ORAL EXAM & CHARTING STANDARD

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ORAL EXAM & CHARTING STANDARD

introduction

A change to an old saying could be “You might not be seeing oral and dental disease … but it’s seeing you!”

The entire dental team must incorporate regular, thorough oral examinations at every possible opportunity. Only by looking in the oral cavity will you find the problems there.

indications

- “EVERY MOUTH, EVERY TIME”
- During the alert oral exam, use gentle, non-aggressive movements to get animals accustomed to oral examination
- Charting is a record of normals/baselines and any pathology

equipment

- Dental chart:
  - Patient information
  - Written findings
  - Illustrated diagram of teeth (two views)
  - Patient treatment and care instructions
- Periodontal probe/explorer
- Transillumination equipment
- Intraoral radiology equipment
- Good lighting
- Gentle restraint

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alert oral exam

puppy/kitten (< 4 months)

Assess for Potential NEEDS:

Proper eruption of deciduous teeth – examine for:

- Broken deciduous teeth
- Foreign objects
- Malocclusions (teeth hitting other teeth, soft tissue, malalignment)
- Done every time you see a puppy or kitten

A broken, non-vital deciduous tooth - it should be extracted. The infection at its apex could affect the underlying permanent tooth bud.

Deciduous malocclusion (in this case, base narrow mandibular canines) causes discomfort or inhibits jaw growth. While extraction is sometimes necessary, a gingivectomy will resolve this puppy's condition.

Potential INTERVENTIONS:

Introduce Brushing Technique

- Slowly start the animal and client on a regular brushing program
- Best to get a pet used to having its lips gently raised and gingiva touched from an early age.

Extractions

- Broken teeth lead to infection which can damage adult teeth and jaw
- Malocclusions can prevent normal lengthening of jaw

Orthodontics

- Devices can help correct bite problems
- Surgery to lengthen or shorten jaw is possible

FOLLOW THROUGH OPTIONS

- Call owner in 1 week for update on brushing progress
- book extractions with sterilization surgery as soon as possible
- refer to specialist for orthodontic procedures
- Call owner in 24-48 hours if still undecided on procedure

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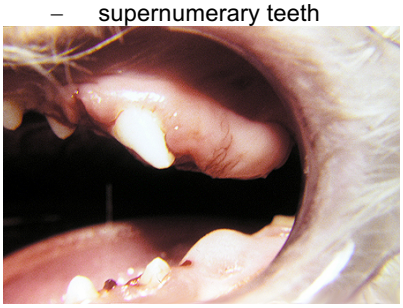
PUPPY/KITTEN (4 – 6 MONTHS)

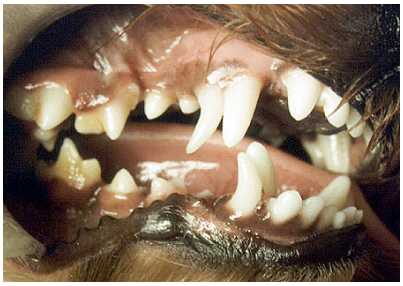
Assess for Potential NEEDS:

- Assess success of tooth brushing techniques
- Assess proper eruption of permanent teeth
  - Incisors by 4 months
  - Canines by 6 months
- Delayed eruption of permanent teeth
- Delayed loss of baby teeth (retained deciduous) with permanent teeth erupting:
- Assess position of permanent teeth
  - Base narrow mandibular canine teeth
  - Maxillary canines too far rostral?
  - Crowding of incisors, molars, premolars
  - supernumerary teeth



If the tough gingival tissue of an operculum inhibits complete eruption of a tooth, excise it to allow further eruption.

Any time a deciduous tooth is present when the permanent tooth is erupting or has erupted, the deciduous tooth should be extracted.



Multiple retained deciduous teeth - note how retention has caused the maxillary canine to erupt in a more rostral (mesial) position, and the mandibular canine to erupt in a more lingual position.

Potential INTERVENTIONS:

- Radiograph – Is tooth bud present?
- Excise if covered by gingiva (operculum)
- Carefully extract deciduous teeth
- Strategic extractions to prevent future periodontal disease

FOLLOW THROUGH Options

- Call owner in 1 week for update on brushing progress
- Book extractions with sterilization surgery as soon as possible
- Refer to specialist for orthodontic procedures
- Call owner in 24-48 hours if still undecided on procedure

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ADULT DOG/CAT

Assess for Potential NEEDS:

1) Examine external structures: for symmetry; swelling, etc.
2) Examine teeth – buccal surfaces:
   - Grade periodonal disease
   - Assess plaque, calculus,
   - tooth mobility
   - In cats, watch for gingival growth into resorptive lesions
   - Worn, chipped, discolored or fractured teeth warrant further evaluation under anesthesia to:
     - Check for canal exposure, perform transillumination, radiograph
3) Examine soft tissue:
   - Gingival hyperplasia
   - Oral masses/tumors
4) Examine tongue:
   - Surface
   - Sublingual (press up in intermandibular space with finger)

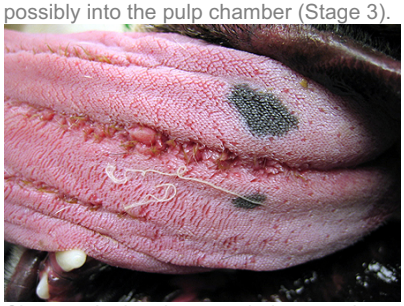
External signs of oral disease should be noted, as in this cat with an oral tumor.

If plaque remains on the tooth surfaces, it will become mineralized into calculus or tartar.

The hyperplastic gingiva on the upper 3rd premolar is probably hiding a resorptive lesion, while the upper 4th premolar shows indications of a deeper lesion, possibly into the pulp chamber (Stage 3).

Significant wearing of the lower incisors and canines has exposed the pulp canals.

There are a variety of oral masses that can be found in patients, all requiring thorough assessment.



Changes in the shape and pigmentation of papilla on the tongue will look like hair.

This small spot on the ventral surface of the tongue should be biopsied because oral tumors, including squamous cell carcinoma, can be very aggressive if not managed early on.

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Potential INTERVENTIONS:

- Radiograph – any abnormalities
- Excise excessive gingiva
- Root canal therapy
- Extraction of irreversibly damaged teeth
- Surgery to remove tumours
- Strategic extractions to prevent future periodontal disease

FOLLOW THROUGH Options

- Call owner in 1 week for update on brushing progress
- Book appropriate grade of prophylaxis procedure
- Book any extractions with prophylaxis procedure
- Refer to specialist for root canal procedures
- Call owner in 1 week if still undecided on procedure

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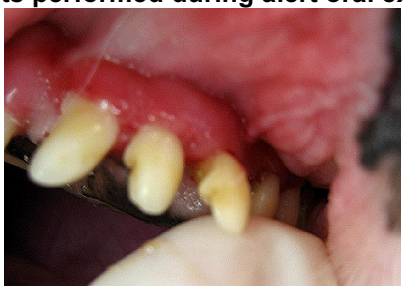
anesthetized oral exam

Assess for Potential NEEDS:

1) Repeat and enhance all assessments previously performed
2) Perform Periodontal probing
3) Use Explorer to assess pulp exposure, resorbtive lesions, other damage
4) Perform Transillumination procedure
5) Perform Intra-Oral Radiography
6) Record Findings on Chart
7) Make Intervention Treatment Plan

1. Repeat/enhance all assessments performed during alert oral exam:

Significant attachment loss has exposed the furcation (or area between the roots). This area may be challenging to treat effectively.



Digital palpation of teeth may reveal looseness or mobility that should be further evaluated.

2. Periodontal probing:

- Assess sulcus/pocket depth of all teeth:
  - Record findings in dental chart
- Assess degree of other pathology:
  - Root exposure
  - Furcation exposure
  - Tooth mobility

Carefully using a periodontal probe in a sulcus or pocket will allow you to measure any significant depths.

The periodontal attachment loss of this maxillary canine includes 3 mm of pocket depth, as well as 2 - 3 mm of root exposure, for a total of 5 - 6 mm attachment loss. This tooth is at risk for loss, if it does not respond well to therapy.

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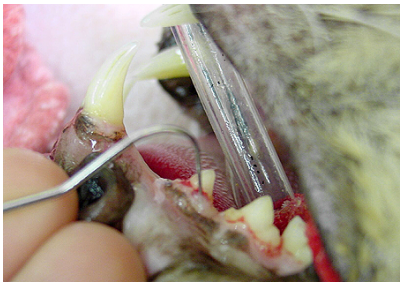
3. Explorer:

- Assess potential canal exposure:
  - Open canal – needs extraction or root canal
  - Tooth with smooth, worn surface with brown dentin is probably vital – assess with transillumination and radiology (see Pg. 2 of this section)
  - If unsure of pulp vitality/canal exposure – assess with transillumination and radiology (see Pg. 2 of this section)
  - If tooth has periapical bone loss or does not transilluminate, it is probably non-vital – needs extraction/endodontic therapy
- Assess feline resorptive lesions in cats:
  - Gently palpate neck of teeth with explorer tip
  - If explorer “sticks” in defect – painful
  - Further assess with radiology
  - Extraction is usually necessary

When a tooth is broken, the sharp tip of an explorer can be used to assess whether or not the canal is open. If the canal is open, the tooth should either be extracted or undergo endodontic therapy.

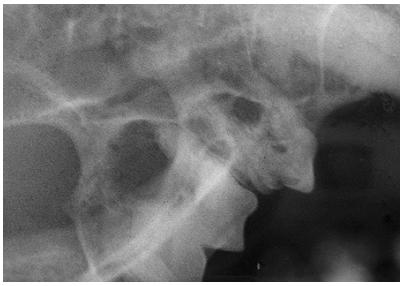
When attrition or wear is slow enough, the reparative dentin can keep the pulp protected. This dentin will usually appear light to dark brown and have a very smooth surface.

If a radiograph indicates periapical bone loss then the pulp is non-vital and the tooth should either be extracted or undergo endodontic therapy.



Gently running the tip of the explorer on the tooth surface will allow a tactile evalution of potential resorptive lesions. The tip will “catch” in the defect, and often the patient will often show a pain response as well, even under general anesthesia.

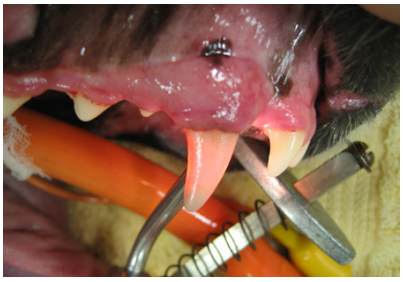
Oral exam reveals a potentially shallow resorptive lesion of the maxillary 3rd premolar, although possible pulpal bleeding may indicate a deeper lesion.



Further radiographic evaluation of the lesion of the maxillary third premolar reveals extensive root resorption. With such involvement, extraction is the only option.

4. Transillumination:

- Shine bright light from back side of tooth
- Transilluminates – light shines through – vital
- Does not transilluminate – tooth dark – non-vital
- Compare with similar teeth
- Confirm with radiography
- If unsure – re-evaluate at later date



Transillumination of this discolored canine shows a lack of light being transmitted through this tooth, indicating the pulp is probably non-vital.

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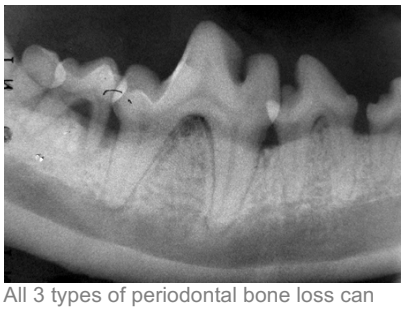
5. Intraoral Radiology

- Essential tool for complete assessment
- Periodontal disease – assess gingival inflammation, pocket formation, mobility, bone loss (extent and type)
- Extraction – assess site pre- and post-operatively (e.g., complications, feline resorptive lesions)
- Endodontic therapy – assess fractured teeth, discolored teeth; assess site perioperatively (e.g., root canal)
- Missing teeth (if imbedded, may cause cyst)
- Enamel hypoplasia/hypocalcification – roots may be abnormal
- Oral trauma – jaw fracture



All 3 types of periodontal bone loss can be demonstrated in this radiograph: (1) initial crestal bone loss at the right aspect of the image in between the distal aspect of the lower 3rd premolar and 4th premolar, (2) horizontal bone loss extending along all three molars, and (3) vertical bone loss of the mesial (rostral) root of the lower 2nd molar.

A discolored maxillary canine, this tooth became non-vital quite some time ago as the opposite canine continued to mature. This tooth requires extraction or endodontic therapy.

Extensive enamel pitting and discoloration (enamel hypoplasia/hypocalcification) may been seen as a result of some trauma or stimulus that occurred during tooth bud formation.

Whenever enamel hypoplasia (hypocalcification) is identified, the roots must also be evaluated with radiographs, because they may have been damaged during tooth formation as well. These roots never even formed

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charting

Charting Procedure

Pet Information:

1. Record date and all current patient identification information
2. Record any medical alerts (any medical condition important to procedure)
3. Record presenting complaint (i.e., reason for procedure) such as:
    - Needs dental cleaning
    - Broken tooth
    - Oral discomfort

Procedure Record:

4. Record signs (i.e., description of oral cavity including problems found):
    - Amount of plaque and calculus – Mild, moderate, or severe?
    - Degree of gingival inflammation – Mild, moderate, or severe?
    - Gingival bleeding index – None, on probing, spontaneous?
    - Extent of attachment loss – Mild, moderate, or severe?
    - Dental pathology - Fractured teeth, worn teeth (attrition), resorptive lesions, gingival hyperplasia?

Diagnosis:

5. Record specific nomenclature to classify extent of disease:
    - Periodontal disease – Stage 1 to Stage 4
    - Tooth fracture/vitality – Class (region) and extent (stage), or if tooth is vital or non-vital
    - Resorptive lesion – Stage 1 to Stage 5

Treatment:

6. Record a written description of therapy, followed by “multiple choice”:
    - Clean/polish/fluoride – Routine or extended?
    - Root planing/packing – Periodontal therapy with Doxirobe™ Gel
    - X-rays – How many taken?
    - Comments - Important to inform owner of possible concerns, including progression of disease and prognosis

Medications:

7. Indicate medications given before and during surgery
8. Document dispensing instructions for mediations to go home

Patient Care:

9. Record diet:
    - Should the owner soften the food? If so, for how long?
10. Record home care:
    - Initially, gels and solutions immediately after a surgery
    - Recommend time that brushing should recommence (5 to 7 days?)
11. Document recheck date/time:
    - Follow-up is vital for the success of many treatments
    - Post-surgical evaluation – 1 to 2 weeks to ensure proper healing
    - Re-treatment visit – recommended to re-assess and re-treat area for maximum results
        - Mild periodontal disease – Up to 12 months
        - Moderate periodontal disease and therapy – 9 to 12 months
        - Extended periodontal disease and therapy – 6 to 9 months
        - Significant periodontal disease and therapy – 4 to 6 months

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Canine Dental Chart

CLAVAMOX® (amoxicillin/clavulanic acid)

ANTIROBE® CAPSULES • AQUADROPS™ (clindamycin hydrochloride)

Doxirobe® Gel (8.5% doxycycline)

Pet's Name: "Puppy" Smith Date: 01-01-01

Breed: mix Age: 9 Sex: M/N

Medical Alert: heart murmur

Presenting Complaint: needs dental cleaning; bad breath

Procedure Record

Signs: moderate to significant calculus, moderate gingival inflammation and areas of attachment loss (see chart); bleeding on probing; chipped upper rt. canine

Diagnosis: stage 2 periodontal disease
#104 - chipped, not open, vital

Treatment: complete dental cleaning, root planing

Clean/Polish/Fluoride: ✓Routine Extended

Root Planing/Packing:

X-rays: upper rt. canine, lower rt. canine

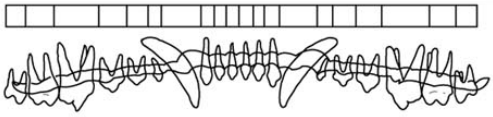
Comments:

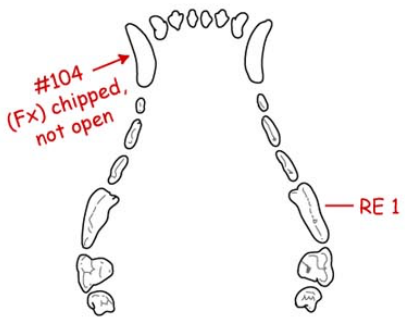
Antibiotics Dispensed: Clavamox pre-op; Clavamox 7 days BID

Pain Medications: Inj:
Dispensed:

Diet: soft 24 hr Home Care: brushing: start in 3-5 days

Recheck: in 2 weeks; re-clean in 9-12 months

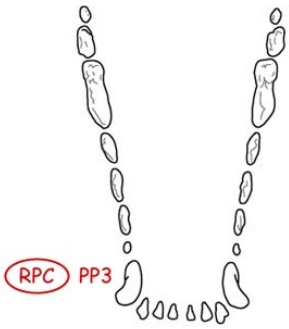


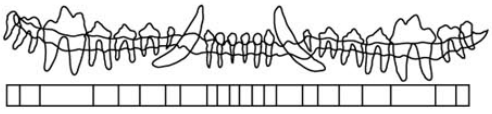


Maxilla

Right Left

Mandible





Abbreviation Key

AL--------- Attachment Loss	OM --------- Oral Mass
AT -------- Attrition	ONF -------- Oronasal Fistula
CA -------- Caries	PE ---------- Pulp Exposure
CWD ------ Crowding	PP ---------- Periodontal Pocket
ED -------- Enamel Defect	RD ---------- Retained Deciduous
EP -------- Epulis	RE ---------- Root Exposure
FE -------- Furaction Exposure	RL ---------- Resorptive Lesion
FX -------- Fracture	ROT -------- Rotated Tooth
GH ------- Gingival Hyperplasia	RPC -------- Root Planing, Closed
GV/GP --- Gingivectomy/Plasty	RPO -------- Root Planing, Open
LPS ------- Lymphocytic, Plasmacytic, Stomatitis	RTR --------- Retained Tooth
M --------- Mobile Tooth	X ----------- Extraction
O--------- Missing Tooth	XS ---------- Extraction, Sectioned
OP -------- Odontoplasty	XSS --------- Extraction, Surgical

Pfizer Animal Health

AIF 0603108

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tooth nomenclature

Modified Triadan System

Four quadrants:

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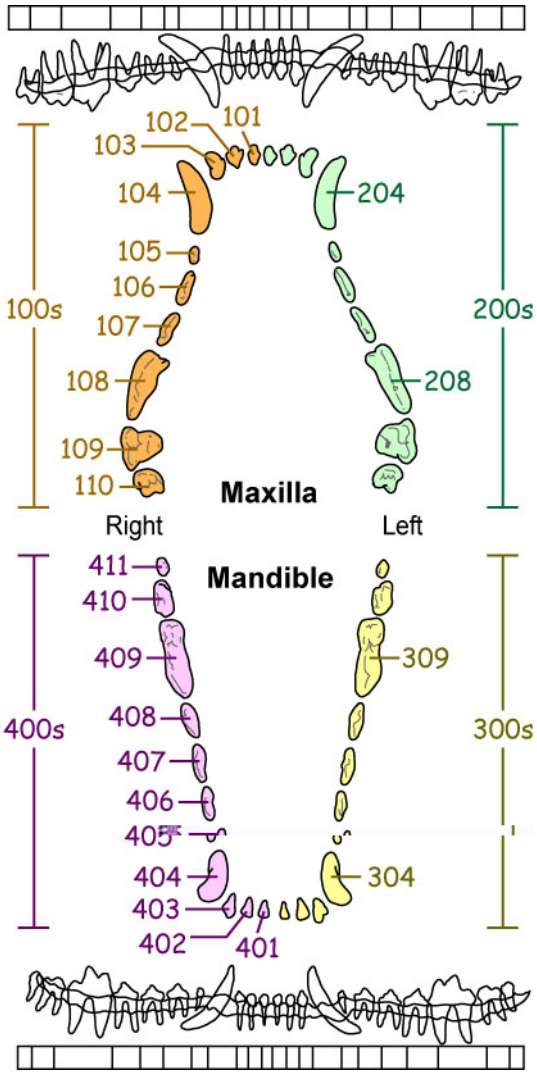
- Upper right: 100's
- Upper left: 200's
- Lower left: 300's
- Lower right: 400's

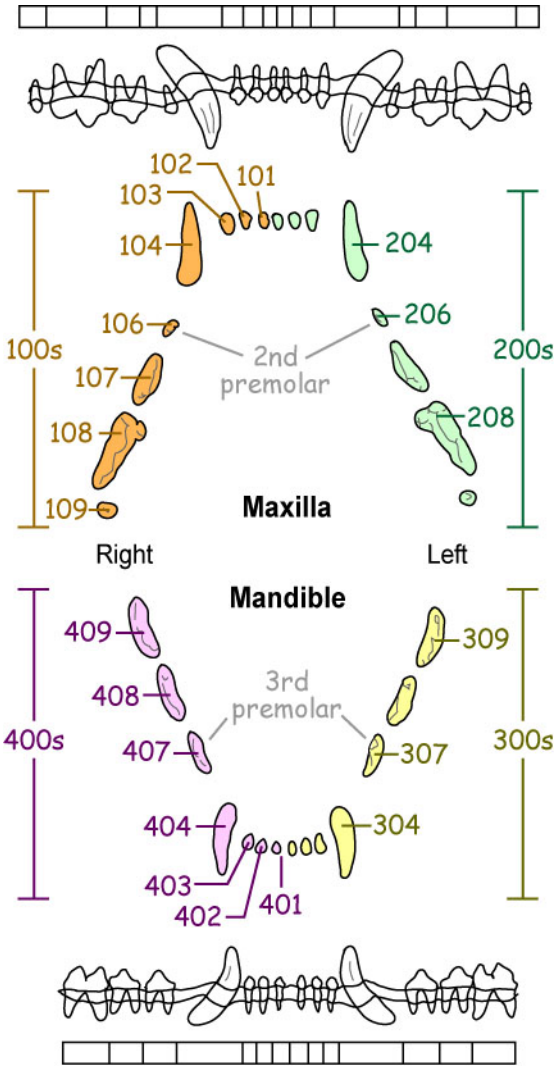
Teeth number from the midline back:

- Incisors: 01 to 03
- Canines: 04
- Premolars: 05 to 08
- In cats, maxillary 05 and mandibular 05 and 06 not present
- Molars: 09 to 11
- In cats, only maxillary and mandibular 09 present
- In dogs, maxillary 11 not present

Modified Triadan (dog)



Modified Triadan (cat)



Positional Terms (of tooth surfaces, etc.)

- Mesial: toward the midline (of the incisors)
- Distal: away from the midline
- Lingual: toward the tongue
- Palatal: toward the palate
- Buccal: toward the cheeks (or facial)
- Apical: toward the apex

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- Coronal: toward the crown
- Interseptal: in between roots

Positional Terms

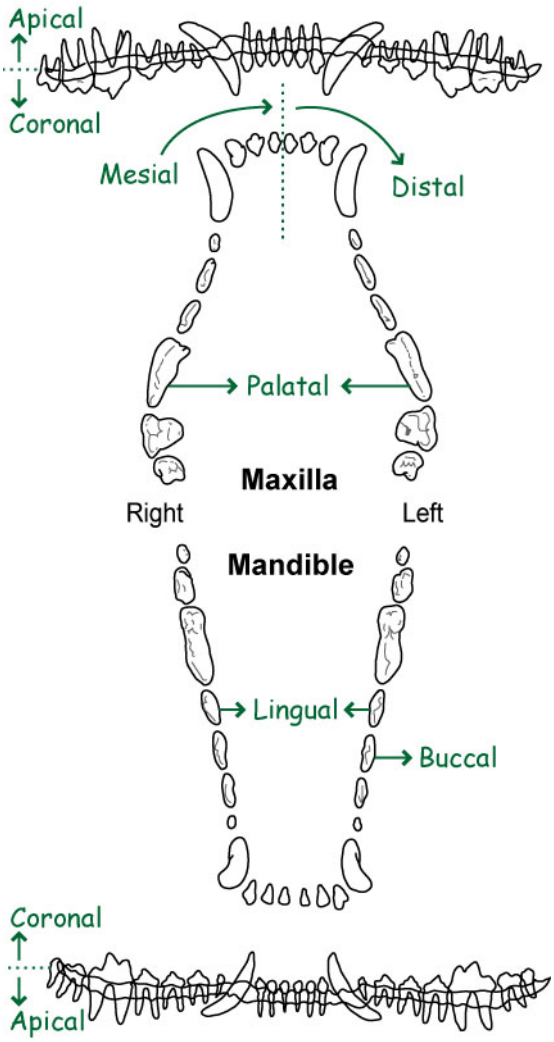

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chart abbreviations

AL = Attachment Loss

- Total of all tissue loss (e.g., if there is 3mm root exposure and 4mm pocket depth, total AL is 7mm)

AT = Attrition

- Attrition = wear on teeth
- On chart, draw in area of wear on teeth

CA = Caries

- Caries = bacterial decay
- On chart, draw area of carious lesion on tooth surface
- Although not commonly found, it can sometimes be seen in the occlusal surfaces of molars and the developmental groove of upper fourth premolars
- Full assessment with radiographs is necessary to evaluate pulp vitality
- Shallow lesions may be restored (prepped and filled), but extensive lesions require extraction

CWD = Crowding

- On chart, draw area of crowding
- With smaller dogs, crowding and rotation of teeth is not uncommon, but will contribute to periodontal disease

ED = Enamel Defect

- On chart, draw area of defect on tooth
- Evaluate for extent of lesion
- Lower first molars in small breed dogs may have a small enamel defect but completely abnormal root structure
- Focal, shallow lesions may be restored
- Generalized lesions may be undergo thorough curettage or smoothing, along with sealant or fluoride to help with sensitivity

EP = Epulis

- Epuli are three types of oral masses that are usually benign, although acanthomatous masses are sometimes very aggressive locally
- On chart, mark extent of mass, including osseous involvement
- Extraction with curettage of the periodontal ligament (tissue of origin)

FE = Furcation Exposure

- Sufficient gingival and bone loss has exposed the area at the bifurcation of roots
- On chart, mark with line pointing to furcation involved
- **F1:** through initial soft tissue layer
- **F2:** soft tissue loss and bone loss, but not completely through
- **F3:** permits passage of probe all the way through

FX = Fracture

- Typically refers to fracture of teeth
- On chart, mark specific tooth, indicate if canal is open or not and if tooth transilluminates
- May also indicate on chart if tooth is non-vital

GH = Gingival Hyperplasia

- On chart, mark areas of overgrown gingiva
- Increased pocket depth is usually due to increased gingival height not attachment loss, but if there is concurrent additional attachment loss it should be recorded

GV/GP = Gingivectomy/Plasty

- On chart, GH is marked at site to indicate where it has been removed

LPS = Lymphocytic/Plasmacytic Stomatitis

- Condition in cats associated with extensive inflammation, ulceration and/or proliferation of oral soft tissues
- On chart, mark area and extent of LPS on chart
- **Faucitis:** at commisures of mouth; sometimes with severe proliferation of tissue

- **Gingivitis:** around teeth
- **Palatitis:** inflammation/ulceraton of palate
- **Glossitis:** inflammation of tongue

M = Mobile Tooth

- A tooth which moves when gently palpated
- If there is indication of attachment loss, root fracture, or bone compromise (tumor?), the area should be radiographed
- **M1:** slight movement
- **M2:** movement of approximately 1 mm
- **M3:** movement greater than 1 mm in any direction or depressible into socket

O (circled tooth) = Missing Tooth

- Consider radiology
- Unerupted tooth could form large dentigerous cyst that can compromise jaw strength
- Previous fracture – make sure no retained roots
- Multiple missing teeth – may be congenital problem
- If embedded just underneath surface, excising gingiva might help if any further eruption is possible (e.g., young patient, open apex)

OP = Odontoplasty

- Procedure to thin or shave teeth to help overcrowding

ONF = Oronasal Fistula

- Mark on the palatal aspect (usually maxillary canine) where the deep pocket has attachment loss extending through the alveolar bone into the nasal cavity
- Once a fistula is present (apparent when water flushed into the pocket comes out of the nose), extraction of the tooth is the only option
- Closure of the flap can be challenging

PE = Pulp Exposure

- With worn or fractured teeth, the pulp's integrity should always be checked with a periodontal explorer (shepherd's hook)
- If the canal is open, the pulp is compromised and either extraction or root canal therapy should be performed

PP = Periodontal Pocket

- Discover periodontal pockets by probing: in dogs, greater than 2 to 3 mm; in cats, greater than 0.5 mm
- Abnormalities should be recorded on the chart
- Pocket can be recorded as "PP4" or just "4" – numbers only refer to periodontal pocket depth
- There may be multiple measurements around the same tooth that need to be recorded

RD = Retained Deciduous

- When a permanent tooth has begun to erupt or has erupted and the deciduous tooth is still present, it is considered retained or persistent
- Retained deciduous teeth should be carefully extracted

RE = Root Exposure

- Using a periodontal probe, measure and record on the chart areas of root exposure
- Root exposure is sometimes found at multiple sites around the same tooth
- If there is 3 mm of root exposure and 3 mm periodontal pocket, it is best to specifically note: RE 3; PP 3

RL = Resorptive Lesions

- Resorptive lesions can also be called neck lesions, cervical line lesions, feline odontoclastic and feline dental resorption
- Defect usually start at neck of tooth, but can progress to include most, if not all, of tooth
- **RL 1:** lesion extends into enamel (very shallow, often not detected)
- **RL 2:** lesion extends into dentin (often roots are already resorbing by this stage)
- **RL 3:** lesion extends into pulp (tooth is compromised)
- **RL 4:** extensive structural damage

- **RL 5:** crown is lost, resorbing roots may be present

ROT = Rotated Tooth
- On chart, mark position of rotated tooth and note if crowding is also present

RPC = Root Planing, Closed
- Signifies area of attachment loss (up to 5 mm pocket) with subgingival pocket where closed root planing was selected as part of the therapy, often using curettes

RPO = Root Planing, Open
- Signifies area of attachment loss (greater than 5 mm pocket) where a gingival flap was necessary to provide access for root planing

RTR = Retained Root
- Presence of root portion after incomplete extraction or fractured crown loss

X = Extraction
- Simple extraction – elevation

XS = Extraction, Sectioned
- Moderate extraction with sectioning of multi-rooted tooth

XSS = Extraction, Surgical
- Extended extraction with gingival flap, sectioning and/or osseous removal/contouring

POSSIBLE COMPLICATIONS

Alert Oral Exam
- A complete examination may not be safe in aggressive animals or those that are in pain
- Caution the owner that an alert exam is just the first step in a complete oral examination
- Additional problems can sometimes only be found once the pet is anesthetized

Anesthetized Oral Exam
- Missing or misdiagnosing disease or problems