

Intraoral radiography in the dog and cat is required for a complete and thorough oral examination, diagnosis, and treatment planning. Significant dental anatomy and pathology are hidden below the gingiva and oral mucosa. If these hidden structures are not examined, in addition to a complete oral examination, hidden pathology will be missed in veterinary patients.

It has been published since 1998 that full mouth intraoral radiographs provide benefit to the patient and are fully justified as a diagnostic test, allowing a complete examination of the oral cavity and dentition.^{1,2} A prospective, nested case-control analysis of cohort of dogs (n=226) and cats (n=115) were presented to a veterinary hospital for dental treatment; full-mouth radiographic views were obtained prior to completion of an oral examination and periodontal charting in all patients. The radiographic findings were then correlated with the oral examination findings to determine how much benefit was gained by the use of intraoral radiography. Primary clinical examination findings were radiographically confirmed in all of the dogs and cats examined. For ease of information, the results have been listed in a table format below in Table 1 and Table 2. When assessing this information, it is apparent and undeniable that intraoral radiographs are beneficial for our patients and are necessary as part of the anesthetized oral examination. This to say that ***intraoral radiography has a positive return of investment in a clinically asymptomatic dog or cat of 69.5% and 46.4%, respectively. This number gains even more importance when looking at animals with clinically diseased teeth, resulting in a positive return in dogs of 96.9% and in cats of 100%.***

Furthermore, the World Small Animal Veterinary Association (WSAVA) and the American Animal Hospital Association (AAHA) support the routine use of intraoral radiography. WSAVA considers dental/oral health to be an animal welfare issue, and applies significant importance to the accurate diagnosis and treatment of this hidden disease. It does acknowledge that sometime a practitioner must balance cost with diagnostic desire, partially dependent on the region in which they practice. North America is classed as a Tier 3 region, the highest level of socioeconomic status, and is expected to maintain high levels of diagnostic and medical care. For all tiers the minimum standard is, “...at least obtaining dental radiographs of the teeth clinically found to be diseased is mandatory.”³ AAHA guidelines from 2013 list intraoral radiographic equipment as mandatory and when describing the essential steps of the oral examination, states “***Radiograph the entire mouth, using either intraoral or digital radiographic systems. Radiographs are necessary for accurate evaluation and diagnosis....Standard views of the skull are inadequate when evaluating dental pathology. If full mouth films are not taken, the client must be informed that they were not done.***”⁴ Intraoral radiographs are required post-operatively by AAHA; the guidelines state to “***Take postoperative radiographs to evaluate the treatment applied. This is especially important in extraction cases.***” Updated guidelines are anticipated to be released in 2019 and are expected to be even more definitive about the use of intraoral radiography within our field and within accredited or member facilities.

Use of intraoral radiography is required, and accurate and proper interpretation of the results is needed in order for the clinical to be able to apply the appropriate treatment for the veterinary patient. There can be a wide range of normal across veterinary patients, and a full knowledge of normal anatomy and findings is needed in order to identify pathology.

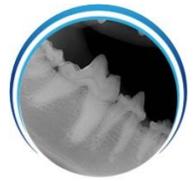


Table 1: Teeth without Clinical Lesions*

	Dogs	Cats
Incidental Findings	41.7%	4.8%
Clinically Important Findings	27.8%	41.7%
No Clinical Value	30.5%	53.6%

*Tooth Resorptive lesions missed on clinical examination in cats were diagnosed in 8.7% of cats with use of intraoral radiographs

Table 2: Teeth with Clinical Findings

	Dogs	Cats
Confirmation of Clinical Findings	24.3%	13.9%
Additional Information	50%	53.9%
Clinically Important Information	22.6%	32.2%
No Value	3.1%	0%

References

1. Verstraete FJ, Kass PH, Terpak CH (1998a). Diagnostic value of full-mouth radiography in cats. Am J Vet Res 59(6):692-695.
2. Verstraete FJ, Kass PH, Terpak CH (1998b). Diagnostic value of full-mouth radiography in dogs. Am J Vet Res 59(6):686-691.
3. https://www.wsava.org/WSAVA/media/Documents/Guidelines/Dental-Guidleines-for-endorsement_0.pdf accessed November 13, 2018
4. https://www.aaha.org/public_documents/professional/guidelines/dental_guidelines.pdf accessed November 13, 2018