Veterinary Bioscience: Digestive System

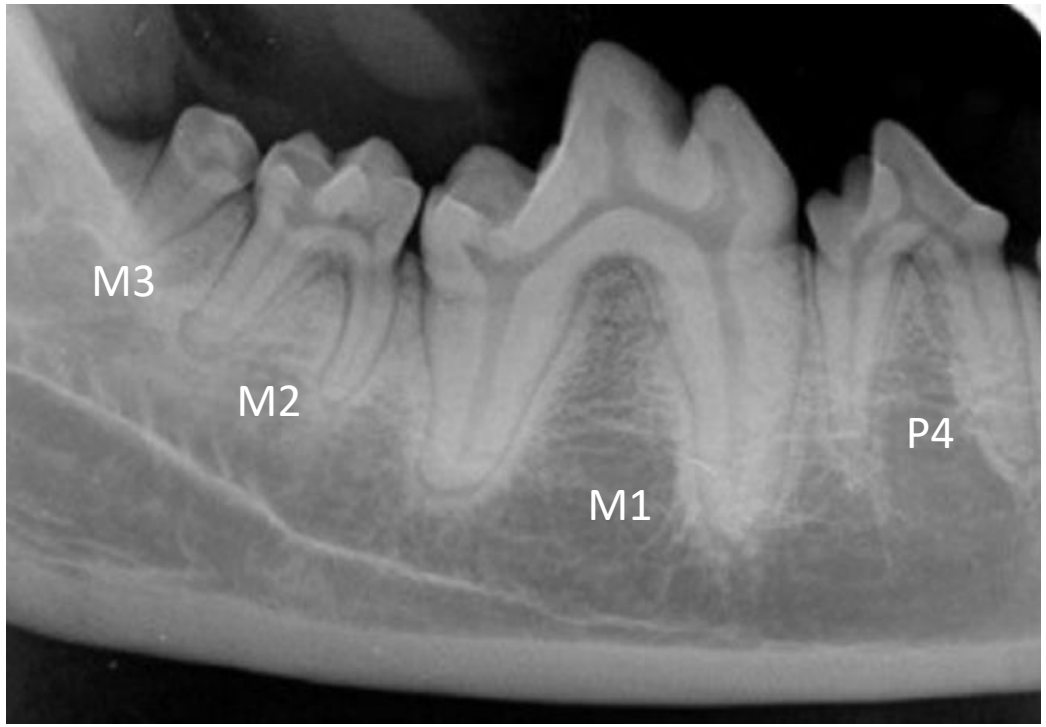
VETS30016/VETS90120

THE UNIVERSITY OF MELBOURNE

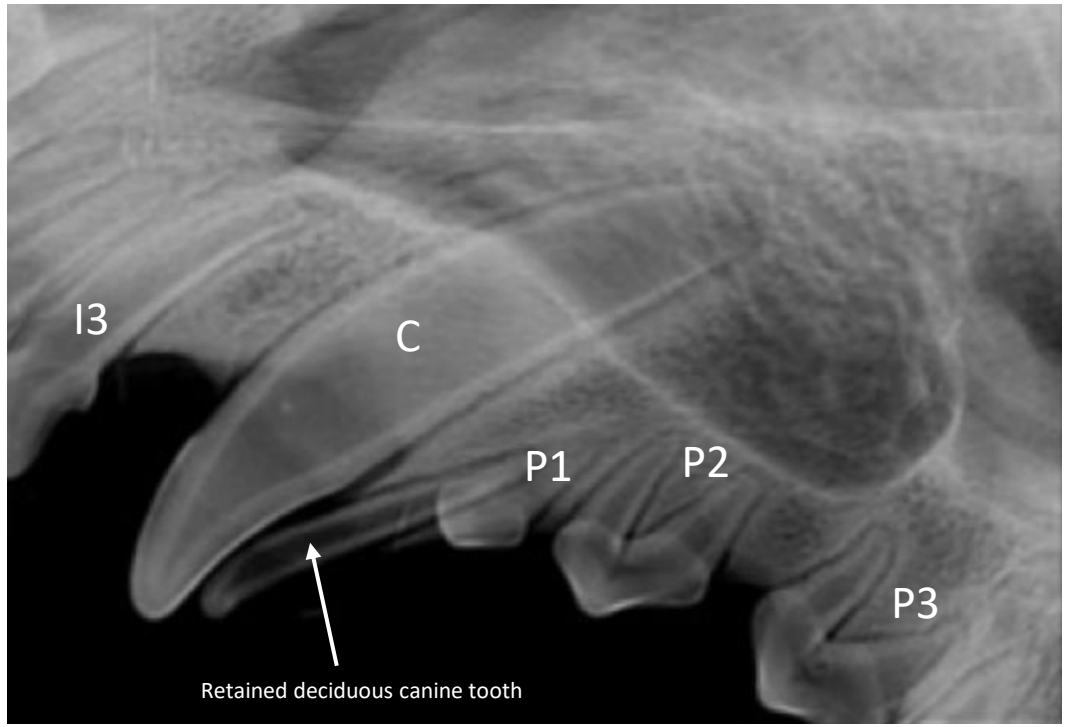
Practical 2: Dental wet lab
Supplementary images

Dental radiography

Commonly used in small animal clinical practice to evaluate the health of tooth roots and surrounding alveolar bone.
The canine radiographs below are to illustrate anatomical relationships. You are not expected to be able to interpret radiographic images for assessment purposes.



Lateral mandibular projection showing P4, M1 (carnassial), M2, M3.



Oblique maxillary projection projection showing I3, C, P1, P2, P3.

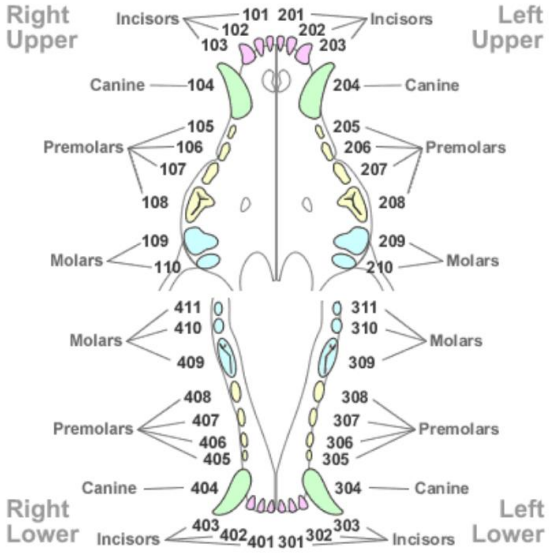
Note the retained deciduous canine tooth, which will need to be extracted to prevent malalignment/malocclusion of the permanent canine tooth from developing.

Images: IMV Imaging

<u>Canine</u> dental radiographs from the American Veterinary Dental College

For illustration of anatomical relationships only. Note the relative depths, and number of roots for each tooth. You are not expected to be able to interpret radiographic images.

Note that Triadan system for numbering teeth is used in the radiographic images. See the image below for further explanation. This is for reference only, you do not need to be familiar with this numbering system, but have a think about which teeth correspond to the various numbers (e.g. 103 = upper right third incisor [I3]; or 309 = lower left first molar [M1]/carnassial tooth).



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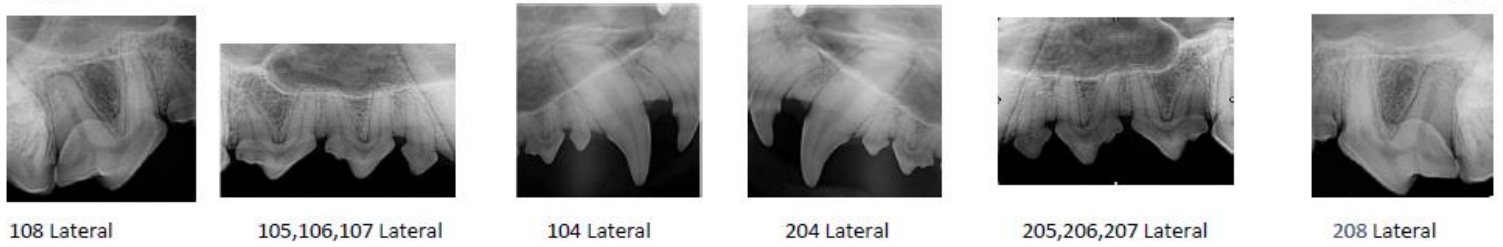
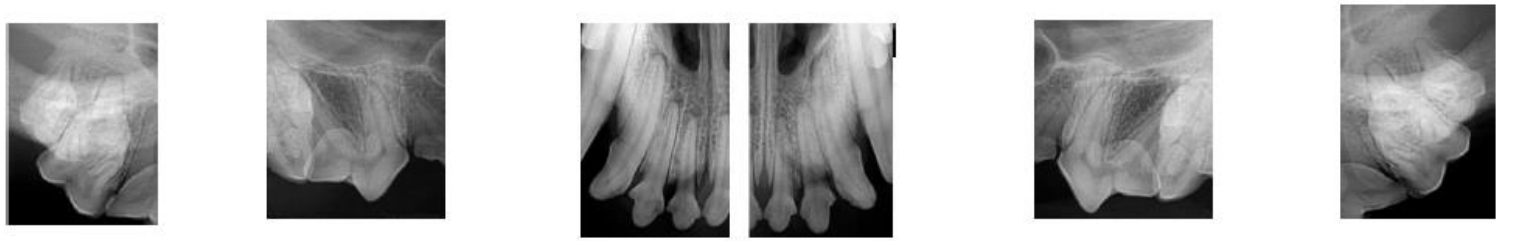
Canine Full-Mouth Radiographic Sample Series
Signalment, Mixed-breed, intact male, estimated 2 years old

Right

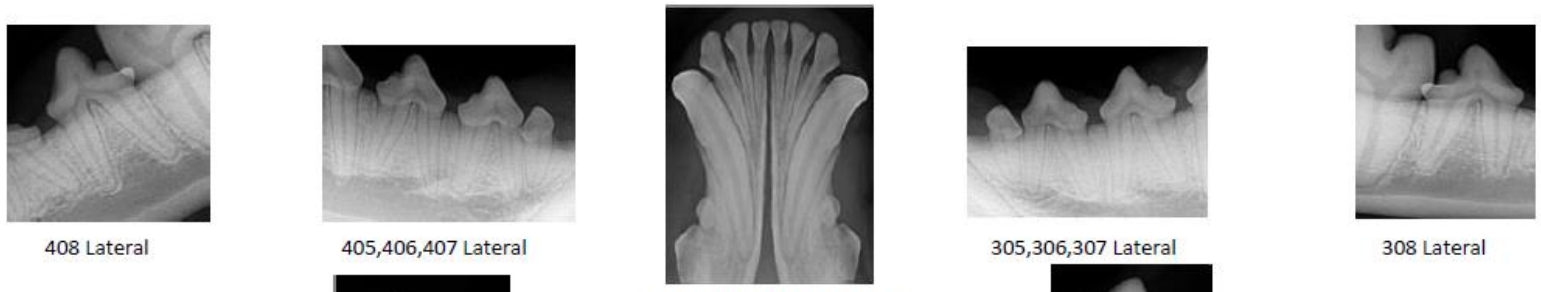
Left



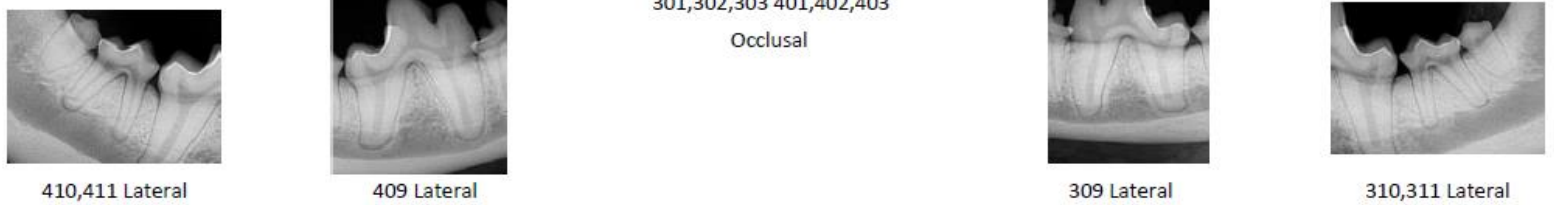
108 Lateral | 105,106,107 Lateral | 104 Lateral | 204 Lateral | 205,206,207 Lateral | 208 Lateral



109, 110 Lateral | 108 Oblique root separation | 101,102,103 Occlusal | 201,202,203 Occlusal | 208 Oblique root separation | 209,210 Lateral



408 Lateral | 405,406,407 Lateral | 301,302,303 401,402,403 Occlusal | 305,306,307 Lateral | 308 Lateral

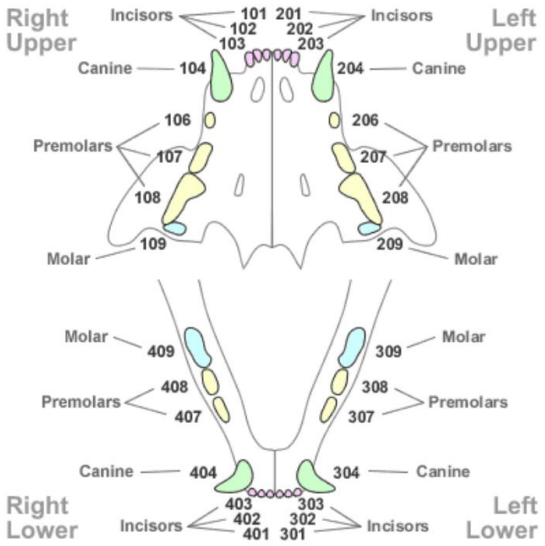


410,411 Lateral | 409 Lateral | 309 Lateral | 310,311 Lateral

<u>Feline</u> dental radiographs from the American Veterinary Dental College

For illustration of anatomical relationships only. Note the relative depths, and number of roots for each tooth. You are not expected to be able to interpret radiographic images.

Note that Triadan system for numbering teeth is used. See the image below for further explanation. This is for reference only, you do not need to memorise this numbering system, but have a think about which teeth correspond to the various numbers (e.g. 103 = upper right third incisor [I3]; or 309 = lower left first molar [M1]/carnassial tooth).



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Feline Full Mouth Radiograph Set

Cadaver, Domestic Short Hair -Unknown Age, Sex, and Origin

1/14/19

Right

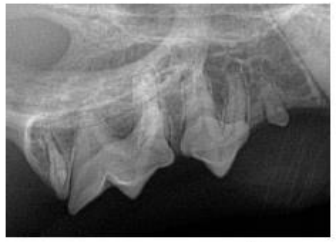
104 Lateral

101, 102, 103, 201, 202, 203
Occlusal

Left

204 Lateral

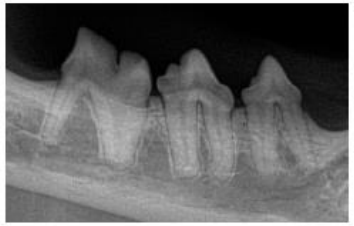
108 Extra-oral Oblique
mesial root separation



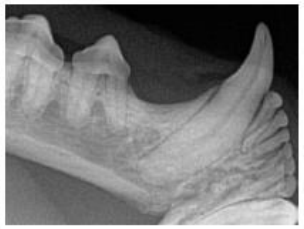
106, 107, 108, 109 Lateral

206, 207, 208, 209 Lateral

208 Extra-oral Oblique
mesial root separation



407, 408, 409 Lateral



404 Lateral

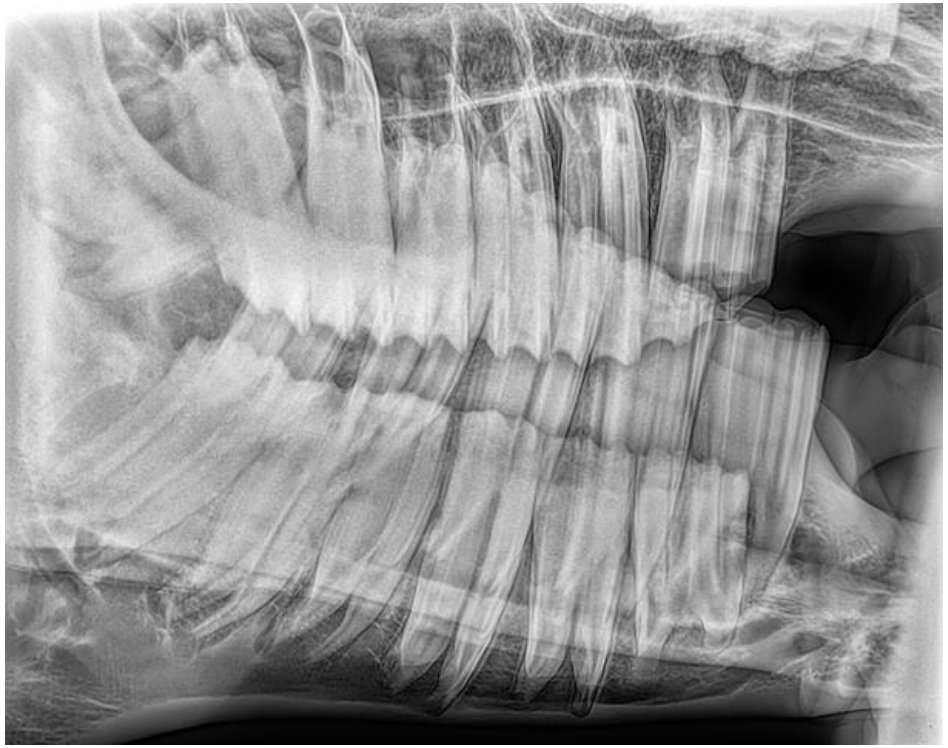
401, 402, 403, 404, 301, 302, 303, 304
Occlusal

304 Lateral

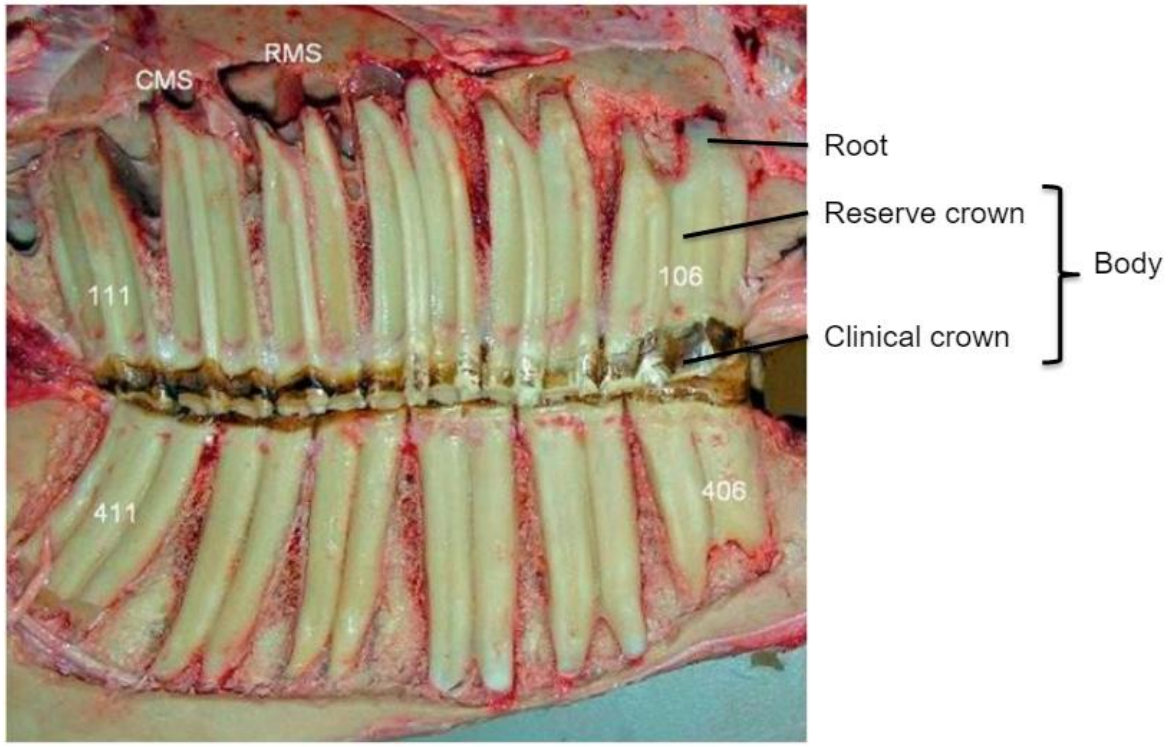
307, 308, 309 Lateral

Equine dental radiograph

Oblique lateral radiograph highlighting extent of cheek teeth.
Note overlap of teeth from left and right sides



Anatomic dissection for comparison (slide from C. Murray, Lecture 2)



Skull of horse with lateral bone of maxilla and mandible removed to expose the cheek teeth

(Easley, Dixon and Schumacher, fig 5.35 p69)

Puppy dentition

Canine deciduous dental formula:

$$\frac{3\ 1\ 3\ 0}{3\ 1\ 3\ 0}$$

Retained deciduous teeth can cause problems with proper eruption and alignment of permanent teeth, causing malocclusion. This puppy has retained deciduous canine teeth. What age would you expect permanent canine teeth to erupt? (Hint: use the chart in the notes for Lecture 3).

NB: Discussion of eruption times are for information/interest only and are not examinable in this subject.

Use the aging chart provided in the notes for Lecture 3 to estimate the age of this puppy.

Answers on next slide, so have a go first!

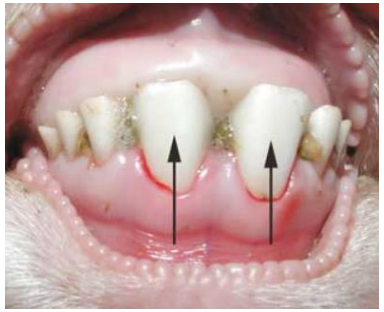
Use the aging chart provided in the notes for Lecture 3 to estimate the age of this puppy.

Permanent I1 & I2 have fully erupted.
Permanent I3 has erupted but crown not completely visible.
Deciduous canines are still present.

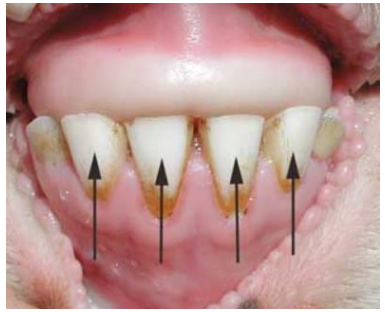
Puppy estimated to be 5 months of age.

Ageing sheep and goats

Courtesy of Infovets.com



Dentition of a yearling sheep. Two incisors are permanent (black arrows).



Dentition of a 2 year old sheep. Four incisors are permanent (black arrows).

Dentition of a 4 year old sheep or "full mouth." All incisors are permanent.

Dentition of a 6-8 year old sheep. Notice the wide spacing between the teeth.

Dentition of an extremely aged sheep (from 8-12 years of age), frequently referred to as a "broken mouth." Notice how this ewe has severely worn or missing teeth, with receding gum lines.

Eruption times:

	Deciduous	Permanent
Incisor 1	0-1 wk	1 -1.5 yr (two tooth)
Incisor 2	1-2 wk	1.5-2 yr(four tooth)
Incisor 3	2-3 wk	2-3 yr(six tooth)
Canine/Incisor 4	3-4 wk	2.5-4yr (full mouth)
Premolar 1		
Premolar 2	0-4 wk	1.5-2 yr
Premolar 3	0-4 wk	1.5-2 yr
Premolar 4	0-4 wk	1.5-2 yr
Molar 1		3-6 mo
Molar 2		9-12 mo
Molar 3		1.5-2 yr

C. Murray, Lecture 3 notes

Use the aging chart provided in the notes for Lecture 3 to estimate the age of these sheep.

Answers on next slide, so have a go first!

Use the aging chart provided in the notes for Lecture 3 to estimate the age of these sheep.

This sheep has two permanent incisors (I1) that are in wear ('two tooth'), which would place this sheep at 12-18 months of age.

This sheep has one erupted permanent incisor (I1) that is not yet in wear, which would place it around 12 months of age.

In Australia, the definition of 'lamb' has traditionally been sheep with no erupted permanent incisors. Recently, the definition has changed to include *'young sheep under 12 months of age or which do not have any permanent incisor teeth in wear'*. So based on this definition, the sheep on the right would be a 'lamb' (more valuable), while the sheep on the left would be a 'hogget' (less valuable).