Educational Resource for Veterinarians

Understanding the need for dental treatment in dogs

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European Veterinary Dental Society
www.evds.info

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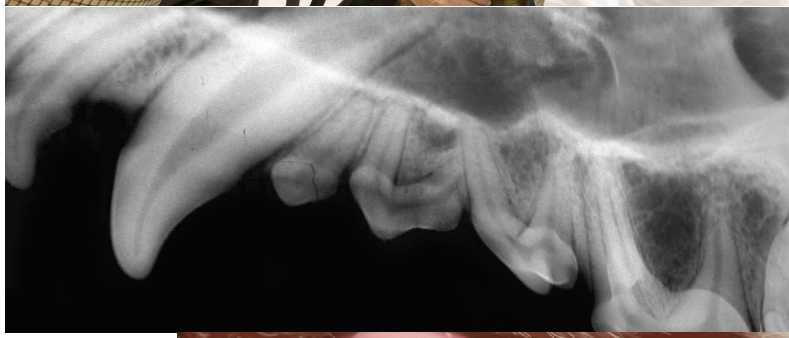

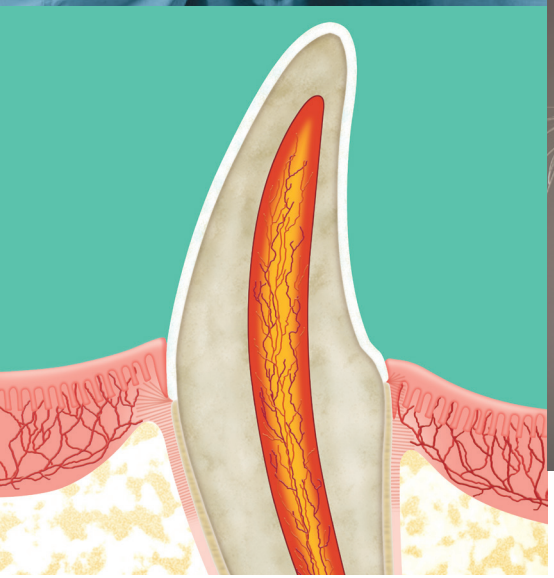

Introduction

Periodontal disease is the most frequently occurring clinical condition in dogs and cats with 4 out of 5 dogs over the age of 3 showing signs of periodontal disease (Hamp et al., 1984).

As such it can represent up to 40% of the workload of the modern day veterinary practice (Watkins, 2008). Despite the common incidence of periodontal disease, market research across Europe has found that less than 5% of dog owners are aware that their dog may have a problem.

This guide has been produced to provide a practical dental guide to veterinary professionals, with information on the identification, treatment and prevention of dental problems in dogs. It clearly illustrates the progression of disease and shows appropriate diagnoses and treatments.

Finally with the intent of providing life-long care it addresses the role of the pet owner and ways of raising awareness of the importance of a good home oral care regimen.

BVDA
British Veterinary Dental Association
www.bvda.co.uk

European Veterinary Dental Society
www.evds.info

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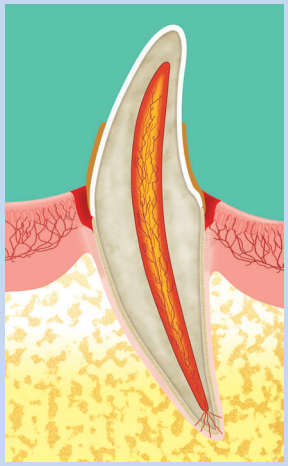
The following are acknowledged for their support with the development of this guide: Jan Schreyer, John Robinson & Norman Johnston.

Hamp, S.E., Olsson, S.E., Farsø-Madsen, K., Viklands, P. and Fornell, J. (1984). A macroscopic and radiological investigation of dental diseases in the dog. Veterinary Radiology 25: 86-92.
Watkins, J.D. (2008). Letter submitted to Veterinary Record June 7.

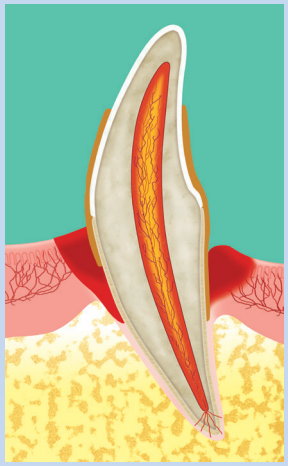
Overview – Anatomy & Physiology

Clinically healthy
no signs of gingival inflammation or periodontal disease clinically evident.

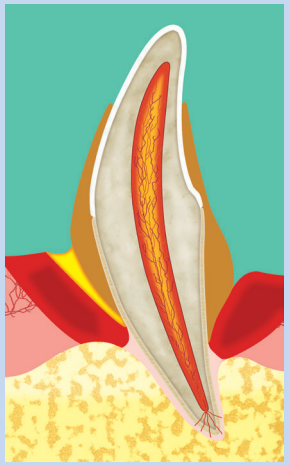
Gingivitis
gingivitis only, no attachment loss, the height and architecture of the alveolar margin are normal.



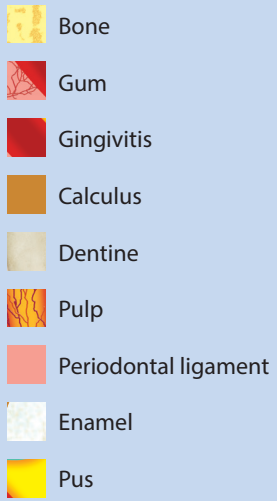
Early Periodontitis
less than 25% attachment loss (by probing or radiographically) or at most a grade 1 furcation involvement in multirooted teeth, early radiologic signs of periodontitis.



Moderate Periodontitis
25-50% of attachment loss (by probing or radiographically) or a grade 2 furcation involvement in multirooted teeth.



Advanced Periodontitis
more than 50% attachment loss (by probing or radiographically) or a grade 3 furcation involvement in multirooted teeth.



KEY TERMS:

Plaque: An off-white, sticky accumulation on surface of the teeth made up of food particles, bacteria and bacterial products. Plaque is the fundamental cause of periodontal disease and other oral disease, but can be dislodged from the teeth by light scraping – such as brushing.

Calculus: Calculus, also known as tartar or scale is formed when saliva and gingival crevicular fluid – which have high levels of minerals – calcify the plaque on the teeth. Calculus, which has a rough porous surface that harbours further plaque, can form in less than 48 hours from the start of plaque accumulation. Calculus can only be removed by scaling.

Periodontium: The periodontal tissues are the supporting structures of the tooth and include the gingiva, the alveolar bone, the cementum and the periodontal ligament.

Gingivitis: Gingivitis is the inflammation of the gingival tissue without any loss of attachment. Gingivitis is caused by plaque along the gingival margin and in the dental sulcus and can be prevented by good oral hygiene techniques. It is a prerequisite for the development of periodontitis, but will not always progress into periodontitis. Gingivitis is the only completely reversible stage of periodontal disease.

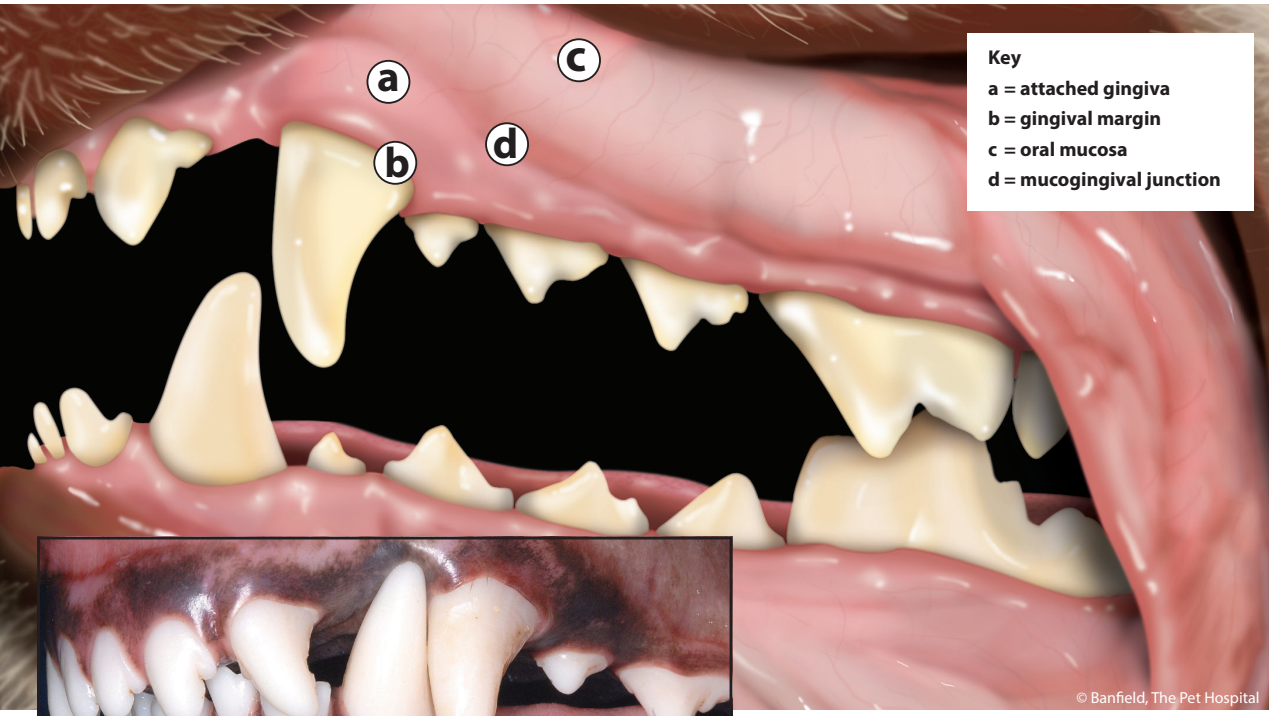
Periodontitis: Periodontitis is the progressive inflammation and destruction of periodontal tissues, which leads to attachment loss. This tissue destruction is only partly due to bacterial activity, but mainly due to the host's inflammatory and immune response. The destruction of the tooth supporting tissues will lead to tooth mobility over time and finally to tooth loss.

Periodontal pocket: When periodontitis develops, the gingival attachment to the tooth migrates apically along the root, with loss of the attachment of the periodontal ligament. This results in the formation of a periodontal pocket.

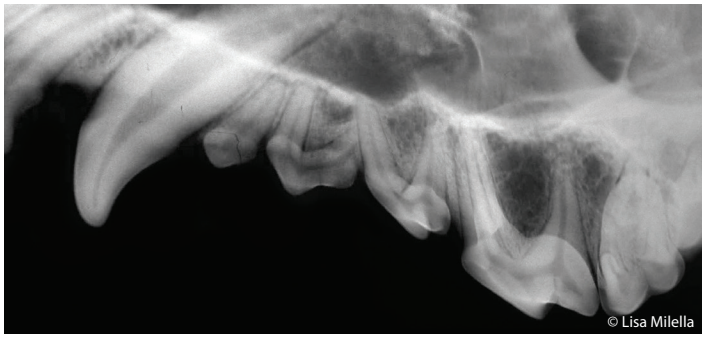
Gingival Recession: Gingival recession is the migration of the gingival margin away (apically) from its normal position at the base of the crown.

Furcation: The furcation is the area between the roots of multirooted teeth. The area is usually filled by alveolar bone, when periodontitis occurs the furcation bone is resorbed. Furcation involvement is graded from 0-3 depending on how far a probe can be introduced in the furcation area.

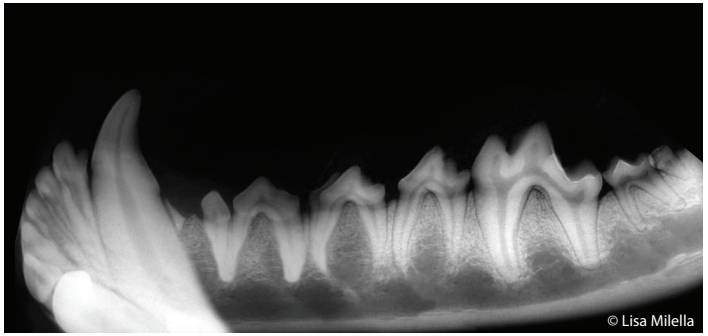
Overview – Anatomy & Physiology



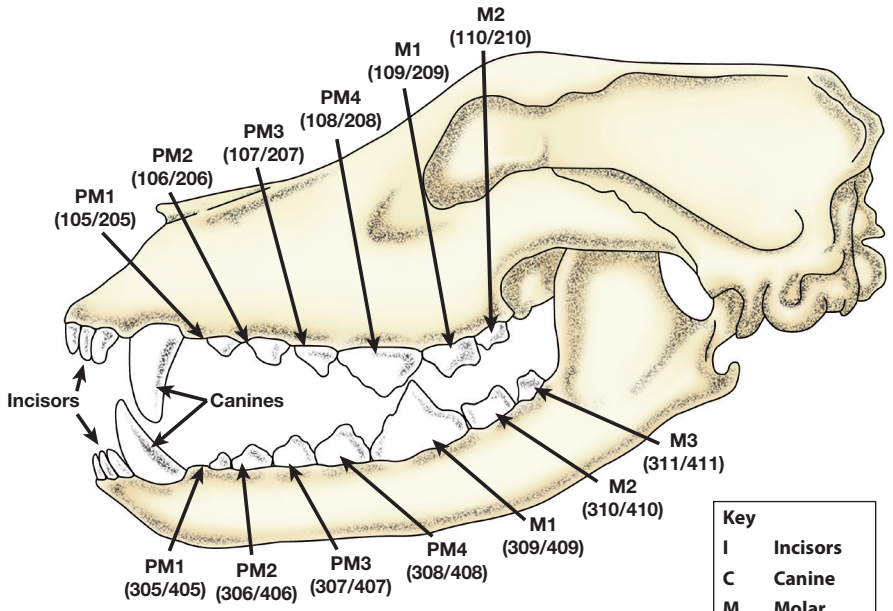
Healthy teeth and gums

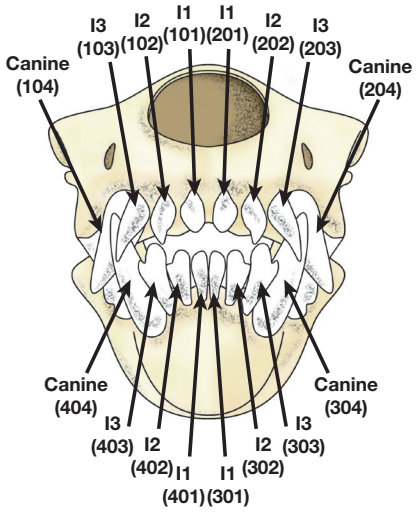


Radiography of a healthy mouth - upper jaw



Radiography of a healthy mouth - lower jaw





First Presentation

Typical scenario for a dog, aged 3+ prior to treatment

What is seen in this picture?

→ Red swollen gums (gingivitis)
→ Gums prone to bleeding
→ Moderate calculus build-up
→ Halitosis

Comment

→ Periodontitis is a progressive disease
→ First presentation represents a key opportunity to discuss preventative home care with owners

Overview

- Plaque builds up within hours on a clean tooth, and can cause gingivitis within 48 hours
- Undisturbed plaque can mineralise to form calculus within days
- Calculus then provides a rough surface facilitating plaque accumulation
- If home care to remove plaque was undertaken from an early age, this could have been prevented in most cases

First Presentation

Typical scenario for a dog, aged 3+ after scale & polish

What is seen in this picture?

→ Gingival recession exposing root cementum (a)

→ Early furcation exposure on multirooted teeth (b)

→ Periodontal probing depth, 4mm on the mesial root of the lower molar (c)

Recommended treatment

→ Oral examination under general anaesthesia using a periodontal probe and explorer probe to examine every tooth and chart all findings

→ Super and sub-gingival scale & polish and root planing (removing diseased cementum and calculus deposits on the surface of the root)

→ Home care is required to prevent further progression of periodontitis:

- The furcation defect at (b) will harbour plaque and will require careful cleaning
- The area of the periodontal pocket around (c) will also require thorough brushing to prevent bone loss around the root of the molar

Overview

- The changes seen are irreversible. Scaling and polishing the teeth does not lead to reversal of the attachment loss
- Periodontitis will continue to progress if the recommended treatment is not carried out at this stage

9 - 12 Months Later

Typical scenario for a dog – if no periodontal treatment or home care was performed

What is seen in this picture?

→ Marked gingivitis
→ Visible gingival recession
→ Moderate calculus accumulation

Comment

→ Gingival recession does not always occur and the extent of attachment loss and pocket formation may only be detected using a periodontal probe during examination under general anaesthesia

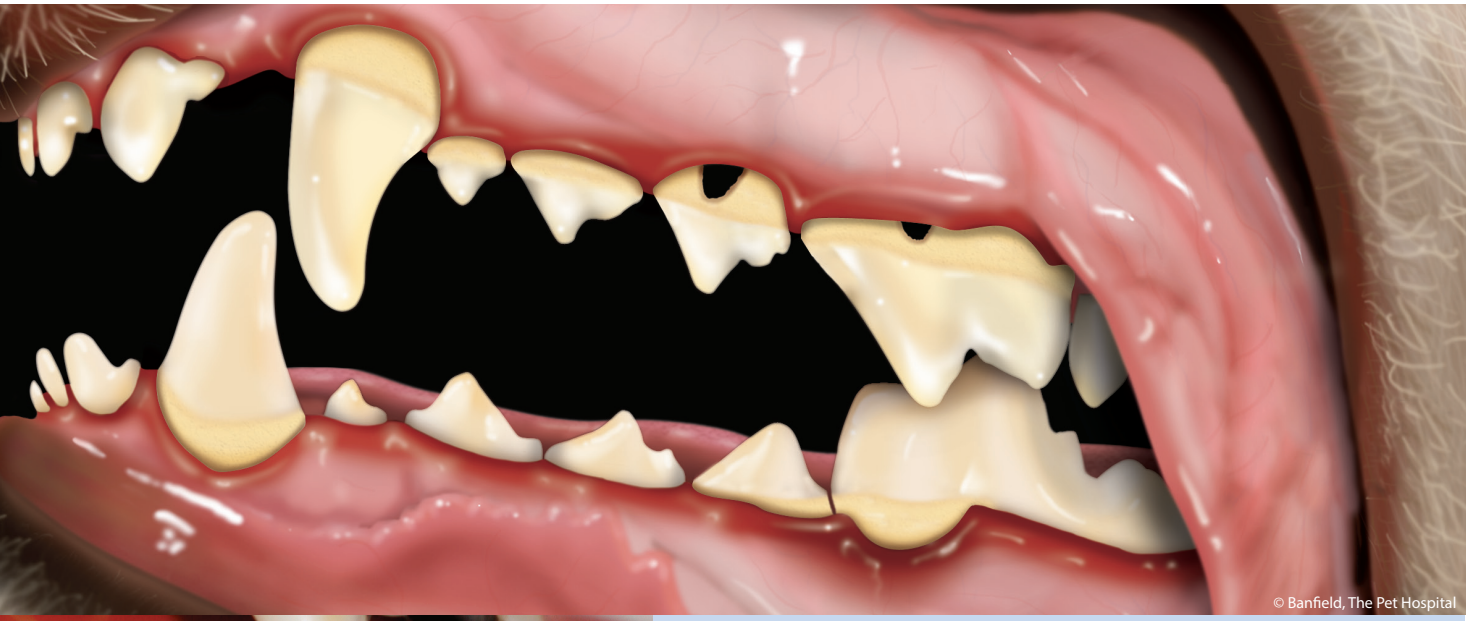
→ To prevent progression of periodontitis - thorough periodontal treatment with daily home care is essential

Overview

- If no treatment is performed following the scale & polish additional accumulation of calculus will occur, along side a worsening of periodontitis, with further loss of the supporting structure of the tooth
- Changes can occur within 6 months in high risk patients, especially small breed dogs

9 - 12 Months Later

Typical scenario for a dog if no periodontal treatment or home care was performed – after scale and polish



Recommended treatment

→ Oral examination and pocket measurement around every tooth root should be performed

→ Radiography is required to determine the extent of the disease progression (see next page)

What is seen in this picture?

→ Marked gingival recession

→ Grade 3 furcation exposure 'through & through' (a) (b)

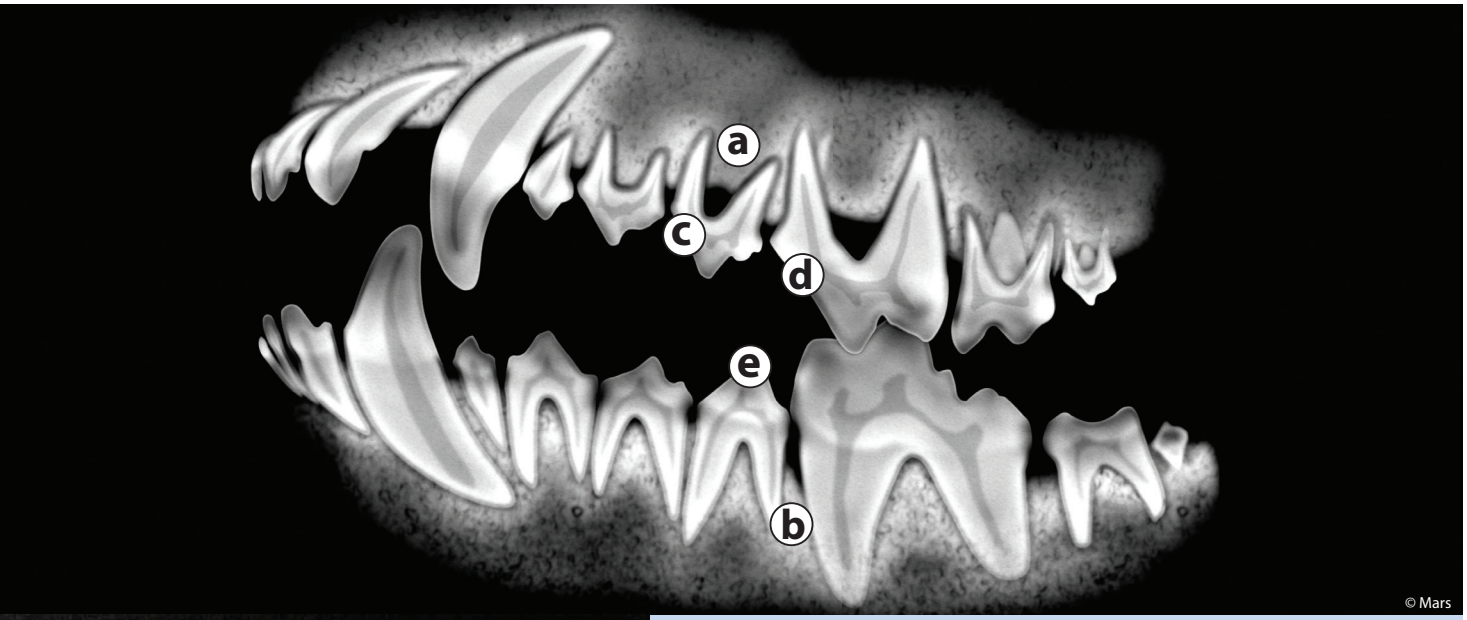
→ Periodontal probing depth 6mm on the mesial root of the lower molar (c)

Overview

- The extent of attachment loss has worsened due to the lack of sub-gingival periodontal treatment and follow-up home care, and will continue to do so without intervention
- The full extent of the attachment loss can only be evaluated by examination under anaesthesia, pocket measurement around each tooth root and with the use of intra-oral radiographs

9 - 12 Months Later

Radiography – the full extent of the disease is revealed

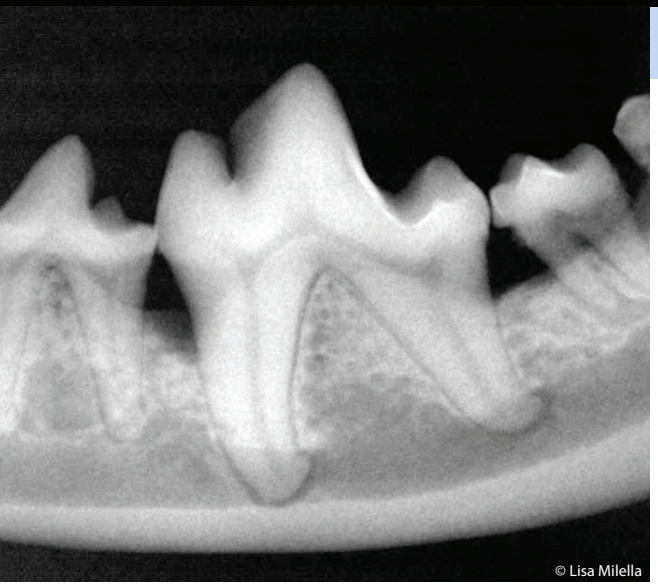


© Mars

What is seen in this picture?

→ Horizontal bone loss (a)

→ Vertical bone loss (b)


© Lisa Milella

Recommended treatment

→ Periodontal treatment, including subgingival curettage and root planing together with extraction of teeth c, d & e

→ On-going home care is essential to prevent further progression and bone loss at other teeth

Overview

- Without radiography the root and alveolar bone cannot be fully assessed
- The full extent of the disease is often under estimated
- Radiography also aids in the planning of treatment
- Radiographs can help owners understand the extent of the disease

4 Part Tutorial Videos on Sectioning of Teeth

A range of educational videos have been produced, to demonstrate how dog and cat teeth can be sectioned in practice.

This educational resource has been produced to assist veterinary students and for the ongoing development of veterinary professionals.

There is a 4 part educational video tutorial which shows how these sections are made in practise.

The resource has been developed by John G A Robinson BDS, Dentist to the Veterinary Profession, with the support of Mars Petcare.

Why section teeth?

All 2 and 3 rooted teeth should always be sectioned to allow extraction as single root pieces because...

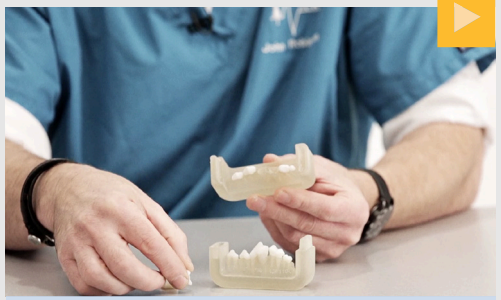
- Roots diverge and so have a different direction of removal from the socket.
- Some rotation of the individual root can be employed.
- Single root pieces can be loosened separately with less risk of breakage.

Variation from normal root morphology

It should always be remembered that a tooth could be different from the normal morphology;

- There may be an extra root – e.g. especially the upper 3rd premolar tooth
- A root can have a different shape e.g. more curved (kink or hook) or a bulge
- There may be changes from pathology – mainly resorption

It is strongly advised to obtain a dental radiograph when there is any doubt.



Introduction to sectioning technique

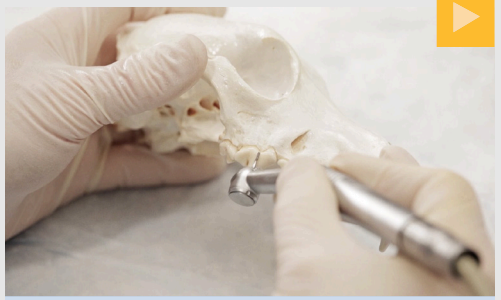
Video 1

Principles of tooth sectioning shown on a 2 rooted premolar tooth

Video 2

Sectioning mandibular carnassial tooth

Video 3



Sectioning maxillary (upper) teeth

Video 4

To watch the videos, please visit:

www.vettimes.co.uk/sources/mars-petcare/

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DENTAL CARE Pedigree Feeding Brighter Futures Greenies Dental Treats

Long Term

If the recommended treatment was not carried out

Comment

→ In many small breed dogs this rapid progression in periodontal disease may occur within a year

→ In many large breed dogs this progression in periodontal disease may occur within 3 years - In certain breeds, e.g Greyhounds, the progression may be more rapid

→ This infection may no longer be limited to the oral cavity; the pet's systemic health can also be negatively affected (DeBowes et al., 1996)

What is seen in this picture?

→ Severe gingivitis and ulceration

→ Heavy calculus accumulation – most teeth

→ Missing teeth

→ Mobile teeth

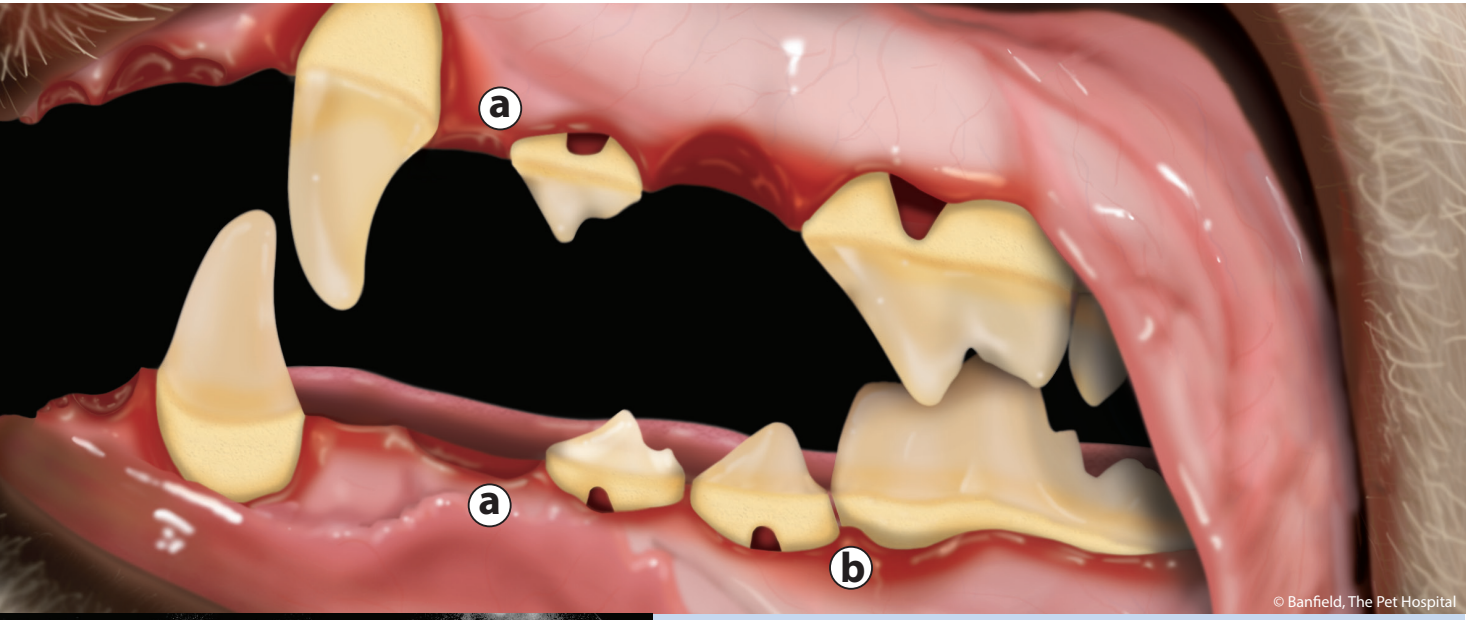
→ Extreme halitosis

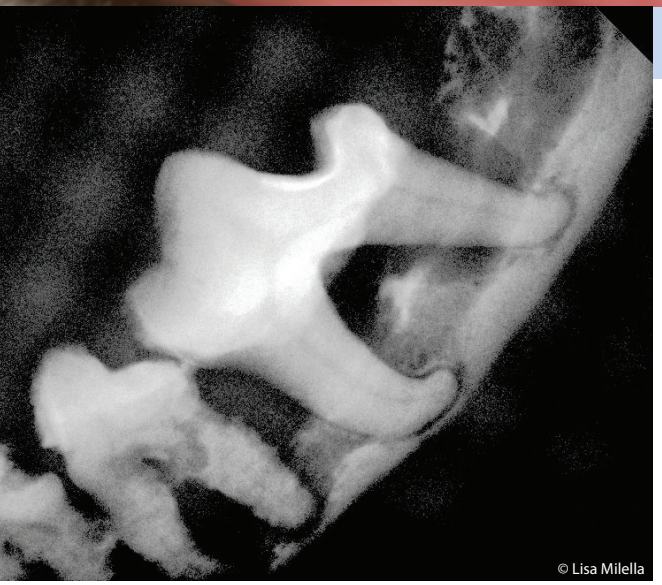
Overview

- No regular periodontal treatment or home care ultimately results in tooth loss – of further concern is the general health and wellbeing of the pet
- As well as advanced periodontitis resulting in extreme discomfort and pain, other organ systems in the body may be detrimentally affected

DeBowes, L. J., Mosier, D., Logan, E. et al. (1996). Association of periodontal disease and histologic lesions in multiple organs from 45 dogs. Journal of Veterinary Dentistry 13: 57-60.

If the recommended treatment was not carried out – after scale & polish





Recommended treatment

→ Assess the quality and quantity of bone prior to treatment to reduce the risk of jaw fracture

→ The extent of bone loss cannot be ascertained without radiography

→ Consider referral to a veterinary dentist

What is seen in this picture?

→ Some teeth exfoliated during scale & polish (a)

→ Marked gingival recession on canines, resulting in tooth mobility

→ Through and through furcation exposure

→ Periodontal probing depth 9mm (b)

Overview

- Multiple extractions are now required, although these are not without potential complications
- Periodontitis results in bone loss – making the risk of jaw fracture much more likely during extraction, and may also lead to complications such as oronasal fistula

Other Dental Problems

TOOTH FRACTURE

Occurrence - common

Assessment
For any tooth with a fractured crown, it should be determined whether there is pulp exposure or not. A red or black spot usually indicates that the pulp is exposed (red = vital pulp, black = necrotic pulp). To confirm whether the pulp is exposed, an explorer probe is used to examine the tooth under general anaesthesia. All teeth with pulp exposure must be treated as they are painful. The upper fourth premolar is prone to fracture but often overlooked.

Treatment
Extraction or referral for root canal treatment.

Prevention
Avoid bones, stones and toys that are harder than the teeth.

ABRASION DAMAGE

Occurrence - common

Assessment
If the wear is slow, tertiary (reparative) dentine will be laid down. Tertiary dentine is a dark brown colour and needs to be differentiated from the black colour seen with a necrotic pulp. An explorer probe run across the surface of the tooth will catch if the pulp is exposed.

Treatment
Extraction or referral for root canal treatment if the pulp is exposed.

Prevention
Use toys and balls designed for dogs (avoid tennis balls and toys with rough surfaces).

DISCOLOURED TEETH

Occurrence - common

Assessment
Teeth can be any colour from pink to black depending on the degree of trauma and extent of pulp damage. Studies have shown that 93% of these teeth contain necrotic pulp (Hale, 2001). Transillumination can sometimes be helpful in these cases. Normal teeth will opalesce evenly when backlit with a bright light (such as a halogen otoscope). Discoloured teeth do not transmit light as the iron salts from degradation of haemoglobin become lodged in the dentine tubules and/or pulp chamber and block transmission of light.

Treatment
Root fill or extract.

Prevention
Avoid giving dogs toys and chews harder than teeth. Frisbees are especially damaging.

Hale, A.F. (2001). Localised intrinsic staining of teeth due to pulpitis and pulp necrosis in dogs. Journal of Veterinary Dentistry 18 (1): 14-20.

CARIES (TOOTH DECAY)

Occurrence - relatively uncommon

Assessment
Any staining on the occlusal surface of the molar teeth should be assessed using an explorer probe. The probe sticks with a slight resistance in carious dentine – indicating caries (tooth decay).

Treatment
If the lesion is superficial then a filling is an option. For advanced lesions the tooth should be extracted.

Prevention
Avoid sugary treats.

Periodontal Disease - Home Care

A regular dental home care programme can help prevent periodontal disease occurring

Toothbrushing

Introduction to toothbrushing in five easy stages

Dogs need to be introduced to toothbrushing very gradually, ensuring that they learn to enjoy the experience. Things you will need:

- Dog toothpaste (do not use human toothpaste)
- Clean hands and short nails (for the safety of your dog)
- A pet toothbrush (medium bristles)
- Water
- A quiet area, with little or no distractions
- Patience!

The stages should last for five minutes and should be repeated on five separate days before moving on to the next stage. Every dog is different - so train at their pace. Please be careful inserting your fingers into the dog's mouth. We do not recommend doing this with aggressive dogs or dogs that are prone to biting.

→ **Stage 1: Introduction to the taste of toothpaste**
Wash your hands and smear a small amount of toothpaste on to your index finger. Allow the dog to lick the toothpaste from your finger. Repeat a number of times.

→ **Stage 2: Get the dog used to contact with its mouth**
Smear your index finger with toothpaste and then gently slide it into the dog's mouth letting it glide over the outer surface of the teeth and gums. Only go as far into the mouth as the dog is comfortable. Repeat a number of times.

→ **Stage 3: Introduce the dog toothbrush – canine teeth first!**
Prepare the toothbrush with water and toothpaste. Let the dog lick some of the toothpaste off the bristles. Gently hold the mouth around the muzzle to stop the dog chewing.

Start to gently brush the canines only, using an up and downward motion - the toothbrush angled towards the gum line - move the brush away from the gum to the tip of the tooth. At this stage avoid the front teeth (incisors) as this is the most sensitive area in the mouth.

→ **Stage 4: The Toothbrush – back teeth**
As before - start by brushing his canines (up and down motion).

Slowly move along to the teeth behind the canines using a circular motion. Only go as far as the dog is happy with. Brush both sides of the mouth.

→ **Stage 5: The Toothbrush – all teeth**
As before, start by brushing the canines and then the back teeth and finish with the incisor teeth.

Hold the mouth closed around the muzzle and gently lift the upper lip with the thumb and forefinger bridging the muzzle to reveal the incisor teeth. Many dogs are sensitive and may sneeze when brushing the incisor teeth.

Gently brush the front teeth using an up and down motion (as for the canines). Gradually build up the amount of time spent brushing.
For maximum protection tooth brushing should be performed daily.

Dental Chews & Main Meal

There is a large body of evidence that indicates that regular feeding of specialist dental chews or specialist main meal diets, in conjunction with brushing, will contribute to the control of plaque and tartar and should be a key part of any dental home care programme.

As such the complementary use of dental chews and foods is recommended.

When choosing a dental chew or main meal product, you should look for stated plaque and calculus reduction scores as well as scientifically proven active ingredients.

Certain dental chews, such as PEDIGREE® DentaStix™ Daily Oral Care chews, are designed to have special texture, shape and active properties which help control the accumulation of dental plaque and calculus during mastication.

The texture of a well designed dental product will have a gentle abrasive cleaning effect.

PEDIGREE® DentaStix™ Daily Oral Care chew provides a way of helping to care for the oral health of dogs that is both convenient for owners and enjoyable for the pet.

In association with BVDA
British Veterinary Dental Association

DENTAL CARE
Pedigree
Feeding Brighter Futures
Greenies

Strong teeth – healthy gums

PEDIGREE® DentaStix™ Daily Oral Care chew helps reduce the build-up of tartar by up to 80%

In order to retard the plaque and calculus accumulation that occurs in the oral cavity of dogs and therefore help provide an effective home oral care regime for owners, Mars Petcare developed the PEDIGREE® DentaStix™ Daily Oral Care chew in 2002. Since 2002, continued research and development on this product has resulted in the development of a highly efficacious daily oral care treat for dogs.

→ Mechanical action

With its unique X-shape profile, the texture of PEDIGREE® DentaStix™ Daily Oral Care chew is designed not only to create the shear forces on the dog's teeth, which helps to remove plaque, but also to keep the dog chewing for a significant length of time. An added benefit of this sustained chewing is that it stimulates saliva flow; this flow helps to wash away any debris removed from the teeth.

→ Active ingredients

Included within PEDIGREE® DentaStix™ Daily Oral Care chew are two active ingredients (sodium tripolyphosphate and zinc sulphate) which have the effect of chelating salivary calcium as well as slowing down the build-up of calculus by inhibiting further crystal growth. By this means, plaque is kept softer for longer and so more of it can be removed by the action of the dog chewing PEDIGREE® DentaStix™ Daily Oral Care chew.

Logan, E.I. & Boyce, E.N. (1994). Oral health assessment in dogs: parameters and methods. ***Journal of Veterinary Dentistry*** 11: 58-63.

Logan, E.I. & Boyce, E.N. (1994). Oral health assessment in dogs: study design and results. ***Journal of Veterinary Dentistry*** 11: 64-70.

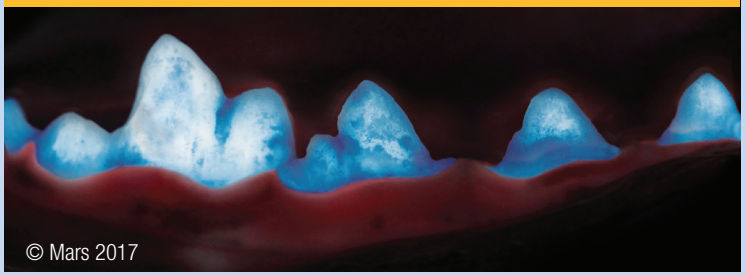
→ Independent Clinical Studies

A number of independent clinical studies that were run according to the recommendations set out at the 8th Annual Veterinary Dental Forum (see references below) have shown PEDIGREE® DentaStix™ Daily Oral Care chew to retard the formation of plaque and calculus in dogs to levels that exceed those observed when feeding dry diet alone (Figure 1).

The studies have shown that, by feeding one PEDIGREE® DentaStix™ Daily Oral Care chew per day, levels of plaque are reduced by approximately 35% on average, whilst levels of calculus were reduced by approximately 65%. In some animals the levels of calculus were reduced by more than 85%.

PEDIGREE® DentaStix™ Daily Oral Care chew provides a way of helping to care for the oral health of dogs that is both convenient for owners and enjoyable for their pets.

Plaque coverage with diet alone

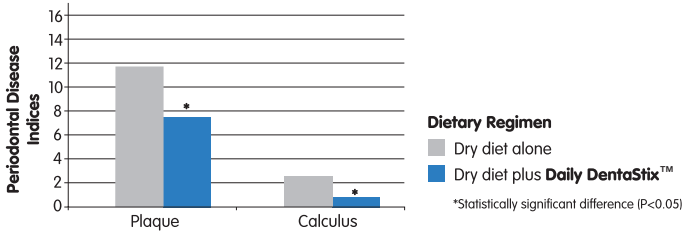


Plaque coverage with PEDIGREE® DentaStix™ Daily Oral Care chew

Coloured representations of actual images. Images reproduced with permission of the WALTHAM Centre for Pet Nutrition.

Wallis C, Gill Y, Colyer A, Davis I, Allsopp J, Komarov G, Higham S, Harris S. (2016). Quantification of canine dental plaque using Quantitative Light-induced Fluorescence. Journal of Veterinary Dentistry. 33: 26-38.

Figure 1



A revolutionary texture that flexes to give a deep clean

Periodontal disease is the most frequently occurring clinical condition in dogs with 4 out of 5 of those over the age of 3 showing signs of the disease.* Despite the common incidence of periodontal disease, 90% of owners think their own dog's teeth and gums are in good health.

Our research with dog owners has shown that those who follow an effective oral care routine for their dog do so because of the valuable information and advice they have received from their vet or vet nurse. Such advice centres around the risks of periodontal disease for dogs and the effectiveness of different home care routines.

BRUSHING IS BEST

Ideally, all owners should brush their dog's teeth daily, thus preventing the accumulation of plaque and calculus, the springboard for periodontal disease. This is a common routine for humans, so it should be no different for dogs.

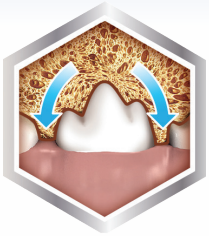
Tooth brushing guides for owners, available from PEDIGREE®

RECENT DEVELOPMENTS IN ORAL CARE RESEARCH

PEDIGREE® DentaStix™ Advanced chew is a completely new dental chew designed by oral care science and technology experts at PEDIGREE® with valuable input from **leading veterinary dentists.** Scientifically proven to reduce the build-up of plaque at the gumline, thanks to their revolutionary texture that flexes around teeth, giving a deep clean.

What's more, the PEDIGREE® DentaStix™ Advanced chew recipe is **less than 1.5% fat** and contains no added sugar and no artificial colours or flavours. It also tastes great, and lasts significantly longer than other chews – around six minutes on average for the medium chew.

HOW DO PEDIGREE® DENTASTIX™ ADVANCED CHEWS REDUCE PLAQUE AND CALCULUS ACCUMULATION?



1 Mechanical action: Unlike other chews, the revolutionary texture of DentaStix™ Advanced chews (patent pending) cleans by flexing around the teeth and reducing the plaque buildup that matters the most in periodontal disease – that around the gingival margin.

2 Active ingredients: PEDIGREE® DentaStix™ Advanced chews contains zinc sulphate and sodium tripolyphosphate, both of which enhance its ability to reduce calculus formation.

Independent clinical studies have proven they work

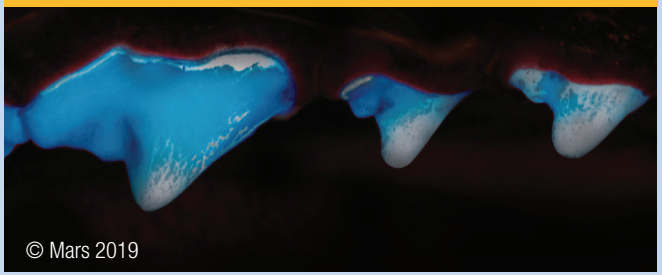
PEDIGREE® DentaStix™ Advanced chew has been tested in full clinical trials at independent research facilities.** Plaque and calculus accumulation was compared in dogs on a dry diet with those on a dry diet plus **two DentaStix™ Advanced chews per week.**

	Reduction in accumulation (p<0.001)	
	Plaque	Calculus
Average	48.5%	72.2%
Highest	65.3%	92.4%
At gingival margin (avg.)	42.6%	70.8%

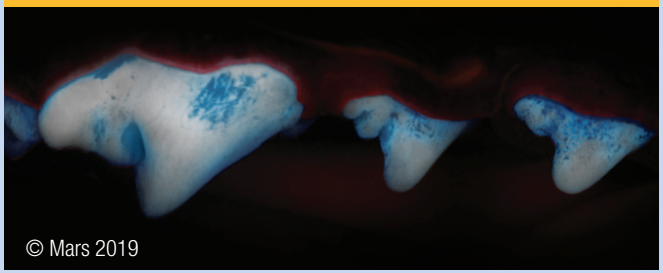
CLEANING ALL AROUND THE MOUTH

Clinical trials have demonstrated reductions in plaque and calculus accumulation of broadly similar magnitudes over all 4 quadrants of the mouth.

Plaque coverage with diet alone



Plaque coverage with PEDIGREE® DentaStix™ Advanced chew



Coloured representations of actual images. Images reproduced with permission of the WALTHAM Centre for Pet Nutrition.

Wallis C, Gill Y, Colyer A, Davis I, Allsopp J, Komarov G, Higham S, Harris S. (2016). Quantification of canine dental plaque using Quantitative Light-induced Fluorescence. Journal of Veterinary Dentistry. 33: 26-38.

NB DOGS WITH GINGIVITIS

If a client's dog has gingivitis then they may experience a small amount of gum bleeding on consumption of dog chews. This is similar to the experience that owners themselves may have had when brushing their teeth, and can also occur when tooth brushing in dogs – in both cases brushing close to inflamed gums can cause them to bleed. As is the case with continued brushing, repeated feeding of PEDIGREE® DentaStix™ Advanced chews should result in this slight bleeding, reducing and eventually stopping as gum health improves.

Continued or heavy bleeding could indicate a more severe form of

* Kortegaard HA, Erikksen T and Baelum V. (2008). Periodontal disease in research beagle dogs – an epidemiological study. Journal of Small Animal Practice 49: 610-616.

** Independently tested in a canine dental efficiency study at the University of Munich, Germany, 2013.

In association with BVDA British Veterinary Dental Association

DENTAL CARE Pedigree Feeding Brighter Futures Greenies DENTAL TREATS

NUTRITIONALLY COMPLETE & BALANCED FOR CANINE ADULT MAINTENANCE

FLEXIBLE & CHEWY TO ENCOURAGE DOGS TO CHEW AND NOT GULP. HIGHLY DIGESTIBLE AND SOLUBLE.

Awarded with VOHC seal of approval for plaque and tartar control.
The test results below demonstrate that chewing Greenies, when compared to feeding dry dog food alone, helps improve the control of plaque and tartar accumulation on dogs' teeth.

VOHC TESTING RESULTS

- ✓48% less plaque
- ✓59% less gingivitis
- ✓54% less calculus
- ✓59% less oral malodor

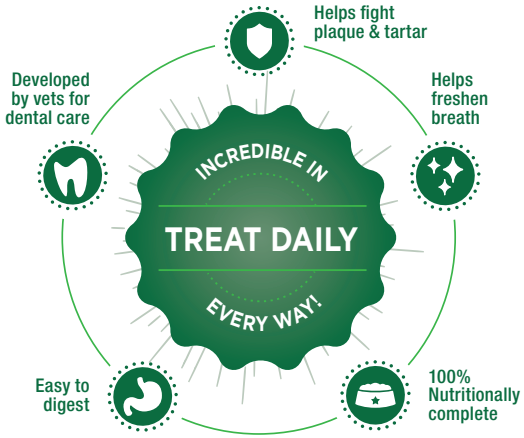
How Greenies™ Dental Treats work

The unique flexible chewy texture of Greenies gently rubs the teeth and gums. The chew is formulated to last longer - which stimulates saliva flow helping to wash away plaque.

Greenies are available in 4 dog size-specific packs: TEENY, PETITE, MEDIUM & LARGE.

The EVDS endorses the VOHC seal of acceptance*

The Veterinary Oral Health Council (VOHC) is recognised worldwide as the leading independent pet dental review board. Board-certified veterinary dentists and dental scientists at the VOHC objectively review research and award the seal only to products that meet their high standards.



An International Journal for the Study of Veterinary Dentistry

JOURNAL OF
Veterinary Dentistry

Effective Periodontal Disease Control Using Dental Hygiene Chews

Wendy Y. Brown, MscAg; Phil McGenity, BA, PhD, C. Chem

Summary:

This study evaluated the effectiveness of a newly developed dental hygiene chew for dogs, with and without a natural antimicrobial additive, compared with a reference diet. Efficacy was determined by measuring the severity of gingivitis and the accumulation of dental plaque and calculus in dogs after 4-weeks of being fed the different dietary regimens. Dogs fed a single daily dental chew had significantly less gingivitis (P = 0.02), plaque (P = 0.0004), and calculus (P = 0.0001) compared with dogs in the control group that were fed an identical diet but received no chews. The inclusion of the antimicrobial agent did not improve the efficacy of the product. The dental hygiene chews tested in this study have potential to help reduce the incidence of periodontal disease in dogs.

J Vet Dent 22(1); 15-19, 2005

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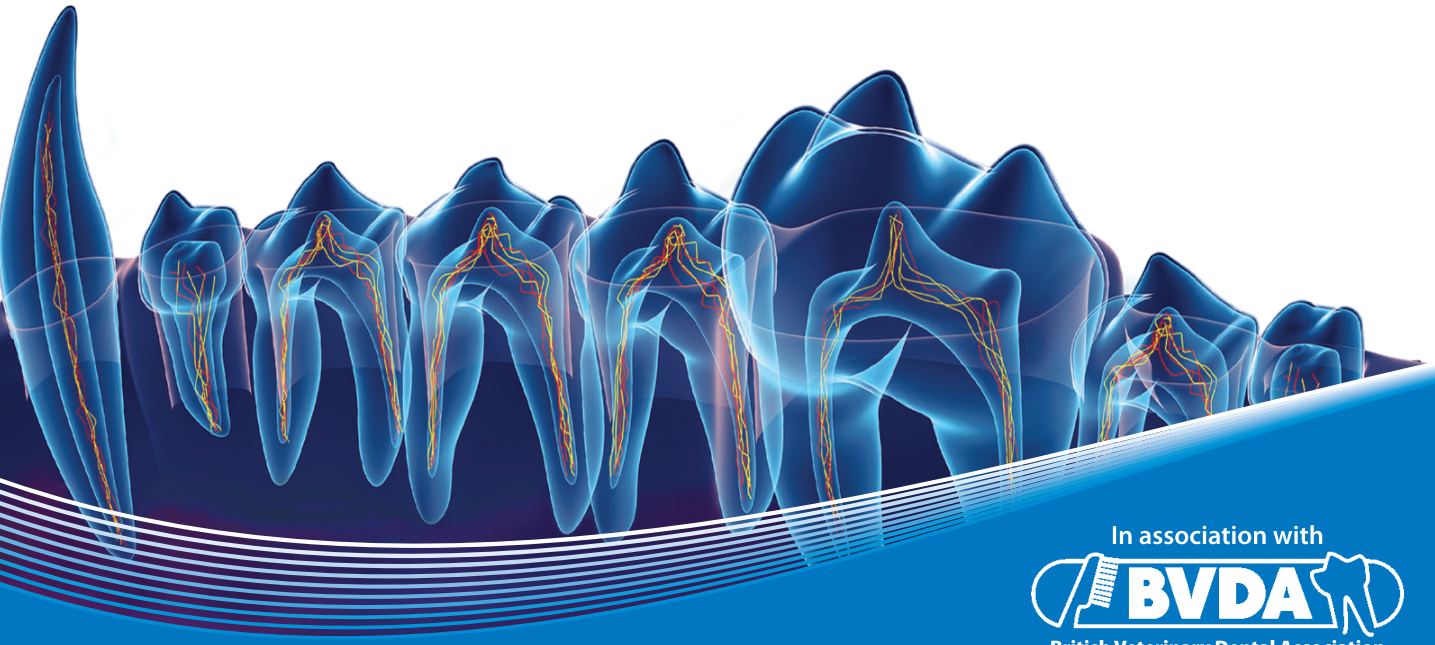

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