

Dental Radiology: the Good, the Bad, and Inconclusive Atlantic Provinces Veterinary Conference 2025

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This lecture has been designed to help you improve your dental radiographs.
First reviewing everyone's least favourite technique: Bisecting Angle.
With my "cheater codes" for this technique you might even like taking radiographs.
Then we will review my process for evaluating all "bad" radiographs to make sure the next one you take is good!

The Intraoral Parallel Technique is the same technique used to acquire diagnostic images for the rest of the body. The plate or sensor used to capture the image is positioned parallel to the target anatomy; the generator, also called the tubehead, is positioned perpendicular to both the sensor and the patient.

This technique is preferred as it allows for the most accurate image of the target anatomy with minimal distortion. However, due to the absence of a vaulted palate and the presence of a mandibular symphysis, the sensor can only be placed parallel to the entire tooth for the mandibular molars and in some patients the most caudal mandibular premolars.

The anatomic differences between humans and veterinary patients means that the majority of our patient's teeth will require the Bisecting Angle Technique to obtain radiographs.

One way to consider this technique is a way to create an intraoral parallel technique when the sensor cannot be placed parallel to the entire tooth.

Remember, with Parallel Technique the tubehead directed *perpendicular* to BOTH the tooth and the sensor, which is not possible for most of our patient's teeth.

By bisecting the angle between the sensor and the tooth, this creates the angle to which the tubehead can be placed perpendicularly.

The problem is if the sensor or plate is placed "as parallel as possible" as is recommend in most textbooks, this leads to the angel between the tooth and the sensor being odd, inconsistent and hard to visually bisect.

Therefore, my "cheater code" is to CHOOSE the angel between the tooth and sensor: place the sensor *perpendicular* to the tooth. This small change in sensor positioning allows for a 90-degree angle between the tooth and sensor which is visually much simpler to bisect: 45 degrees.

To ensure the sensor is perpendicular to the long axis of the maxillary teeth, the sensor should be placed parallel to the hard palate. For the mandibular teeth: using the patient's tongue to fill the intermandibular space will give your sensor a flat surface to lay against that is perpendicular to the tooth roots.

NOW about those "bad" radiographs.

Often a *non-diagnostic* radiograph, missing part of the tooth or inappropriate angle, is called “bad”. The radiograph is only “bad” if you do not then use it to help you get the diagnostic radiographs you want.

When you take a radiograph and it is non-diagnostic, STOP and make sure you ask yourself what you DO like about it before deciding what you do not like.

If part of the tooth or teeth are missing, move the sensor to ensure they are ‘on the plate’ and do not touch the tubehead.

If on the other hand you have the tooth, but it is too short or too long, do not move the sensor or plate but adjust the tubehead angle.

And while this seems simple, it is very easy to dislike a radiograph and want to change everything. However, in my experience it is best to change only one thing at a time.

This lecture will review the patient, sensor (or plate) as well as tubehead positioning and go through many visual representation of “bad” radiographs leading to great ones.