Vermont Veterinary Medical Association

2025
Winter CE Conference

February 1 and 2

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Garden State Equine Dentistry

Dental Pathology on the Farm

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Something doesn't look right, now what: Approaches to common dental pathology

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PennVet New Bolton Center
University of Pennsylvania

GARDEN STATE EQUINE
VETERINARY DENTISTRY
A more comfortable horse today, a healthier horse tomorrow.

1

Diagnostics

- With a 5 point oral exam and dental radiographs the practitioner will note dental pathology
- Most problems can be successfully managed on the farm
- Common problems:
  - Class 1 malocclusions
  - Periodontal disease
  - Pulp horn defects
  - Infundibular caries
  - Fractured teeth
  - Very simple cheek tooth extractions

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Class 1 Malocclusions

- Focal malocclusions: Individual teeth with malocclusions and a normal maxilla and mandible length relationship.
- **Over-long teeth**
- Buccoversion
- Distoversion
- Labioversion
- Linguoversion
- Mesioversion
- Palatoversion

https://www.avdc.org/Nomenclature/Nomen-Occlusion.html

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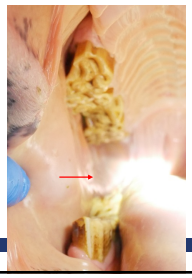
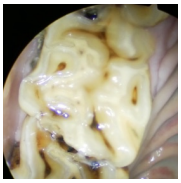
Class 1 Malocclusions

- When an over-long tooth is noted, carefully examine the opposing arcade
  - Usually the pathology causing the malocclusion is in the opposing arcade
    - Infundibular disease, absent, fractured, or dysplastic tooth
  - Supernumerary teeth





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Class 1 Malocclusions

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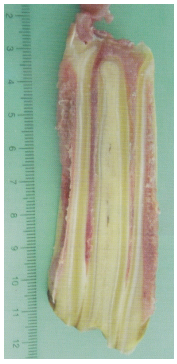
Class 1 Malocclusions



Common pulp chamber

Pulp horns

Secondary dentin- unstained

Secondary dentin- stained

Easley J, Dixon PM, Schumacher J. *Equine Dentistry.* 3rd ed. Saunders; 2011

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Class 1 Malocclusions


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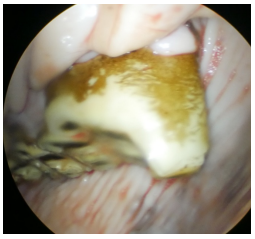
Class 1 Malocclusions

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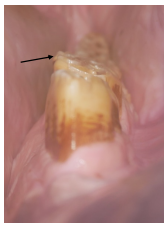
Class 1 Malocclusions

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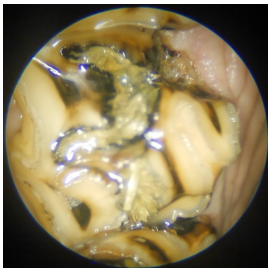
Class 1 Malocclusions



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Periodontal disease

- **Primary**
- **Secondary**
- **Senile**
  - Check for PPID

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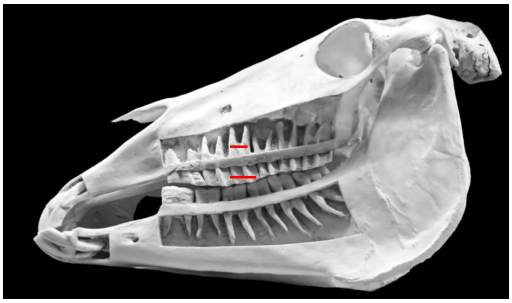
Periodontal disease



https://www.pictorem.com/705783/Horse%20Skull%20Showing%20Embedded%20Teeth.html

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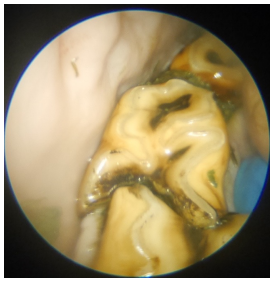
Periodontal disease



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Periodontal disease

- Stage 0: Normal
- Stage 1: Gingivitis
- Stage 2: Early periodontal disease, up to 25% attachment loss
- Stage 3: Moderate periodontal disease, 25 – 50% attachment loss
- Stage 4: Severe periodontal disease, >50% attachment loss, extraction required

https://www.avdc.org/Nomenclature/Nomen-Perio.html#periostages

- Normal gingival pocket depth 0.5 – 12 mm

Easley J, Dixon PM, Schumacher J. *Equine Dentistry.* 3rd ed. Saunders; 2011.

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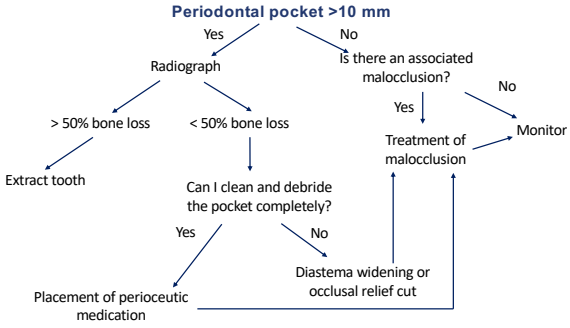
Periodontal disease



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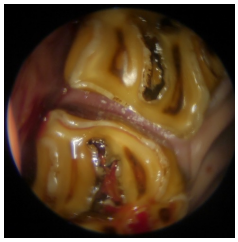
Periodontal disease



Step 1- Clean out feed material to adequately measure pocket depth

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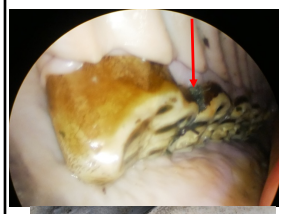
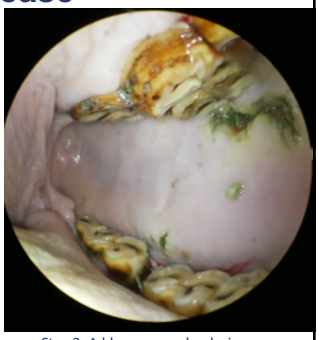
Periodontal disease





Step 2- Address any malocclusions

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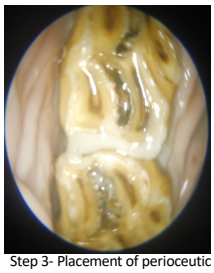
Periodontal disease



Step 3- Placement of perioceutic medications or widening

- Dilute chlorhexidine rinses 2 – 3 x week can be a supplemental treatment

Ringeisen H, Poschke A, Krahling B, et al. Influence of dental materials on cells of the equine periodontium. *Equine Vet. J.* (2018) 50 363-369.

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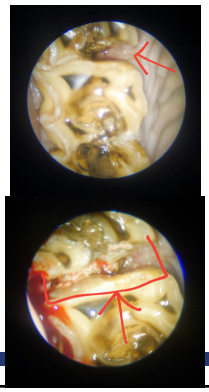
Periodontal disease

- Occlusal relief cut
- Diastema widening



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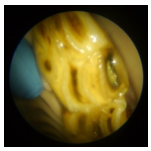
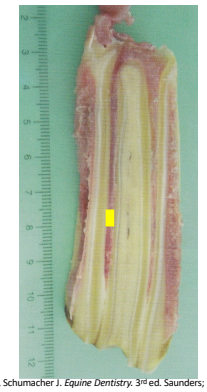
Pulp horn defects

- Pulp horn defects due to prior pulpar damage that stopped the formation of secondary dentin
- Continued attrition -> exposure of pulp horn defects
  - Can still be dentinal bridge further apically
- **If >1 pulp horn defect in one tooth, recommend radiographs**





Easley J, Dixon PM, Schumacher J. *Equine Dentistry.* 3rd ed. Saunders; 2011

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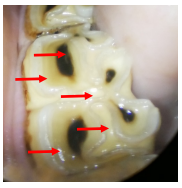
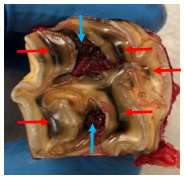
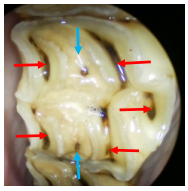
Pulp horn defects

- Pulp exposure
- Abnormal color
  - Normal is dark brown to tan
- Abnormal shape
- Abnormal size
- Must be able to distinguish from infundibular caries







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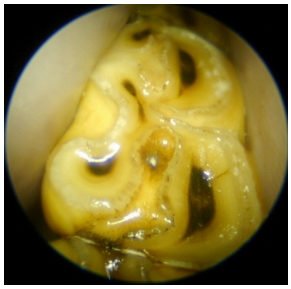
Pulp horn defects

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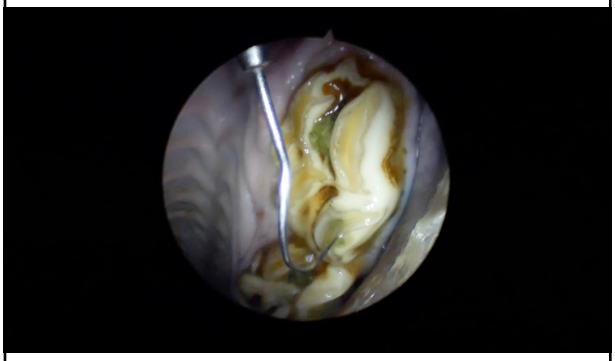

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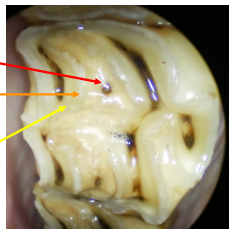
Infundibular caries

- Grade 1: Cementum only
- Grade 2: Cementum and enamel
- Grade 3: Cementum, enamel and dentin
- Grade 4: Integrity of tooth compromised, apical abscess or tooth fracture present.



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Borkent D et al. Epidemiological study on equine cheek tooth infundibular caries in the UK. *Vet Record*. 2017. 181, 235

Dixon PM et al. Critical evaluation of ex vivo restoration of carious equine maxillary cheek teeth infundibulae following high pressure gas and microparticle abrasion. *Vet J.* June 2003: 368-74

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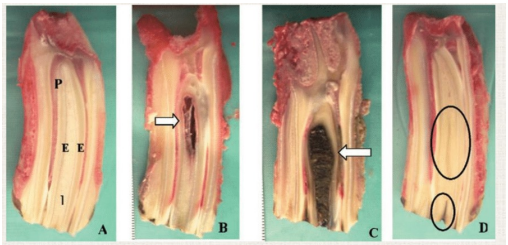
Infundibular caries



Fitzgibbon CM et al, Equine Veterinary Journal 2010

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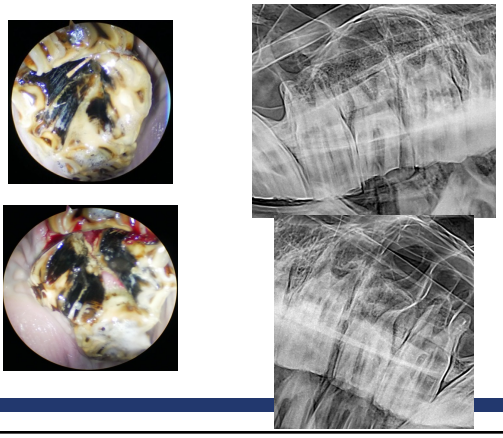

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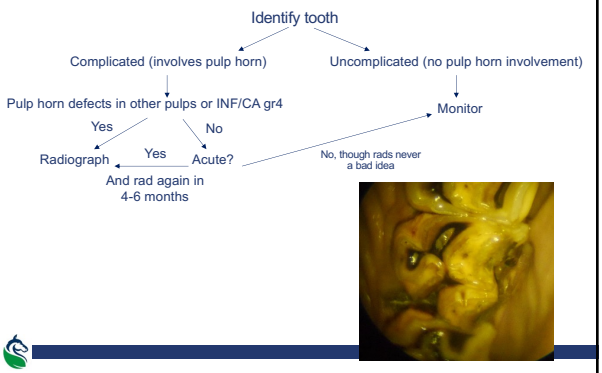
Fractured teeth



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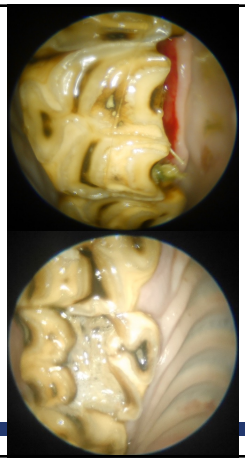
Fractured teeth



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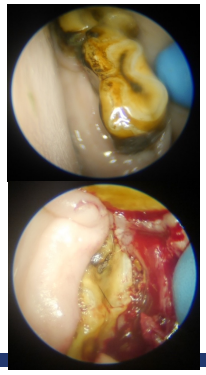
Fractured teeth



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Fissure fractures

frontiers in Veterinary Science

ORIGINAL RESEARCH
published: 17 November 2020
doi: 10.3389/fvets.2020.604430

Occlusal Fissures in Equine Cheek Teeth: A Prospective Longitudinal *in vivo* Study

*Elke Pollaris[1], Bart J.G. Broeckx[2] and Lieven Vlaminck[1]**

Conclusions: The presence of a fissure of any type, mandibular cheek teeth, the lingual side of cheek teeth, and time of follow-up proved to be significant risk factors for development of a cheek tooth crown fracture. Type 2 fissures showed the highest odds followed by type 1b fissures. The observed partial crown fractures demonstrated a low clinical impact whereby no tooth showed signs of development of endodontal disease.

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Tooth extraction

Indications for tooth extraction

- Periodontal disease (stage 4- greater than 50% bone loss)
- Peri-apical abscess or pathology
- Tooth fracture
- Non-vital tooth
- Tooth avulsion
- Malocclusion
- Supernumerary tooth

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Cheek tooth extraction

- Exam, diagnostic imaging, owner consent
- Sedation plan, regional and local anesthesia
- Gingival elevation
- Cheek tooth spreaders
- Cheek tooth forceps
- Fulcrum
- Post extraction radiographs
- Obturator

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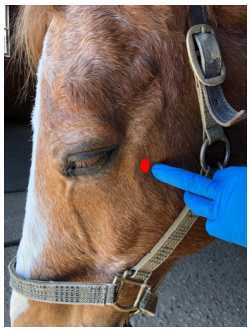
Maxillary Nerve Block

- 1-2 cm below the facial crest, at the level the it curves medially
- Sterile prep
- Will feel several small "pops"/ changes in resistance then one larger "pop"
  - Usually at about 60mm depth
- Advance 1 cm and infuse 20 ml local anesthetic
- Wait 15 minutes (or more)
- Apply eye lubricant



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Inferior Alveolar Nerve Block

- Landmarks are a line parallel to the mandibular cheek teeth occlusal surface intersecting with a line from ventral mandible were the facial vein is to the lateral canthus of the eye
- 20 g 6" spinal or nerve stimulator needle
- 10-20 ml local anesthetic
- Advance needle along medial aspect of the mandible

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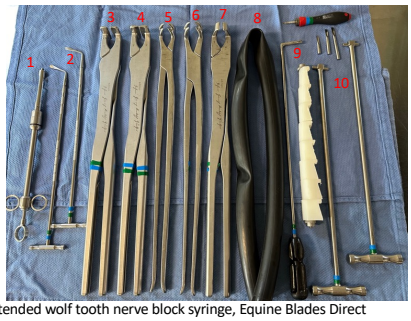
Cheek tooth extraction



1: Extended wolf tooth nerve block syringe, Equine Blades Direct
2: Gingival elevators, Veterinary Dental Products
3 & 4: Pegasos molar spreader 1 and 2, Horse Dental Equipment
5 & 6: Four prong forceps pony and horse, Veterinary Dental Products

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Cheek tooth extraction

7: Pegasos molar forcep 1, Horse Dental Equipment
8: Bicycle inner tube tire, Your favorite sporting good store
9: Fulcrum with 8 nylon angled heads, Equine Blades Direct
10: Pegasos dental pick set, 0 & 8 degree T handle, screwdriver and wide 5 mm luxator set, Horse Dental Equipment

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COME EXTRACT A TOOTH WITH US!

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Questions?

My contact info:
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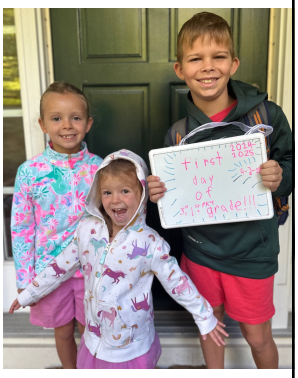

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