

## Perfect Equine Dental Radiographs

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### Oblique Views

The main stay of dental radiographs is the oblique view, used to highlight the tooth roots. This is taken with the side of interest against the plate and the beam coming from the contralateral side.

For maxillary teeth the beam is angled at 30° from the horizontal in a dorsolateral-ventrolateral direction, centred 3-5cm above the rostral facial crest.

For mandibular teeth the beam is angled at 35°-45° from the horizontal in a ventrolateral-dorsolateral direction, centered on the mandible in question at the level of the 08/09 teeth.

For both arcades angling the beam 5-10 degrees rostrally can reduce superimposition of the tooth roots.

### Top tips

- Try to get the head as horizontal as possible by placing the rostral mandible on a head rest – this makes the angle of the beam consistent for each tooth root. It is possible to get artefacts (blunting/shortening of tooth roots) if you are not perpendicular
- Palpate the 06's to help collimation – try to include the whole of the arcade on one view
- If there is an area of interest (external swelling/tract) or unclear findings on the first view take another centred on the tooth in question. Beam divergence can alter the tooth root appearance significantly so taking a shot centred on a dubious root may help clarify matters
- Subtle radiographic changes are unreliable (Townsend et al 2011) – if uncertain, look for oral signs (open pulps, fractures etc.) or take an open mouth view. If still uncertain do not remove the tooth – repeat in a couple of months
- Take exposures from both sides - comparison is really helpful – is that short, blunted root abnormal or simply due to the age of the horse? Is the developmental diastema present on both sides?
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### Open-mouth oblique views

- These are excellent for showing the clinical crowns of teeth and can show changes in the surrounding bone (for example vertical regression with periodontal disease).
- These are taken at 10-15° in the opposite angle to the tooth root views – i.e. dorsolateral-ventrolateral for the mandibular arcade and ventrolateral-dorsolateral for the maxillary arcade.
- The mouth should be held open approximately 5cm with something that will not obscure the view, for example a soft piece of rubber tube placed between the incisor teeth. This view was originally described using a plastic tube gag in the bars of the mouth but horses tend to chew on this, resulting in movement blurring.
- Again a horizontal head position makes life easier!

### Latero-lateral View

- For suspected sinusitis cases.
- Take this with the head in a natural position (although placing the nose on a head stand can help stabilise the head) as this makes the identification of horizontal “fluid lines” easier.

### Dorsoventral views

- These are of limited use in examining teeth but do allow imaging of the nasal septum and maxillary sinuses.



*References*

Townsend N, Hawkes C, Boden R, Barakzai S (2011) Investigation of the sensitivity and specificity of radiological signs for diagnosis of periapical infection of equine cheek teeth. *Equine Veterinary Journal*, **43**(2), pp. 170-178