

Dentistry

Animal health technician:

CPD accreditation: AC/0429/20 (1 point)



Veterinary Dentistry

- Very important aspect of veterinary medicine!
- Estimated that more than two thirds of dogs over the age of 3 suffer from periodontal disease = **THE MOST COMMON DISEASE AFFECTING DOGS!**
- Most small breed dogs and cats will need some form of dental procedure in their lifetime.
- Animals can't sit still and open their mouth so a general anaesthetic is needed to perform an adequate dental procedure.

What is the Role of an AHT in Dentistry?

Advise clients on dental care for their pets

Preparation of patient

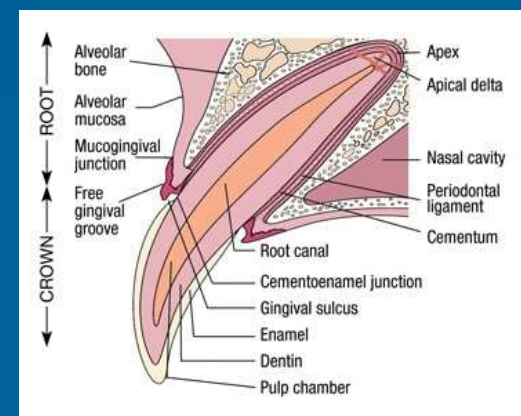
Dental charting

Equipment preparation

Cleaning, sterilisation and maintenance of dental equipment

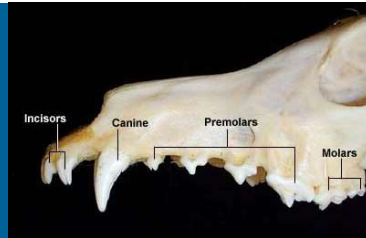
Assisting with the dental procedure and anaesthetic monitoring

Teeth Anatomy



Teeth

Types of Teeth



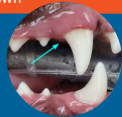
Incisors

- Incisors are the small teeth in the front of the mouth
- Used to tear meat from bone and for grooming
- Have 1 root
- Can sometimes be a bit loose as not anchored as tightly in the jaw bone



Canines

- Large teeth sometimes referred to as fangs
- Used to puncture and hold on
- Have one root that is often even larger than the crown



Premolars

- Teeth behind the canines
- PM 1 - PM3 have 2 roots
- PM4 = Carnassial - has 3 roots
- Carnassial often suffers from dental disease with root abscesses
- Cats don't have a PM 2



Molars

- Molars are the cheek teeth
- Have 3 roots
- Roots usually quite short and superficial

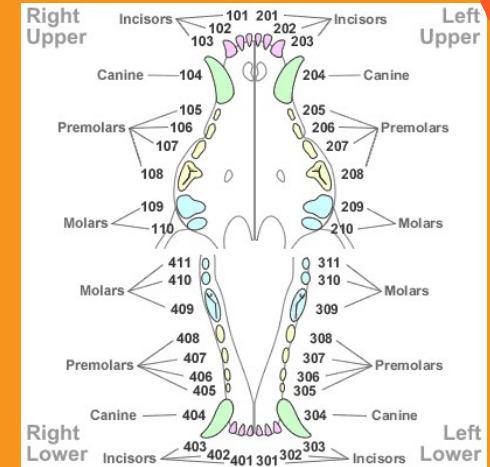


<http://www.vivo.colostate.edu/y>
<https://www.mypetsdentist.com/>
<http://www.vivo.colostate.edu/>
<https://www.veterinarydentalcenter.com/>
<https://www.whole-dog-journal.com/>

Dental Charts

DOG

- Puppies have 28 deciduous (baby) teeth that usually fall out by the age of 6 months
- Dogs have 42 adult teeth

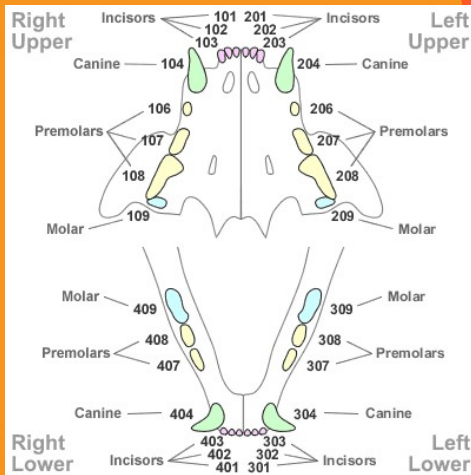


<https://www.rvc.ac.uk/>: hBased on an image supplied by David Crossley

Dental Charts

CAT

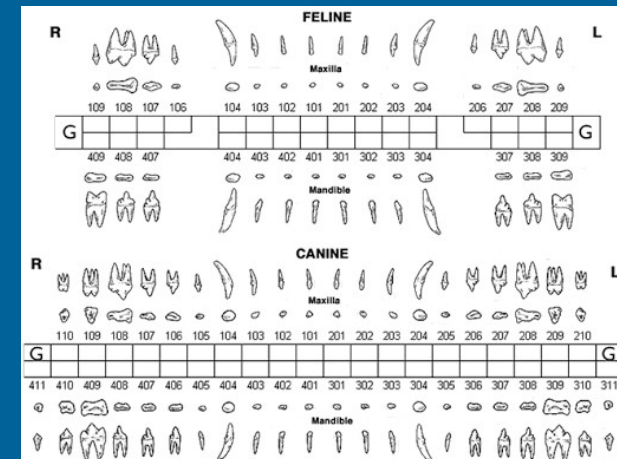
- Kittens have 26 deciduous (baby) teeth that usually fall out by the age of 6 months
- Cats have 30 adult teeth



<https://www.rvc.ac.uk/>: hBased on an image supplied by David Crossley

Dental Charts

- Circles can be used to mark missing teeth
- Crosses are used to mark extracted teeth
- Notes can be made on the chart if there are any other relevant abnormalities of any specific teeth
- Chart quite handy also to show owners exactly which teeth were extracted



Khufa Periodontal Disease

Gingivitis = inflammation of the gingiva in response to plaque

Periodontium = tissues that surround & support the teeth

Periodontal disease = infection inflammation of the periodontium

<https://www.msdtvetmanual.com/digestive-system/dentistry/periodontal-disease-in-small-animals>

<https://www.vetlexicon.com/treat/canis/diseases/periodontal-disease>

Dental Disease

Plaque build up on teeth

Calculus build up

Bacteria and food get trapped behind calculus

Gingivitis

Inflammation of periodontal ligament & alveolar bone

Loss of attachment & bone resorption

Gum recession
Root exposure

Loose tooth

PERIODONTAL DISEASE

<https://www.dogsnaturallymagazine.com/>

Khufa Dental Disease

<https://www.greencrossvets.com.au/>

GRADE 1			<p>A. Plaque and calculus deposit B. Inflamed gingiva C. Zero bone loss</p> <p>Marginal gingivitis Mild plaque and calculus Reversible with scale/polish</p>
GRADE 2			<p>A. Plaque and calculus extend down B. Pocket forming C. Mild bone loss</p> <p>Gingival recession Plaque and calculus extend to root Furcation exposure Mild bone loss greater than 25% Possible furcation exposure</p>
GRADE 3			<p>A. Plaque and calculus extend down B. Deepening pocket C. Extensive bone reduction</p> <p>Ulcerated gingiva Plaque and calculus further down 25 - 50% bone loss Possible furcation exposure</p>
GRADE 4			<p>A. Plaque and calculus extend down B. Deepening pocket C. Extensive bone reduction D. Severe bone and gum loss</p> <p>Significant loss of gingiva > 50% bone loss, tooth mobility</p>

Periodontal disease stages

NATOMEXPLORER CAT & DOG

ROYAL CANIN

Normal

Enamel, Gingiva, Alveolar bone

Early

Dental plaque, Gingivitis

Advanced

Destruction of the periodontal ligament, Calculus, Osteolysis

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Make the hidden visible to your clients with free interactive cat and dog anatomy charts. Free to all practices using ROYAL CANIN® products in the UK and Ireland.

<https://www.vetlexicon.com/treat/canis/diseases/periodontal-disease>

Khufa Dental Disease

Gingivitis:
Plaque and slightly disagreeable mouth odor.

Early periodontal disease:
Gum inflammation, swelling and bad breath.

Moderate periodontal disease:
Pustular discharge, bleeding and moderate bad breath.

Advanced periodontal disease:
Bleeding gums, mobile teeth and very bad breath.

Image: <https://www.horshamvethospital.com.au/grading-teeth-what-do-the-numbers-mean>

Khufa Systemic Disease

Oral bacteria can enter the bloodstream and affect distant organs like the heart, the liver, and the kidneys.

Labels: Heart, Liver, Kidney

© Lisa Egan Inc.

<https://vcahospitals.com/know-your-pet/dental-disease-and-its-relation-to-systemic-disease-in-pets>

Khufa Other Dental Problems

Overbite

- = Mandibular Brachygnathism or 'parrot mouth'
- Teeth don't line up correctly
- Upper and lower canines sit on top of each other which can cause abnormal wearing of the inner surface of the upper canine and even push these teeth outwards

Underbite

- = Mandibular prognathism or 'monkey mouth'
- Can be normal in brachycephalic breeds
- Teeth don't line up and lower incisors often pushed forward
- Upper canine pushes against the 3rd lower incisor
- Advised not to breed with these animals

Retained deciduous teeth

- Occurs when baby teeth don't fall out
- Common in breeds such as Yorkshire terriers and Dachshunds
- Deciduous teeth can interfere with normal eruption of permanent teeth
- Food gets stuck
- Advise removing deciduous teeth often at sterilisation

Fractured teeth

- Often fractured due to trauma eg from chewing bones
- Each fracture needs to be assessed
- Can leave rough surface where plaque likely to build up
- If fracture exposes pulp then can act as port for infection

<https://veterinarypartner.vin.com/>
<https://amandabiondi.blogspot.com/>
<https://dsbermanfans.com/>
<https://www.veterinarydentalcenter.com/>
<https://www.mypetsdentist.com/>

When Does a Tooth Need to be Extracted?

Remember to always discuss extractions with an owner, either prior or during a dental. They will need to give consent for any teeth to be removed

Receding gums which expose the roots

Severe malocclusion

Retained deciduous teeth

Resorptive lesions in cats

Loose tooth

Tooth with marked gingivitis (cats)

Fractured tooth with exposed pulp

Pictures: <https://www.thedrakecenter.com/>
<https://callianaveterinarygroup.com/>
<https://todaysveterinarypractice.com/>
<https://dogtime.com/>
<https://stemcellsaafari.com/>

Anaesthetics

- Dentals are often performed on older animals so pre-anaesthetic bloods are advised
- The vet will decide on a suitable anaesthetic protocol and the animal will be anaesthetised accordingly

Patient Prep

- An ET tube is placed and the cuff inflated to prevent water from entering trachea and lungs
- A throat swab is placed in the back of the throat with a string attached to absorb excess water
- Often long procedures so animal needs to be kept warm



Preparation Equipment Prep

- The compressor should be switched on
- Check drill and scaler to make sure functional
- Make sure water tank for scaler and drill is full
- Ensure dental elevators are sharp

Gag



- A gag is usually placed between incisors to hold mouth open
- There is a movement away from spring loaded gags in cats as they can cause injury by over extending the jaw

Things to Get Ready

- Gauze swabs
- Chlorhexidine mouth rinse
- Extra dental burrs
- Prophy paste
- Dental elevators
- Extraction forceps
- stitch up kit



Dental Equipment

The Dental Machine

Drill

- Used to section teeth and burr away bone to make extraction easier
- Gets very hot so has a constant flow of water on it for cooling

Scaler

- Uses High vibrational energy to break up calculus
- Also gets hot and has constant water flow
- Tip needs to be replaced regularly when it is worn down



Polisher

- Used together with prophy paste to polish the surface of the teeth after scaling
- This creates a smooth surface which prevents plaque build up

Water spray

- Used to remove saliva and blood to aid visualization of teeth
- Used to rinse polish

Dental Equipment

Dental Tools

Root Elevators

- Root elevators are used to loosen a tooth and aid extraction
- Idea is not to lever the tooth out, but to stretch the ligament that is holding the tooth in place
- Elevators need to be regularly sharpened
- Different types: winged, straight, curved



Dental Burrs

- Round Burr: used to burr bone
- Cross Cut Burr: used to section teeth
- Need to be replaced regularly, ideally at every dental



Periosteal Elevators

- Used to loosen the gum from the underlying bones



Extraction Forceps

- Used to grip teeth to pull them out



Dental Probe

- Used to probe around teeth to check for pockets and gum recession
- Have lines on them to measure depth



Root Elevators




<https://serona.vet/products/cislak-straight-luxating-type-elevators-2mm-5mm?variant=11522686844975>

<https://serona.vet/products/cislak-winged-elevators-1mm-8mm?variant=11522717614127>

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Dental Burrs




	Size 4	Size 6	Size 8	Taper	Football
Ordering Code	D7040	D7060	D7080	D7091	D7095

ACTUAL SIZE

<https://www.genevetproducts.com.au/Product/16250-493-Dental-Bur-Diamond-Football-5pk.aspx>


Periosteal Elevators



<https://www.gerivetusa.com/molt-periosteal-elevator.html>

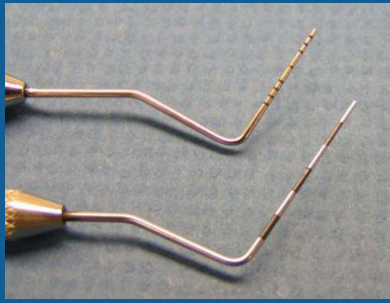
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Extraction Forceps




<https://www.in3vet.com.au/hand-instrument/canine-and-feline-extraction-forceps>

Dental Probe



<https://todaysveterinarynurse.com/dentistry/when-extraction-is-not-an-option/>

Oral Examination

- Usually easier to examine teeth once scaled and tartar removed
- A probe should be used to assess each individual tooth
- Things to assess:
 - Pockets around teeth
 - Fractures
 - Movement indicating the tooth is loose
 - Root exposure
 - Gingivitis and gum recession
 - Missing teeth
 - Abnormal marks or defects in enamel
- Also important to check other oral structures such as tongue, cheeks and back of throat

<https://www.amazon.com/>
<https://www.nixaanimalhospital.com/>

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Dental Scale & Polish

<https://adelaidevet.com.au/>
<https://cochraneanimalclinic.com/>
<https://www.cliniciansbrief.com/>

Scaling

- Has to be done under GA!
- Work strategically so that no teeth are missed
- Large bits of tartar can be broken off using a hand scaler or extraction forceps before scaling
- Ultrasonic scaler: very fast vibrations break up the tartar
- Also need to scale below the gum line




Polishing

- All the teeth should be polished using the polisher and prophylaxis paste
- Scaling can leave the tooth surface slightly rough. Polishing smooths this to prevent plaque build up.
- Left over prophylaxis paste can be rinsed afterwards




Dental Extractions

Sectioning

- Tooth sectioned according to number of roots using a cutting burr

Loosening

- Root elevators used to loosen ligament between tooth and bone that holds tooth in place
- Need to avoid levering the tooth out as this can break the root
- Takes time and patience

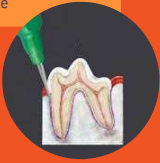
Pulling tooth

- Tooth is pulled gently, first by pushing down slightly with a slight twist and then by pulling
- If the tooth does not feel like it is coming out easily, the vet will not force it
- Rather go back to loosening it more before attempting again

Complicated Extractions

- Gum is cut and elevated off the bone
- Bone is burred using a round burr to reveal the underlying root
- Roots are sectioned using the cutting burr
- This helps in loosening the tooth
- Gum sutured closed

<https://www.cliniciansbrief.com/http://n2-uk.com/>



Recovery & Home Care

Remember to remove throat swab and deflate ET tube before patients wakes up.

Dry and clean the animal before they wake up. A wet animal is a cold animal!

Keep the patient warm during recovery.

Animals usually recover quickly from a scale and polish. Their gums may be slightly sensitive but they should be able to eat normally.

After extractions the patient is likely to be sensitive in the mouth. Advise feeding soft food for at least 3 days.

After extractions, patients are likely to go home on anti-inflammatories and on occasion also antibiotics.

Warn owners that there may be a bit of bleeding after a dental with extractions and some blood in the saliva is normal.

A checkup within 3 days of a dental with extractions is advised to assess that the gums are healing well.

How to Recommend Dentals to Pet Owners

"We often underestimate the pain that is involved with dental disease because animals tend to hide this well. Imagine how bad the tooth ache would be if your teeth were in this state."

"Once tartar has developed, unfortunately no amount of teeth brushing will fix this and a scale and polish under GA will be necessary."

"Unfortunately we can't ask dogs and cats to sit still and hold their mouths open for us. So an anesthetic is necessary to do a dental safely and correctly."

"If we address tatar build up early before the gums and roots are involved then we can prevent the teeth from having to be removed later."

"How is my pet going to eat if it loses so many teeth?" Dogs and cats are incredible at adapting. The teeth are likely painful at the moment, and you may find that your pet will be able to eat better after the teeth have been removed. Even with no teeth, some dogs and cats still manage to eat their dry pelleted food."

"But wolves and wild dogs don't brush their teeth and they are just fine" Today's domestic dog has evolved a lot since they were wolves and are no longer comparable. Studies have however shown that wolves and wild dogs do in fact suffer from severe dental disease later in life."

"My dog is really old so I don't want to take the chance" The dental disease is likely to get worse and worse if not addressed. And although your dog may be old now and there is a GA risk, if we leave the teeth then we are likely to be forced to do a dental in a year or two when abscesses start forming and the dog will then be even older with an even greater risk."

Preventative Care

Teeth Brushing

- Should start early in life to get animal used to it
- Not all animals will tolerate this
- Daily is ideal but even 3-4x/week will be beneficial
- Never use human toothpaste as the fluoride can be toxic if swallowed
- Pet toothpaste is usually meat flavoured - NB consideration for patient's with food allergies

Diet

- Dry pelleted diets can help improve dental health by physically removing plaque from teeth
- Prescription diets such as Hill's t/d

Water Additives

- Water additives e.g. Aquadent can help dissolve plaque build up
- Can sometimes affect the taste of the water so it is important to make sure the pet tolerates it and is still drinking water

Oral Rinse

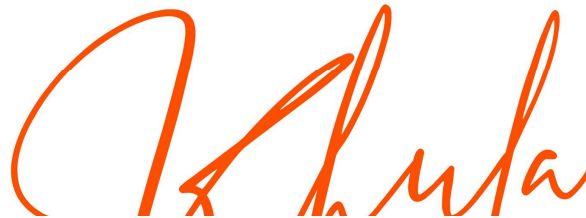
- In animals that won't allow brushing an oral gel or rinse can be applied to the teeth
- Not as good as brushing but can aid in preventing plaque build up
- Won't resolve severe dental disease

Regular Prophylactic Dentals

- If dental disease is discovered, a prophylactic dental can be advised
- This includes a scale and polish of the teeth which removes the plaque build up
- In predisposed breeds, more frequent scale and polishes may be advised
- This can prevent an animal needing future extractions



Questions?



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