

Oral Examination and Charting



INDICATIONS

- “Every mouth, every time”: a complete oral examination should be performed whenever possible to detect lesions as early as possible.
- Make it a part of puppy and kitten exams to start a lifetime of oral care:
 - Deciduous occlusion.
 - Broken or damaged teeth.
 - Proper eruption sequence.
 - Brushing/home care instruction.
- Continue with oral examinations at each visit, making oral care a cornerstone of a wellness program.
- An alert oral exam can give a quick overview of oral conditions in most patients.
- A complete oral examination can only be performed under general anesthesia and will include physical examination of the oral and dental structures, periodontal probing, transillumination, and intraoral radiography.

EQUIPMENT AND RESOURCES (see Chapter 9)

Alert Examination

- Adequate but gentle restraint
- Good lighting
- Charts
- Gloves

Complete Examination

- General anesthetic components, including monitoring
- Good lighting
- Soft mouth blocks (gauze, spiral perm rollers): do not use spring-loaded mouth gags, which can damage teeth or strain the temporomandibular joint unnecessarily, and can cause blindness in cats when they compress the maxillary artery
- Magnification (usually needed): loupes
- Periodontal probe/explorer
- Mirror (Figure 1.1)
- Transilluminator
- Charts

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■ **Figure 1.1** A dental mirror allows you to examine the distal aspects of molars during therapy.



■ **Figure 1.2** Before looking inside the mouth, examine the entire head for abnormalities, such as the generalized swelling of the face of this dog (oral mass).

PROCEDURE

Alert Examination

- Use great caution with anxious or aggressive animals or those in pain; examination may have to be accomplished under sedation (carefully) or when the patient is anesthetized.
- With the patient gently restrained on the table or floor, first observe the external structures of the head for any irregularities: symmetry, swelling (Figure 1.2), discoloration, discharge; note any malodor (halitosis).

- Gently hold the muzzle closed with your nondominant hand, and lift up the lips to observe the buccal/labial surfaces of the teeth. Note and record:
 - Accumulations of plaque and/or calculus (Figure 1.3).
 - Missing teeth (circle on chart).
 - Supernumerary teeth.
 - Worn (AT for attrition), chipped, broken (FX for fractured) or discolored teeth.
 - Gingival inflammation, overgrowth or recession.
 - Red or bleeding gingiva: draining tract (parulis), purulent discharge.
 - Gingival enlargement.
 - Possible presence of tooth resorption (TR) – feline and canine.
 - Position of teeth (occlusion).
 - Incisors should be in “scissor bite” (Figure 1.4).
 - Lower canine should be spaced equally between upper third incisor and upper canine.
 - Premolars should interdigitate in a “pinking shear” configuration.
 - Individual teeth in proper position.
 - Oral soft tissues.
 - Any fistula or defects.
 - Note if any unusual masses are present; press up in the intermandibular space to lift tongue to view sublingual area (Figure 1.5).
- If the patient is not in pain, and will allow it, briefly open the mouth:
 - Assess palate.
 - Look at tongue, and even raise the tongue pushing with your finger in the intermandibular space.
 - Caudal mouth: assess inflammation in any possible stomatitis case.
- With discolored teeth, occasionally a patient will allow you to transilluminate the tooth during the initial exam.



■ **Figure 1.3** During the alert exam in anxious patients, caution may be needed to carefully lift the lips with gentle restraint (use a tongue depressor to preserve your fingers), so the extent of calculus and plaque can be estimated (significant accumulations in this patient).



■ **Figure 1.4** This patient shows a variation from a correct “scissors” bite, with the left maxillary first incisor positioned behind the mandibular incisors (rostral crossbite).



■ **Figure 1.5** With a cooperative patient, the tongue can be elevated by pushing up with a finger in the intermandibular space.

Complete Examination Under General Anesthesia

- Reevaluate occlusion before intubation.
- Initial identification of significant lesions to help treatment planning and inform owner of unexpected problems (“red flag check”).
- Continue more extensive evaluation of above indices (Table 1.1):
 - Plaque index.
 - Calculus index (Figure 1.6).
 - Gingival index.

TABLE 1.1 Periodontal indices.

Plaque index (PI)	
PI 0	No observable plaque
PI 1	Plaque covers less than one-third of buccal surface
PI 2	Plaque covers between one- and two-thirds of buccal surface
PI 3	Plaque covers greater than two-thirds of buccal tooth surface
Calculus index (CI)	
CI 0	No observable calculus
CI 1	Calculus covering less than one-third of the buccal tooth surface
CI 2	Calculus covering between one- and two-thirds of the buccal surface with minimal subgingival extension
CI 3	Calculus covering greater than two-thirds of the buccal surface and extending subgingivally
Gingival index (GI)	
GI 0	Normal healthy gingiva with sharp, noninflamed edges
GI 1	Marginal gingivitis; minimal inflammation at the free margin; no bleeding on probing
GI 2	Moderate gingivitis; wider band of inflammation; bleeding on probing
GI 3	Advanced gingivitis; inflammation clinically reaching mucogingival junction; spontaneous bleeding sometimes present



■ **Figure 1.6** A more accurate assessment of the extent of plaque and calculus accumulation can be determined under anesthesia. This patient shows moderate calculus accumulation (CI 2) and plaque accumulation (PI 2, covering the calculus).

- Missing teeth: radiograph for embedded or unerupted teeth (see Chapter 14).
- Supernumerary teeth: evaluate for potential interference, crowding (see Chapter 15).
- Abnormal teeth: aberration in size, structure; evaluate for vitality (see Chapter 16).
- Worn, chipped or fractured teeth; discolored teeth (see Chapters 24, 26 and 37).

- Evaluate surface and determine if canal exposed (use periodontal explorer) (Figure 1.7).
- Transilluminate to assess pulp vitality:
 - Place the transillumination beam behind the tooth being observed, and examine the extent of light transmitted through the tooth.
 - Vital teeth should transilluminate well, allowing light to pass through the tooth structure, even showing the pink of the pulp (Figure 1.8).



■ **Figure 1.7** Explorer used to detect pulpal exposure of this left mandibular canine (complicated crown fracture).

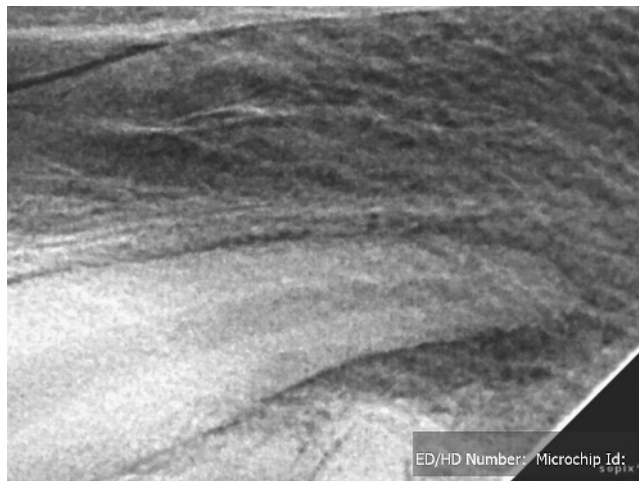


■ **Figure 1.8** Transillumination of this maxillary left second incisor shows good light transmission: the pulp is apparently vital.

- Nonvital teeth will not transilluminate well, appearing dark or dull, especially in the chamber portion (central), though the light will sometimes shine through the peripheral dentin to some degree (Figure 1.9). Note that the great majority of discolored teeth are nonvital and should be treated (Figure 1.10).
- Further evaluate with radiographs.
 - Radiograph to evaluate periapical bone, canal size.
- Mobile teeth: assess periodontal status and/or root fractures (Table 1.2).



■ **Figure 1.9** Transillumination of this maxillary right canine shows poor light transmission: the pulp is apparently nonvital and warrants further diagnostic evaluation (radiography).



■ **Figure 1.10** Assessing the open canal and apical bone loss on this radiograph confirms that the canine shown in Figure 1.9 is nonvital and requires therapy (root canal or extraction).

TABLE 1.2 Tooth mobility (M) index.

M0	Physiologic mobility up to 0.2 mm
M1	The mobility is increased in any direction other than axial over a distance of more than 0.2 mm and up to 0.5 mm
M2	The mobility is increased in any direction other than axial over a distance of more than 0.5 mm and up to 1.0 mm
M3	The mobility is increased in any direction other than axial over a distance exceeding 1.0 mm or any axial movement

TABLE 1.3 Common dental abbreviations.

AL	Attachment loss	OM	Oral mass
AT	Attrition (wear)	ONF	Oronasal fistula
CA	Caries	PE	Pulp exposure
CWD	Crowding	PP	Periodontal pocket
ED	Enamel defect	RD	Retained (persistent) deciduous
EP	Epulis	RE	Root exposure
FE	Furcation exposure	ROT	Rotated tooth
FX	Fracture	RPC	Root planing, closed
GH	Gingival hyperplasia	RPO	Root planing, open
GV/GVP	Gingivectomy/plasty	RTR	Retained root
LPS	Lymphocytic plasmacytic (caudal) stomatitis	TR	Tooth resorption
M	Mobile tooth	X	Extraction
(.) (circled)	Missing tooth	XS	Extraction, surgical
OP	Odontoplasty	XSS	Extraction, surgical, with sectioning

- Oral soft tissues:
 - Oral masses: early detection is critical (see Chapters 29–36).
 - Ulceration, depigmentation (see Chapters 23 and 41).
- Periodontal probing (see Chapter 2).
- Intraoral radiographs (see Chapter 3).

Charting

- Accurately record all variations from normal on chart (Table 1.3). See also Figures 1.11 and 1.12
- Dental formulas:
 - Canine permanent: $2 \times (I \ 3/3; C \ 1/1; P \ 4/4; M \ 3/2) = 42$
 - Canine deciduous: $2 \times (I \ 3/3; C \ 1/1; P \ 3/3) = 28$
 - Feline permanent: $2 \times (I \ 3/3; C \ 1/1; P \ 3/2; M \ 1/1) = 30$
 - Feline deciduous: $2 \times (I \ 3/3; C \ 1/1; P \ 3/2) = 26$
- Modified Triadan system can be used to identify teeth:
 - Quadrant numbering
 - “100”: upper right quadrant
 - “200”: upper left quadrant

Main Street Veterinary Dental Clinic - Feline Dental Chart

Client name:	Client #:	Chief Complaint:
Patient name:	Patient #:	
Date:		
Breed:		

Assessment :

Radiographs: ☐ Full ☐ Partial ☐ None

Treatment:

Clean/Polish/Dental Exam ☐

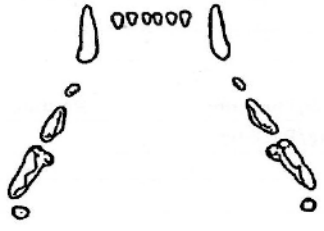
Periodontics ☐

Endodontics ☐

Exodontics ☐

Orthodontics ☐

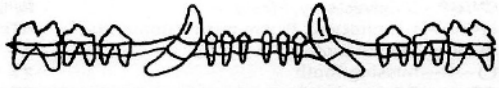
Comments:

Maxilla

Mandible

Right
Left



Post tx instructions:

Antibiotics:

Pain meds:

Diet: ☐ Normal ☐ Soft

Prevention: ☐ Oral Rinse ☐ Daily Brushing ☐ SANOS ☐ t/d Dental Diet ☐ Healthy Mouth Recheck exam : _____ Next oral procedure : _____	AB abrasion AT attrition B/E biopsy excisional BI biopsy incisional BG bone graft CA caries CAO chron alv osteitis CFP Cleft palate CRA crown amputation CU contact ulcer CWD crowding	DTC dentigerous cyst ED enamel defect E/H enam. hypoplasia FB foreign body FX fracture (tooth /jaw) FE furcation exposure GH gingival hyperplasia GR gingival recession GP/GV gingivoplasty/ectomy HI hair impaction M mobility 1,2,3	MAL malocclusion MN mandible MX maxilla NE near exposure NV non-vital tooth OM oral mass ONF oronasal fistula PD1 gingivitis only PD2 <25% attach loss PD3 25-50% attach loss PD4 >50% attach loss	PE pulp exposure PP periodontal pocket PRO periodontal prophylaxis R/C restoration w/ comp RC root canal therapy RD retained deciduous RE root exposure RPC root planing closed RPO root planing open RRT retained root tip RTR retained tooth root	SE extrinsic staining SI intrinsic staining SN supernumerary ST stomatitis SYM/S symphyseal sep T/I tooth impaction TR tooth resorption UE under erupted X extraction XS extraction sectioned XSS extraction surgical
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■ **Figure 1.12** Feline dental chart. Source: courtesy of Main Street Veterinary Dental Clinic – SVP.

- Fourth premolar: “_08”
- Example: right upper fourth premolar, “108”
- Example: left lower first molar, “309”
- Variations
 - Feline: no maxillary first premolar or mandibular first and second premolars, so “first” premolars are “106” and “206” in the maxilla, and “307” and “407” in the maxilla; only first molar present all four quadrants

- Canine: no maxillary third premolar
- Deciduous teeth: “add” 400 to quadrant number – 500 to 800, no deciduous molars, only premolars



COMMENTS

- A thorough examination can be performed on every patient in a reasonable amount of time and is essential to detect any abnormalities that may be present.

See also the following chapters:

- Chapter 2
- Chapter 3
- Chapter 9
- Chapter 14
- Chapter 15
- Chapter 16
- Chapter 24
- Chapter 26
- Chapter 23
- Chapters 29–36
- Chapter 37
- Chapter 41
- Appendix C

Abbreviations

See Table 1.3.

Internet Resources

<https://avdc.org/avdc-nomenclature/>

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