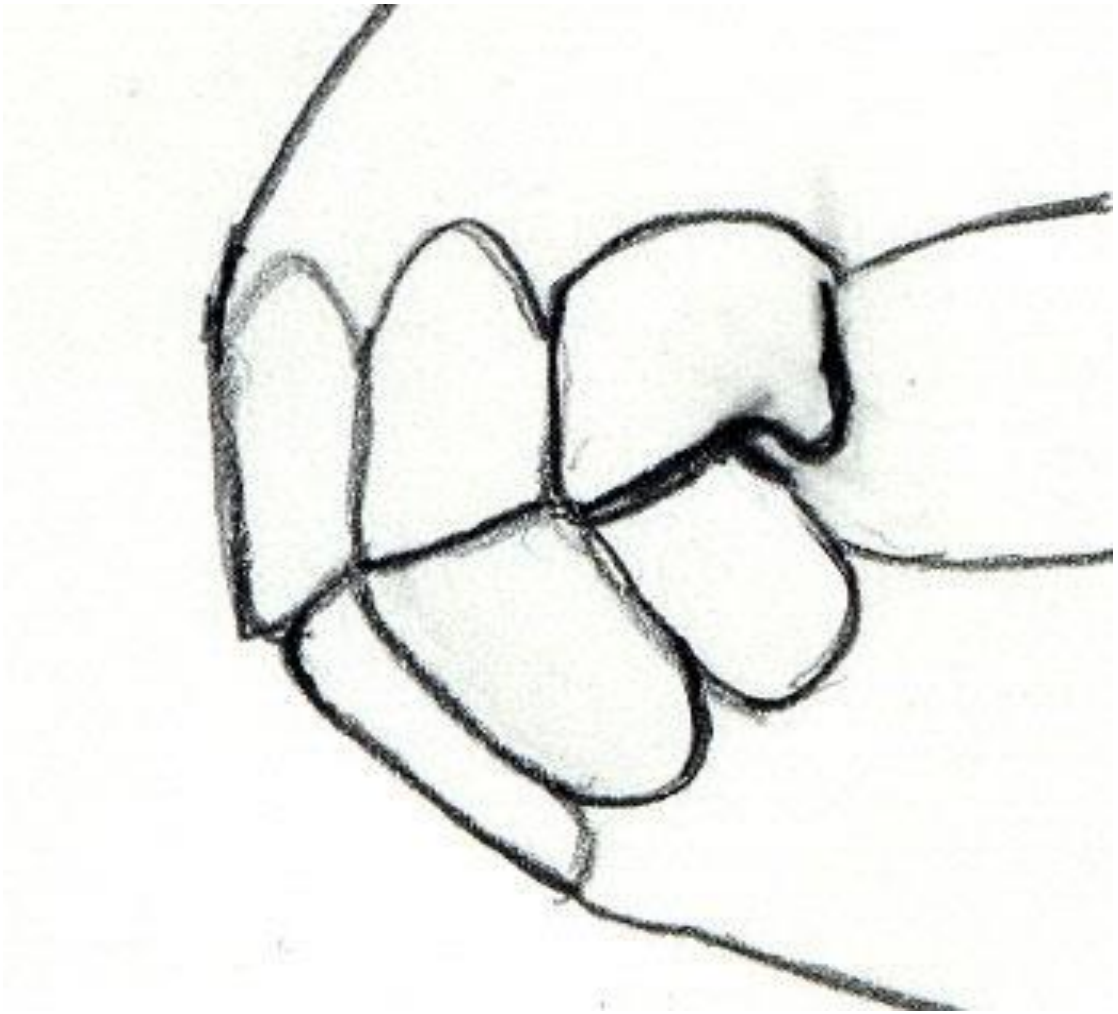
- Appear at 1 Y then disappear then appear at 5 Y

Shell

Hook like appearance

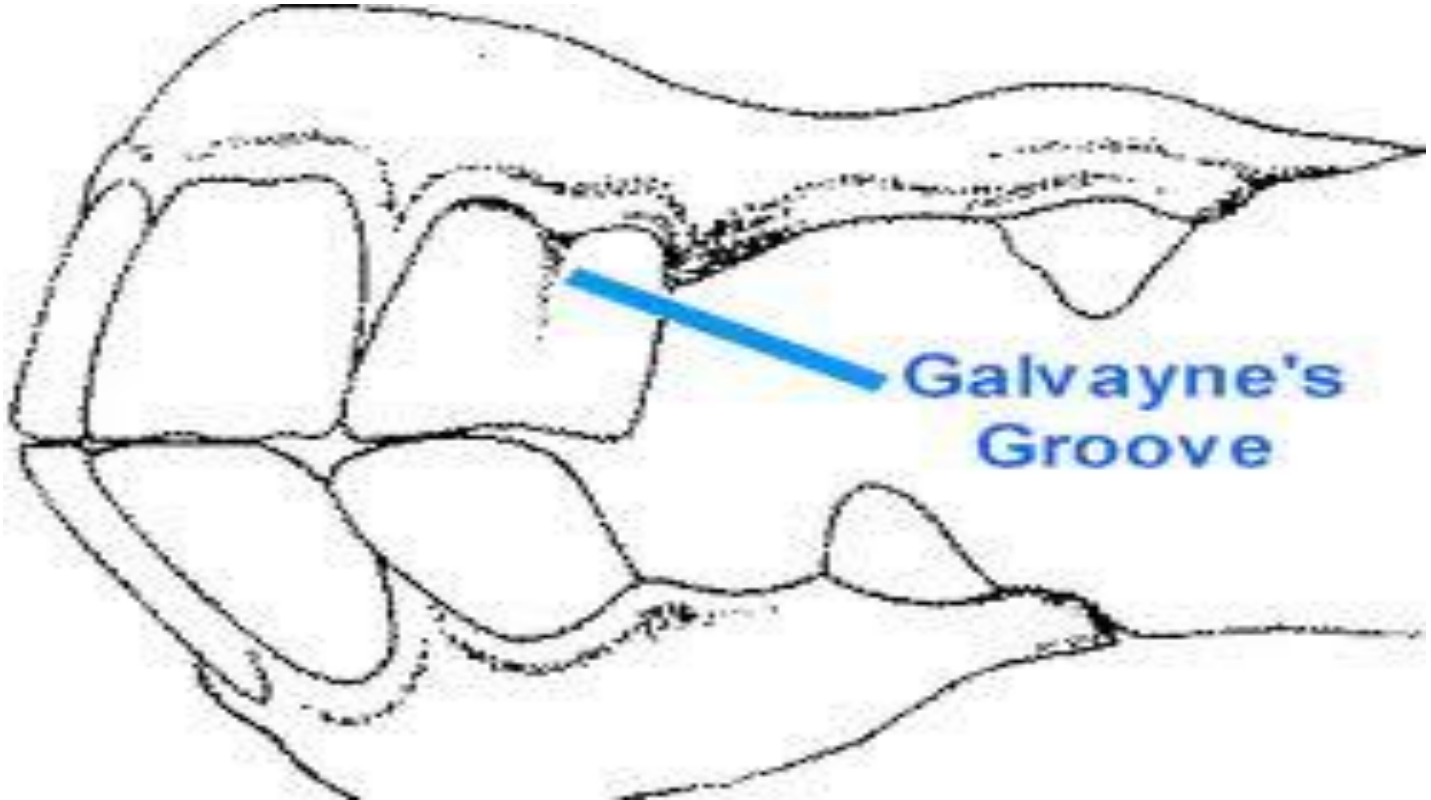
- It appears in upper corner incisor
- Appear at 7 Y then disappear at 8 Y then appear again at 13 Y then disappear at 14Y

Hook



Galvayne's Groove

- The Galvayne's groove occurs on the upper corner incisor




Galvayne's Groove

- It generally first appears at age 10 from gum , reaches halfway down the tooth by age 15, and is completely down the tooth at age 20. It then begins to disappear, usually half-way gone by age 25, and completely gone by age 30.

Galvayne's Groove

Starts down from gum at 10 years

Halfway down at 15 years

Full length at 20 years

Begins to recede from gum line at 20 years

Halfway gone at 25 years

Completely gone at 30 years

15 Y

17 -18 Y

Age 7

Age 8

Age 9

Age 10

Age 12

Age 15

Age 20

Age 29