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TriDent
CONFERENCE

Diagnosis and treatment of Periodontal Disease

Neil Townsend MSc BVSc Cert ES (Soft Tissue) DipECVS DipEVDC (Equine) FRCVS

EBVS EUROPEAN BOARD OF VETERINARY SPECIALISATION

EVDC EUROPEAN VETERINARY DENTAL COLLEGE

ECVS SPECIALIST SURGEON

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Introduction





- Diastema and periodontal disease is common
- Examination and diagnosis
- Initial treatment
- Further options

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Clinical Signs



- Most common signs
  - Quidding
  - Halitosis
- Sometimes none!
- Potential sequalae
  - Fistulae (sinus/nasal/ cutaneous
  - Osteomyelitis

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Diastemata

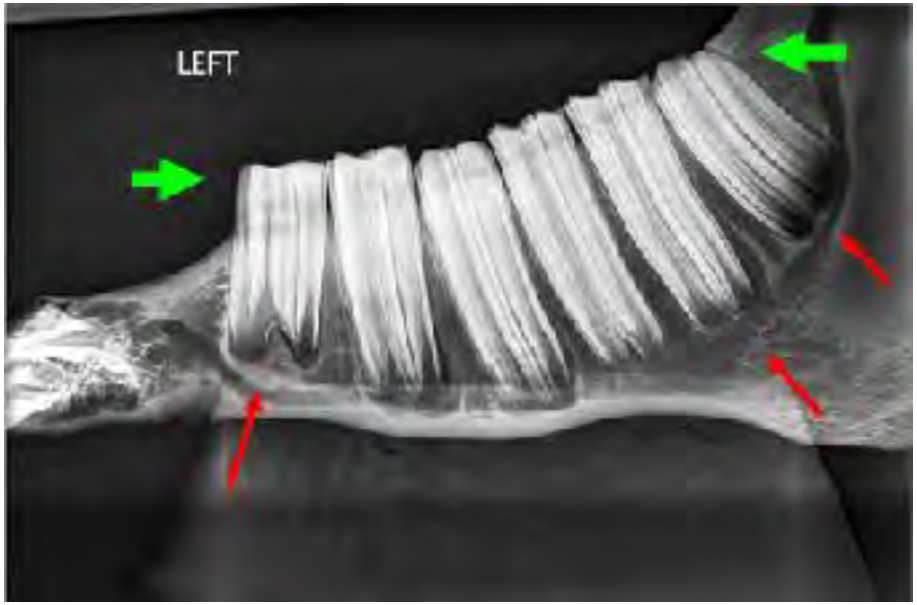




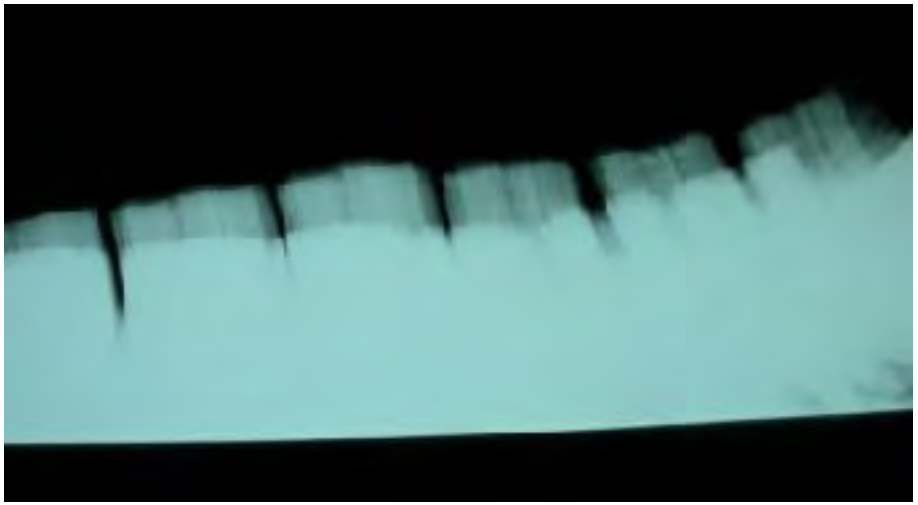
- Diastema refers to a gap between teeth
  - Pathological
  - Cheek teeth only
- Predominantly mandibular
  - 09s/10s
  - 10s/11s
- Small proportion maxillary
  - 06s/07s

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Classification



- Primary
  - Dental buds develop too far apart
  - Insufficient angulation of the 06s/10s/11s



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Classification





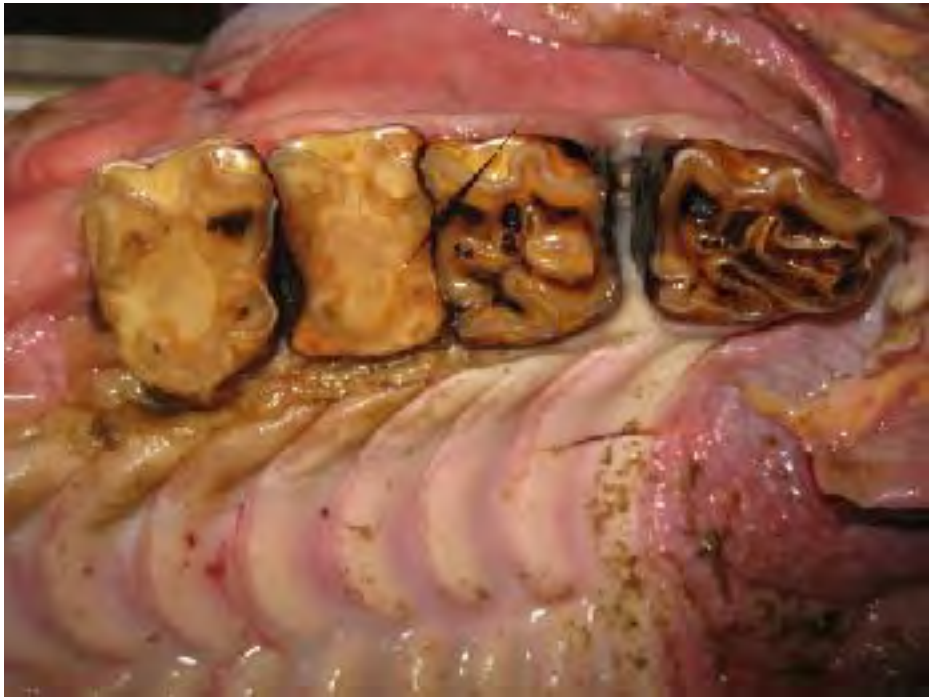
- Secondary
  - Displaced teeth
  - Supernummery cheek teeth



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Classification

- Senile
  - Due to tapering of cheek teeth
  - Loss of rostro-caudal compression





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Classification

- Open or Valve





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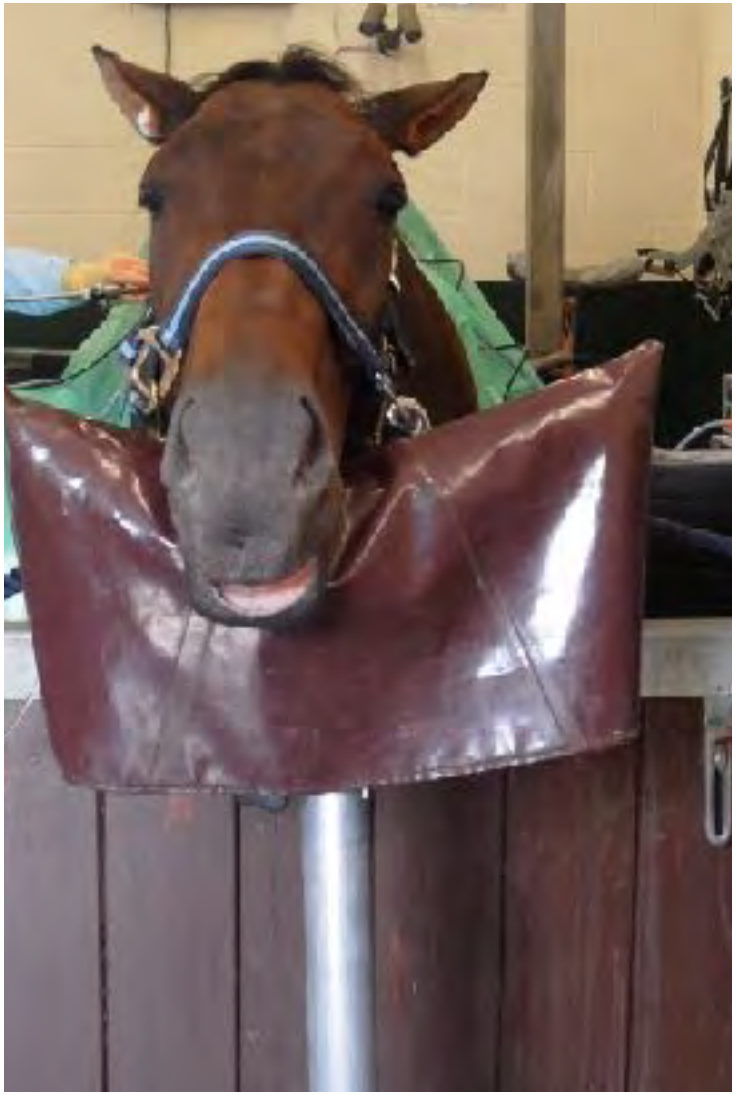
Extra-oral examination



- Observe
  - Horse eating
  - Facial symmetry
  - Muscle atrophy
- Palpate
  - TMJs
  - Mandibles

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Oral examination



- Definitely sedated
  - Alpha 2 + butorphanol/ morphine
  - Pain relief (systemic/topical)
  - Diazepam?
- Minimum Equipment
  - Mirror
  - Lightsource
  - Diastema flusher
  - Diastema forceps
  - Periodontal probe

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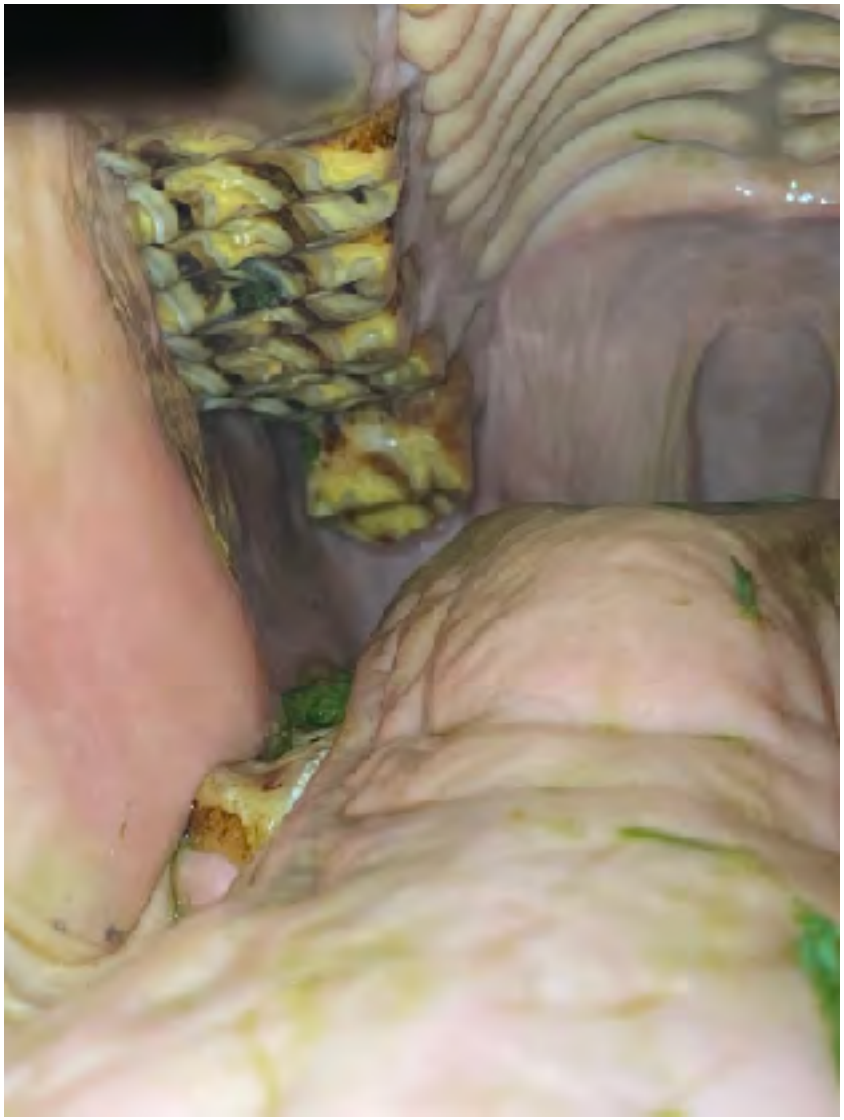
Oral examination



- Preferably
  - Oral endoscopy
- Aims
  - General state of dentition (quality of previous odontoplasty)
  - Examine every tooth and interdental space
  - Palpate every tooth

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Oral examination









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Oral examination



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Oral examination













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Oral examination



- Check for loosening of teeth
  - Often can use a pick on occlusal surface
  - Digital
  - Younger horses may require forceps

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Cleaning diastema









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Diastema cleaning





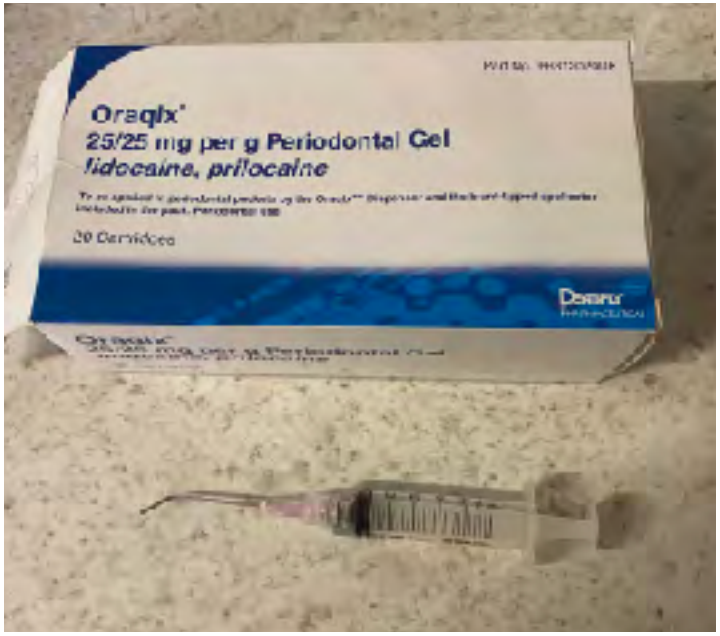


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Soft tissue damage







- Usually from nozzle of diastema pump
  - Check how sharp end is
- Adequate sedation
- Adequate analgesia
  - Systemic
  - Topical
  - Nerve blocks

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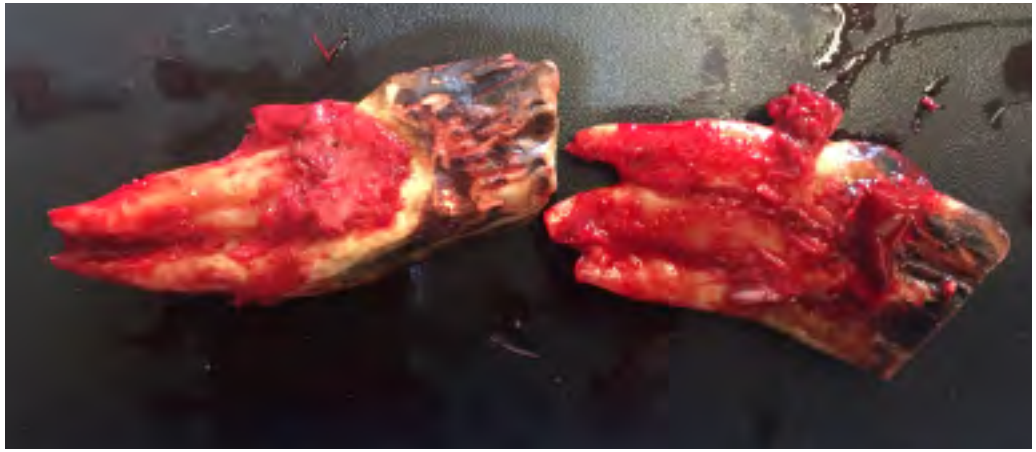
Should we be packing diastema?





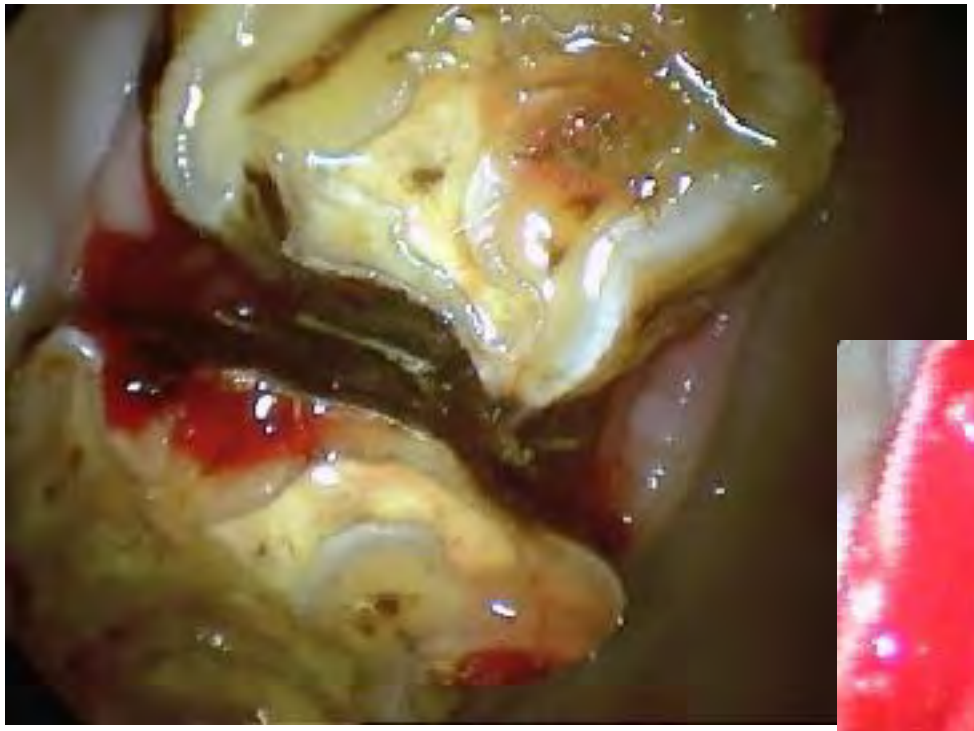
- Have we got it clean enough?

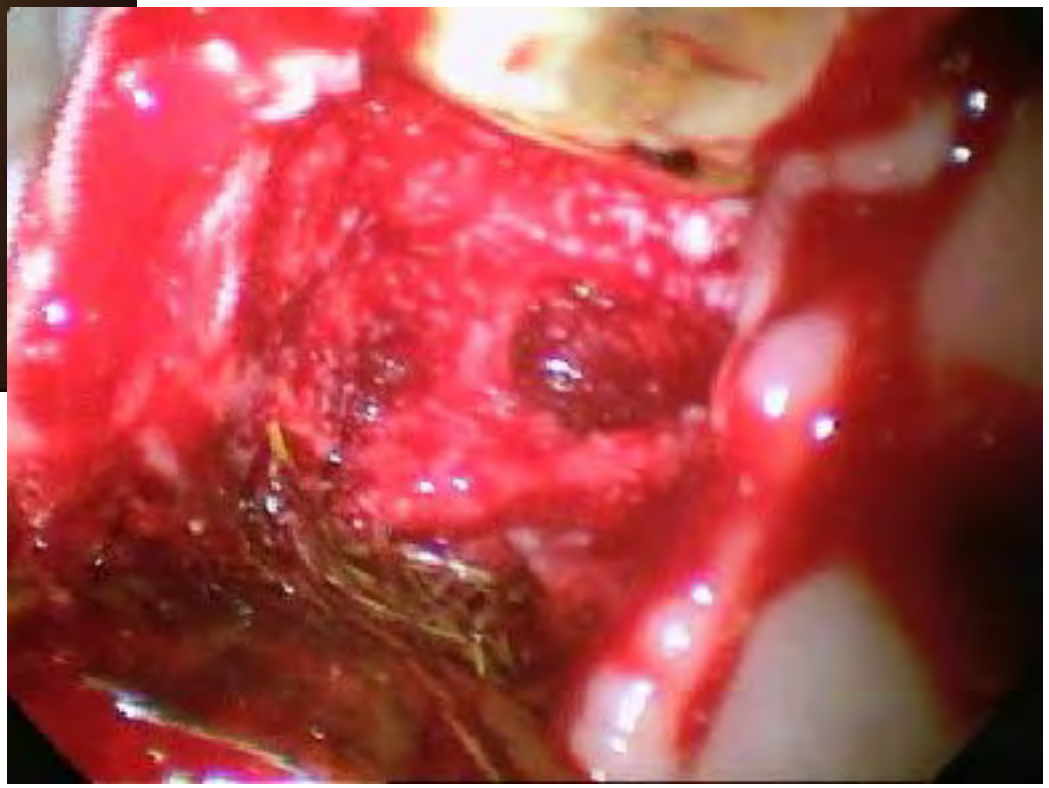




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Clean enough?





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Clean Enough?





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Diastema Packing



- What to use?

- Vinyl polysiloxane
  - Gun mixed
  - Hand mixed





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Packing Materials

Influence of dental materials on cells of the equine periodontium

H. RINGEISEN[†]* ✉, A. PÖSCHKE[†], B. KRÄHLING[†], C. SCHRÖCK[†], M. STOLL[‡], J. VOGELSBERG[†], K. FAILING[§] and C. STASZYK[†]

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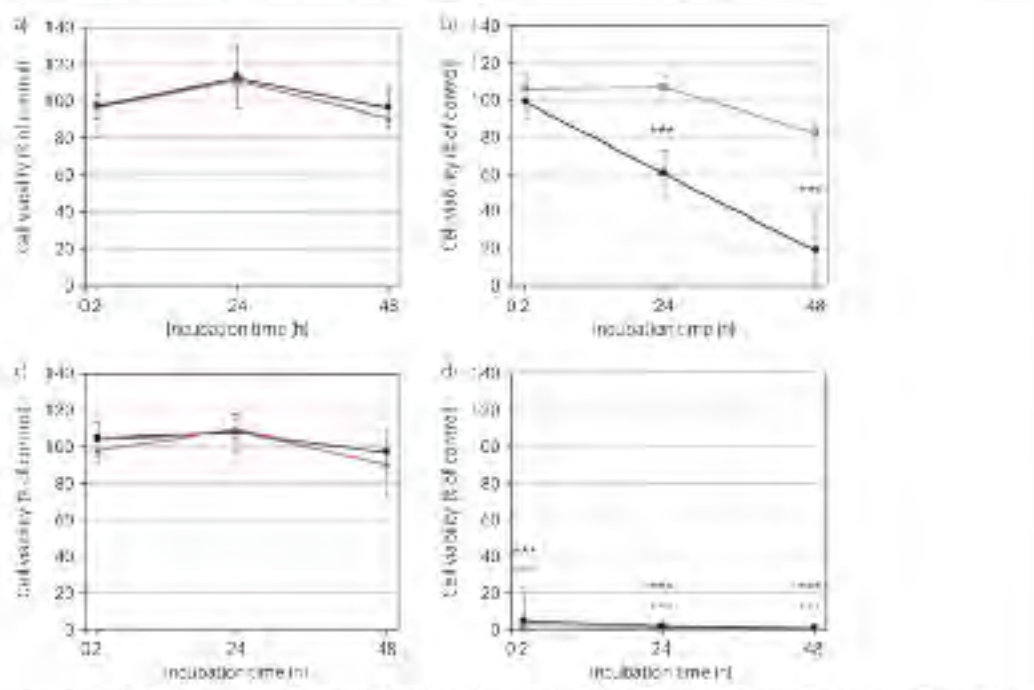


Fig 3. Effect of the [illegible] a), Floxcal® a), Hemgum a) and Calxyl® a) eluates on EPF, as assessed by MTT assay. For each substance, two different eluate concentrations were tested: black = standard concentration (1.25 g/ml), red = double concentration (2.5 g/ml), blue = half concentration (0.625 g/ml). The mean values and standard deviation a), b), c) or geometric mean and geometric standard deviation d) are presented. ***Denotes a significant difference to the control with $P \leq 0.001$.

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Diastema Packing



iM3 Airgid Large

- Blood clot is the best packing material
- Use degradable materials
- Follow-up

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Diastema Packing





- Resins?
  - NOT IN PERIODONTAL POCKET!
  - Potential for bridging between teeth
  - Need to manage the pocket first



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Odontoplasty in management of diastema and periodontal disease







- Prevention is better than cure
- In human treatment home care regimes are more effective than surgical intervention
- Good quality odonotoplasty prevents periodontal disease

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Odontoplasty



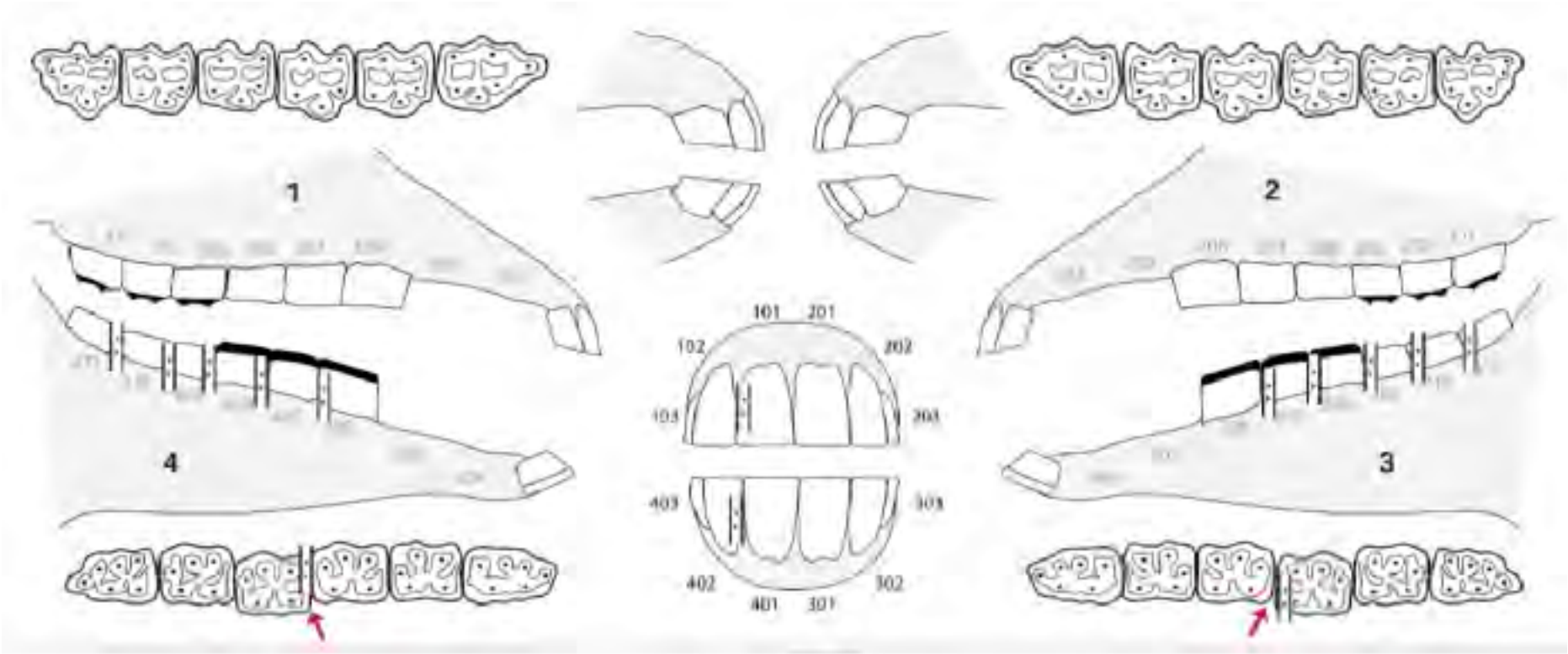


- Good quality required
- Removal of SEPs
- Removal of focal overgrowths
  - ETRs
  - Mesial 06s
  - Distal 11s

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Odontoplasty

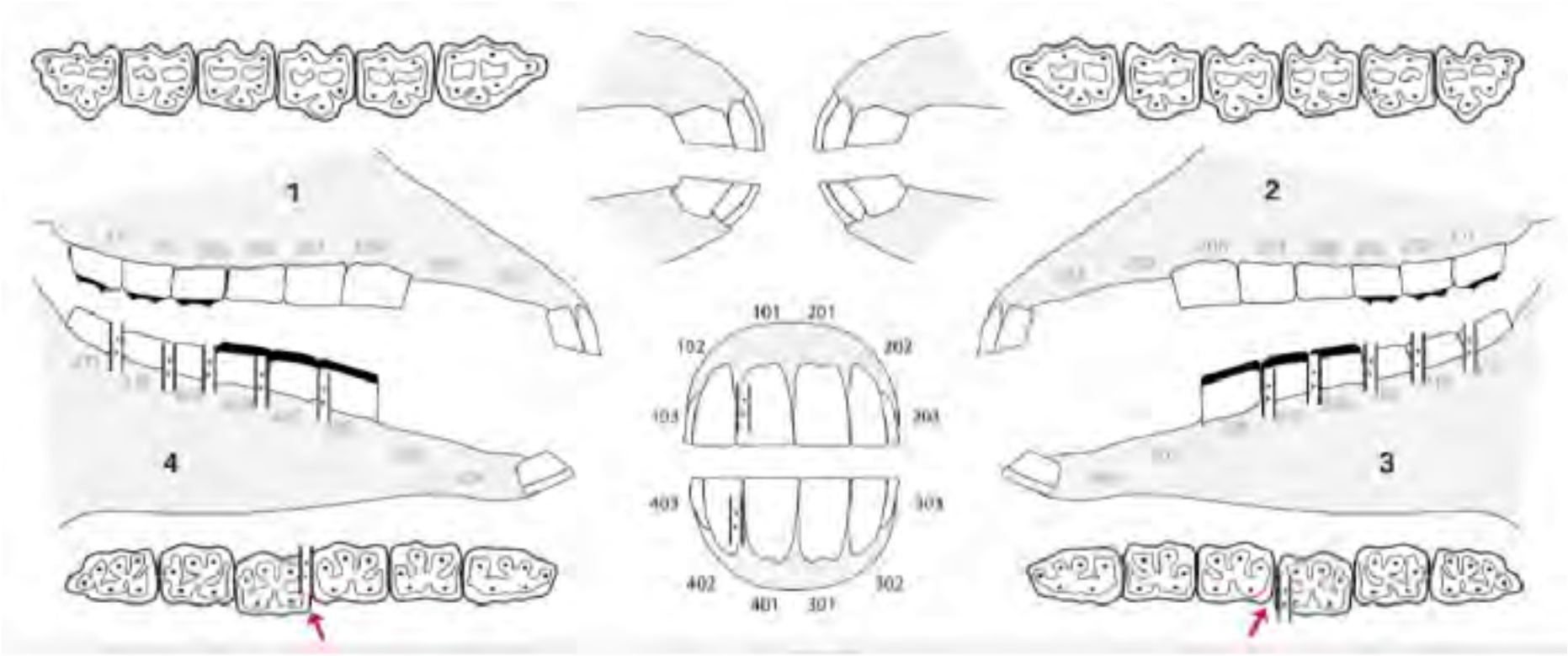
- Removal of displaced edges to cheek teeth
- Rasping of peripheral cemental caries lesions



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Odontoplasty (2)

- Removal of ETRs
- Reduction of dominant teeth



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Odontoplasty (3)



- Reduction of dominant teeth
- Usually the caudal tooth
- 06s, SNCT

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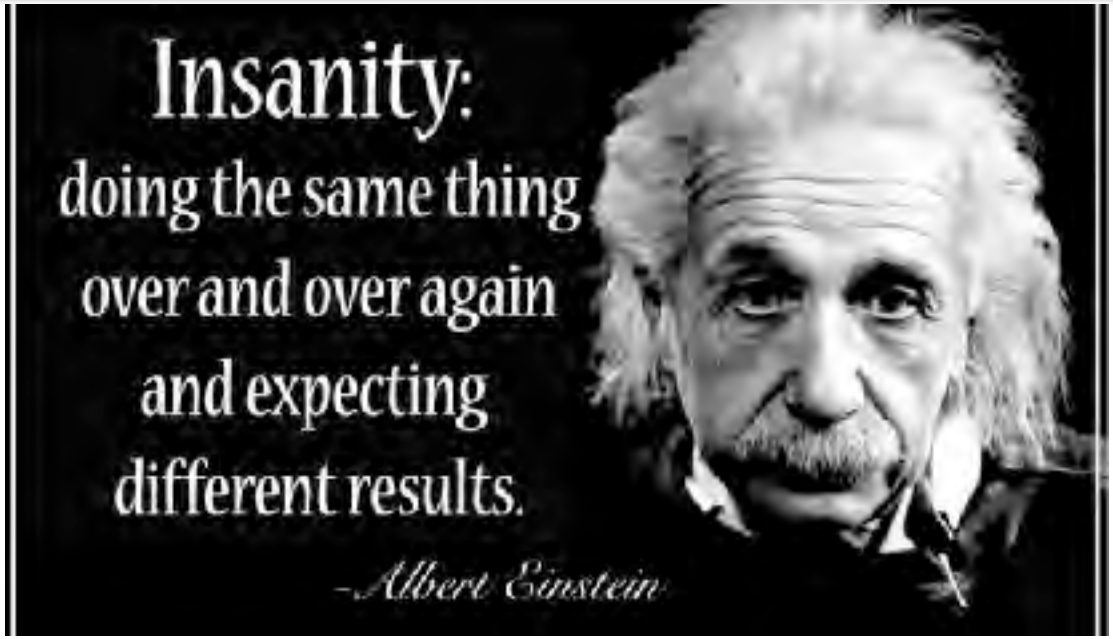
Follow-up



- Unless very minor schedule a follow-up
  - Yard
  - Clinic
- Further treatments
  - Occlusal relief cuts
  - Diastema widening
  - Extraction

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Diastema Treatment

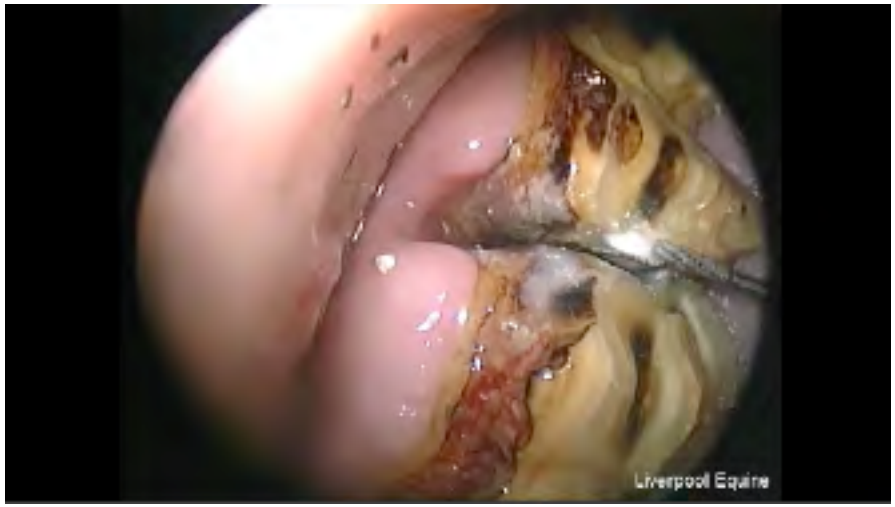


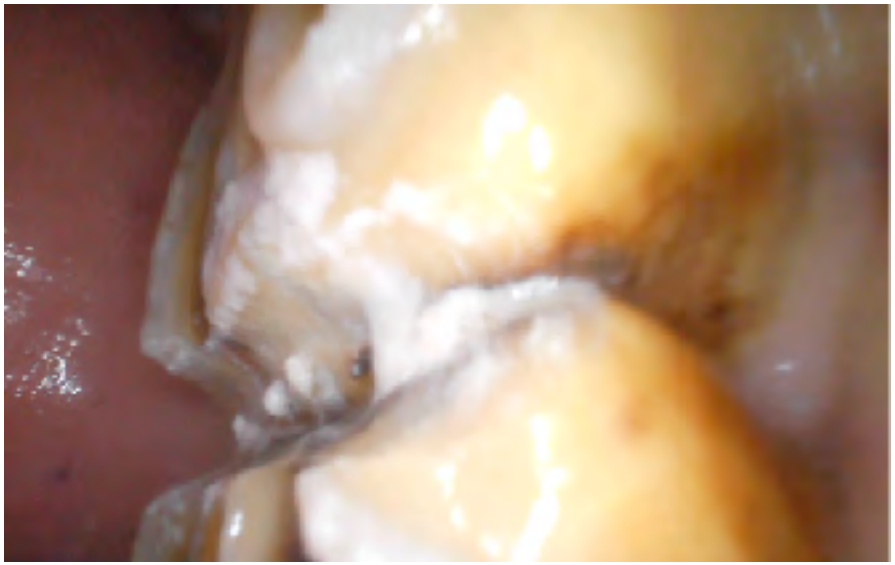
- Continual flushing with no improvement
  - Haven't found the cause

- 'Supervised neglect'!

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Other diastemata treatments





- Diastema widening
- Partial widening/ occlusal relief cuts
- Extraction

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Diastema widening

A long-term study on the clinical effects of mechanical widening of cheek teeth diastemata for treatment of periodontitis in 202 horses (2008–2011)

F. M. DIXON*, S. CEEN, T. BARNETT, J. M. O'LEARY, T. D. PARKIN† and S. BARAKZAI

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Summary

Reason for performing study: Cheek teeth diastemata are a common cause of painful periodontal disease in horses, but there is limited objective information on their treatment.
Objective: To assess the long-term response to diastema widening in clinically affected horses.
Study design: Retrospective study.
Method: Medical records from cases of cheek teeth diastemata treated by diastema widening referred to the University of Edinburgh Equine Hospital from 2008 to 2011 were analysed.
Results: During this period, 302 horses were diagnosed with clinically significant cheek teeth diastemata, of which 202, median age 11 years, with severe associated periodontitis were treated by widening of 674 problematic diastemata; 89.8% between mandibular cheek teeth and 10.2% between maxillary cheek teeth, with a mean of 1.5 treatments performed per case. These 202 cases showed quidding in 76.2%, weight loss in 33.2%, bitting problems in 20.1% and halitosis in 10.9%, with 5.4% being asymptomatic. Follow-up of 92% of treated cases, a mean of 20.8 months after their initial treatment, showed that 72.6% had complete resolution of clinical signs that was permanent (for 3 cases out of 10 this was only for 30.5% and temporary in 22%. A partial response was obtained in 17.2%, no response was obtained in 4.3%, and owners were unsure of response in 5.9%. Clinical improvement was sometimes delayed, with 19% taking >4 weeks following treatment for improvement. Inappropriate sites were burned in individual teeth of 4 horses, causing iatrogenic pulpar exposure in 3 cases, but following treatment none developed clinical signs of apical infection.
Conclusions: Diastema widening is an effective but potentially invasive treatment for horses with cheek teeth diastemata with severe periodontitis.
Potential relevance: Diastema widening by trained personnel is suitable for advanced cases of cheek teeth diastema, but many cases require repeated treatments.

Keywords: horse; dentistry; cheek teeth; diastema; dental treatment; diastema widening

A Retrospective Study of the Effectiveness of Four Different Treatments of Periodontal Disease in Equine Cheek Teeth

Kirsten Jackson, BSc, BVMS, MANZCVS[1], Lukas M. Weber, MSc[2], and Marc Tennant, BDSc, PhD, FRACDS(GDT), FICD, FADI[1]

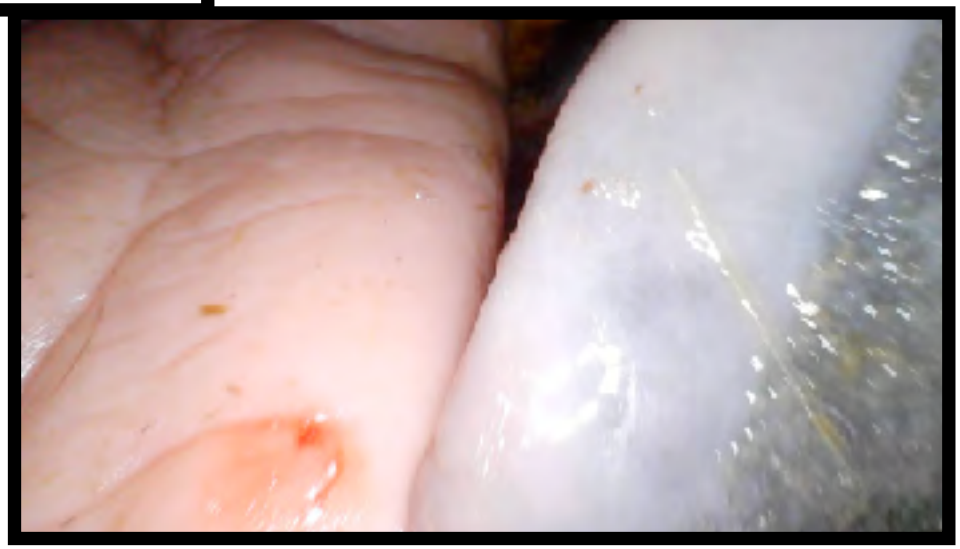
Journal of Veterinary Dentistry
2014, Vol. 31(2) 81–89
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DOI: 10.1177/089875641403100203
SAGE

- Very effective treatment for valve type diastema
- Can have delayed effect
- Need follow-up

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Diastema widening





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Damage to cheek teeth

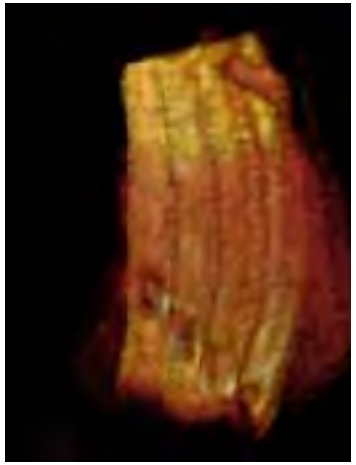




- Inappropriate case selection
- Poor technique







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Partial Occlusal Widening

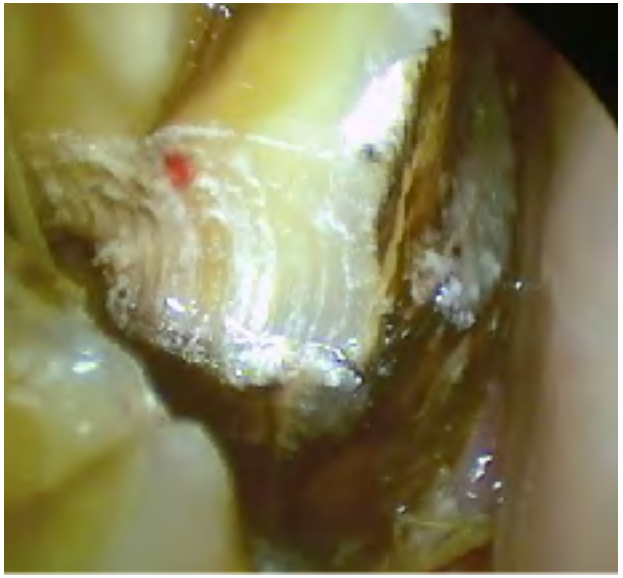


- No peer reviewed evidence
- Used widely
- Find extremely useful in narrow diastemata
- Need to follow-up

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Partial Occlusal Widening





- Also known as partial widening
- Still have to be careful of pulp damage
- Examine carefully post treatment

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Extraction



- Can be an effective method of treating certain diastemata cases
- Displaced teeth
- Periodontally affected teeth
- Long term care required

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Extraction







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Questions







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