

**Blackwell's Five-Minute
Veterinary Consult**
Clinical Companion

Small Animal Dentistry

Second Edition

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Diagnostics

section



Oral Exam 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 (Fig. 1-1).
 - 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

Alert Exam

- Adequate but gentle restraint
- Good lighting
- Charts

Complete Exam

- General anesthetic components, including monitoring
- Good lighting
- Mouth gags for accessibility (use particular caution with spring-loaded mouth gags)—they can damage teeth or strain the temporomandibular joint unnecessarily
- Magnification (usually needed)



■ **Figure 1-1** Perform an oral exam on every patient possible—from early ages on.



■ **Figure 1-2** A dental mirror allows you to examine the distal aspects of molars during therapy.

- Periodontal probe/explorer
- Mirror (Fig. 1-2)
- Transilluminator
- Charts



PROCEDURE

Alert Examination

- Use great caution with anxious, aggressive, or painful animals; examination may have to be accomplished under sedation (carefully) or when the patient is anesthetized.
- With the patient gently restrained on the table, first observe the external structures of the head for any irregularities—symmetry, swelling (Fig. 1-3), 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 the following:
 - Accumulations of plaque and/or calculus (Fig. 1-4)
 - Missing teeth (circle on chart)
 - Worn (AT for attrition), chipped, broken (FX for fractured), or discolored teeth



■ **Figure 1-3** Before looking inside the mouth, examine the entire head for abnormalities, such as the generalized swelling of the muzzle of this dog.



■ **Figure 1-4** During the alert exam, many patients will let you examine the buccal surfaces of the teeth, and the extent of calculus and plaque can be estimated (significant accumulations in this patient).

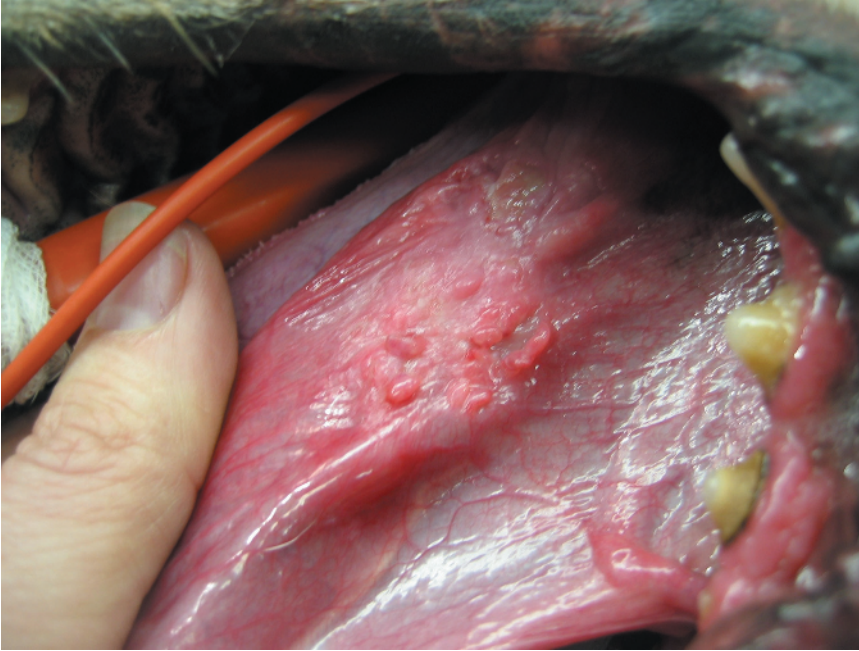


■ **Figure 1-5** This patient shows a variation from a correct “scissors” bite, with the left maxillary first incisor positioned behind the mandibular incisors (crossbite).

- Gingival inflammation/overgrowth
 - Red or bleeding gingiva
 - Gingival hyperplasia
 - Possible presence of tooth resorption (TR)—feline and canine
- Position of teeth (occlusion)
 - Incisors should be in “scissor bite” (Fig. 1-5)
 - 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
 - Note if any unusual masses are present; press up in the intermandibular space to lift tongue to view sublingual area (Fig. 1-6)

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”)



■ **Figure 1-6** Sometimes further evaluation of the tongue is done under anesthesia: this patient exhibits the condition known as “gum chewers—sublingual,” where the teeth have chronically traumatized the sublingual mucosa.

- Continue more extensive evaluation of indices (Table 1-1)
 - Plaque index
 - Calculus index (Fig. 1-7)
 - Gingival index
- Missing teeth: radiograph for embedded or unerupted teeth (see Chapter 16)
- Supernumerary teeth: evaluate for potential interference, crowding (see Chapter 17)
- Abnormal teeth: aberration in size, structure; evaluate for vitality (see Chapter 18)
- Worn, chipped, or fractured teeth; discolored teeth (see Chapters 31, 33, and 34)
 - Evaluate surface and determine if canal is exposed (use periodontal explorer) (Fig. 1-8)
 - Transilluminate to assess pulp vitality (see Chapter 3)
 - Radiograph to evaluate periapical bone, canal size
- Mobile teeth: assess periodontal status and/or root fractures (Table 1-2)
- Oral soft tissues
 - Oral masses (Fig. 1-9)
 - Ulceration, depigmentation
- Periodontal probing (see Chapter 2)
- Intraoral radiographs (see Chapter 4)

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 1-7** A more accurate assessment of the extent of plaque and calculus accumulation can be determined under anesthesia: moderate calculus accumulation (CI 2) and plaque accumulation (PI 2—covering the calculus).



■ **Figure 1-8** Explorer used to detect pulp exposure of this left maxillary fourth premolar with slab fracture.

TABLE 1-2 Tooth Mobility Index

Tooth mobility (M)

M0 Physiological 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



■ **Figure 1-9** Thoroughly examine all abnormalities in oral tissues (radiograph, biopsy) because early detection is essential when dealing with oral tumors. This small mass on the palatal aspect of the right maxillary third premolar was diagnosed as gingival hypertrophy.

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

Charting

- Accurately record all variations from normal on chart (Table 1-3) (see Figs. 1-10 and 1-11)
- 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
 - “300”: lower left quadrant
 - “400”: lower right quadrant
 - Tooth numbering
 - Start at central incisor: “_01”
 - Canines: “_04”
 - 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

[illegible]

■ **Figure 1-10** Canine Dental Chart (courtesy of Pfizer Animal Health—PAH0391 Dental Chart, p. 1).

[illegible]

■ **Figure 1-11** Feline Dental Chart (courtesy of Pfizer Animal Health—PAH0391 Dental Chart, p. 2).

COMMENTS

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

See also the following chapters:

- Chapter 2
- Chapter 3
- Chapter 4
- Appendix B

Author: Heidi B. Lobprise, DVM, DAVDC

Consulting Editor: Heidi B. Lobprise, DVM, DAVDC