

# Dental Radiography

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Full-mouth dental radiographs are rapidly becoming standard during dental procedures, as they routinely identify pathology that might not be evident at examination. Dental radiographs can be important for small animal patients that do not consistently demonstrate oral discomfort and pain. This gallery of both normal and abnormal dental radiographs shows various ways in which radiographs can provide insights for diagnosis.



1

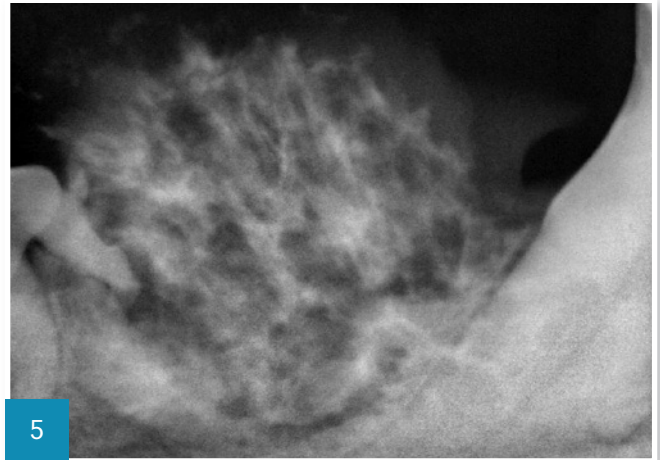
## Focal Idiopathic Osteosclerosis

These radiographic densities, like this one ventral to the right mandibular first molar (tooth 409), are characterized by bone sclerosis and well-defined borders of varying shape. These lesions are incidental and generally clinically insignificant.

2

## Root Dilaceration/Root Convergence

Root dilaceration, alteration in the shape or angulation of the tooth root, commonly affects the mandibular first molar in the form of root convergence. This developmental aberration, which often presents bilaterally, can result in dentin exposure at the furcation, allowing bacterial access to the pulp and subsequent periapical lucencies that may confirm nonvitality.<sup>1</sup>



**3** **Normal**  
Left first and second maxillary molars (tooth 209, tooth 210) of a dog (~8 months of age) with developing permanent dentition.

**4** **Horizontal Bone Loss**  
An 11-year-old cat presented with a decrease in the mandibular marginal bone height surrounding the right mandibular premolars and molar; this is consistent with horizontal bone loss from periodontal disease. Periapical lucencies associated with both roots of the right mandibular first molar (tooth 409) are also evident.

**5** **Benign Neoplasia**  
This acanthomatous ameloblastoma is locally invasive but does not readily metastasize. Bone proliferation with concurrent displacement of adjacent teeth is characteristic of non-neoplastic oral masses.<sup>2</sup> However, radiographic characteristics of benign versus malignant neoplasia are not always reliable, and biopsy is the only definitive means of classification.<sup>2</sup>

**6** **Vertical Bone Loss**  
Vertical bone loss represented by lucency adjacent to a root in which the marginal bone is coronal to the defect's apical extent. The mesial root on this right mandibular first molar (tooth 409) is severely compromised and has a periapical lucency.



**7** **Cyst**  
The distal root of the right mandibular molar has a distinct, well-defined lucency associated with the apical portion of the root with concurrent apex lysis. This is consistent with an apical radicular cyst, the origin of which is pulp inflammation.

**8** **Malignant Neoplasia**  
Squamous cell carcinoma in the right mandible of a 14-year-old cat. Lysis and bone production with cortical destruction and tooth resorption (where tooth position is not altered) are characteristic of aggressive oral neoplastic conditions.

**9** **Periapical Lucency**  
The periapical bone has a circular decrease in density with a poorly defined periphery adjacent to the apex of the distal and palatal root of the right maxillary fourth premolar (tooth 108). This can be compared to the well-defined borders of the cyst in Figure 7.

**10** **Root Tip**  
A well-defined density directly ventral to the extraction site of this right mandibular fourth premolar (tooth 408) is present in this 11-year-old, mixed-breed dog. A less conspicuous root tip can be seen mesial to the mesial root of the right mandibular first molar. Both root tips are within the mandibular canal. ■ **cb**

See Aids & Resources, back page, for references & suggested reading.