

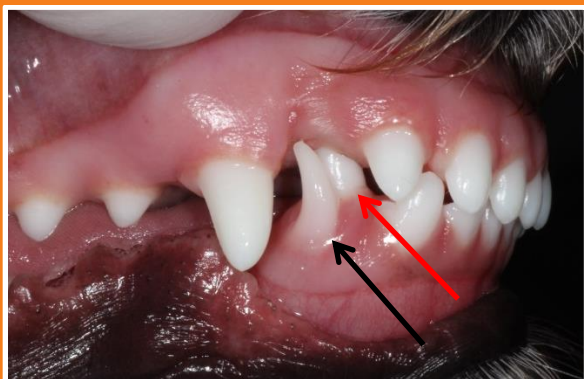
# Micro-Dog Case: Diagnosis, Treatment and Follow Up

Chris M. Carter, DVM, FAVD

Companion Animal Dental Solutions, LLC



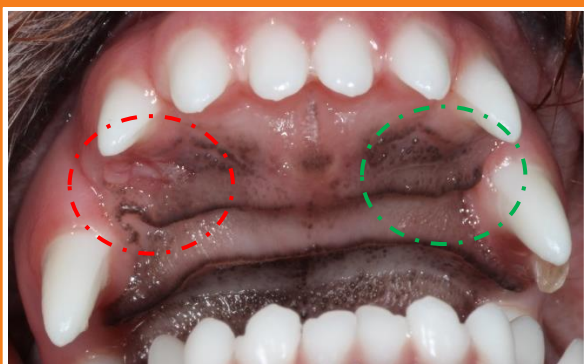
“Bentley” is a 6 month old Havanese who had multiple dental abnormalities that are common among small breed dogs. These dogs have been called Micro-Dogs. Micro-Dogs will commonly have retained deciduous (baby) teeth, missing teeth, malocclusions, crowded teeth, abnormally formed teeth and impacted teeth. For a great article by Dr. Fraser Hale, go here. In this article, we will be demonstrating the abnormalities as well as the treatment and outcome of this case. You would never expect that so much could be going on under those cute furry lips. A detailed tooth-by-tooth exam and full-mouth dental x-rays revealed a few extra surprises. Let’s take a closer look.



- Retained lower right deciduous canine tooth (black arrow)
- Base narrow lower right permanent canine tooth (red arrow) causing trauma to the hard palate



- Retained lower left deciduous canine tooth (black arrow)
- Retained upper left canine tooth that is broken with exposed pulp (red arrow) which is likely painful

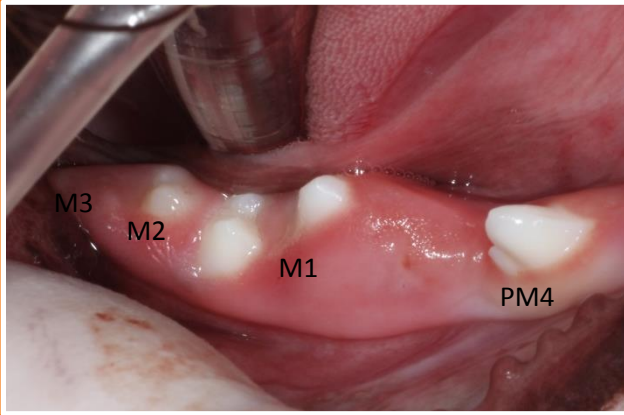


Picture of upper jaw showing palatal trauma from lower right canine tooth hitting as a result of being base narrow (red circle) compared to normal palatal tissue (green circle)

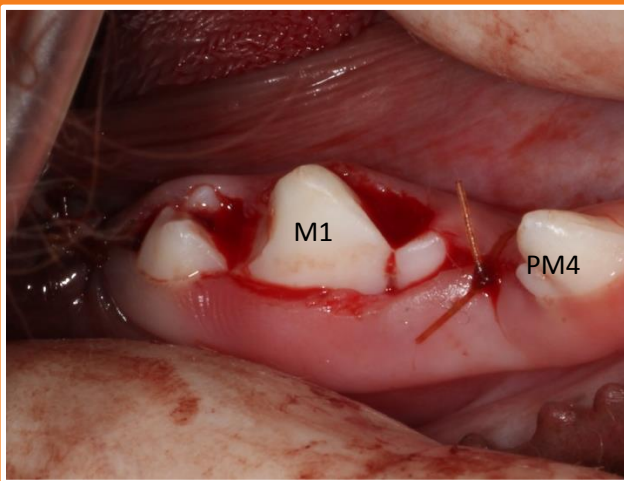
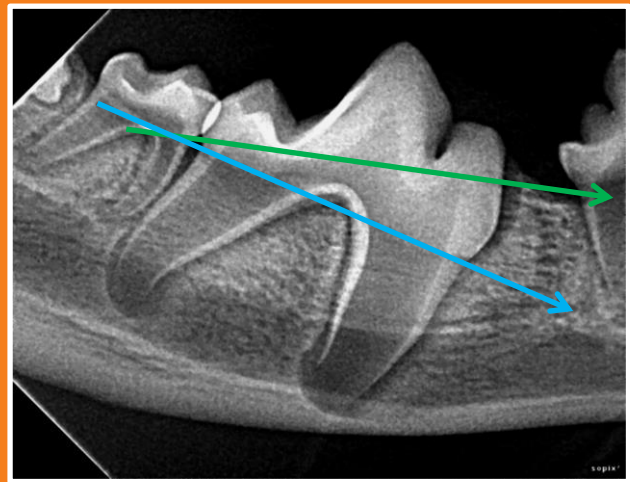
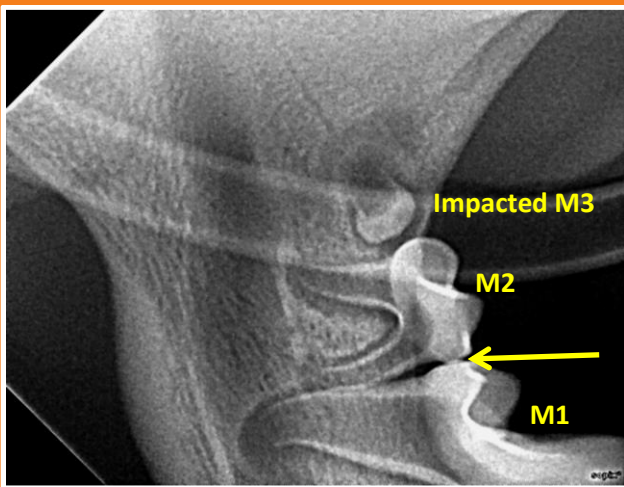
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The picture demonstrates obstructed eruption of the lower right 1<sup>st</sup> molar (M1), 2<sup>nd</sup> molar (M2) and a presumed missing 3<sup>rd</sup> molar (M3). The dental radiograph below and left shows the 3<sup>rd</sup> molar (M3) is actually present but buried under the gingiva and covered in bone as well as coming in at the wrong angle. Yellow arrow points to crowding between the 1<sup>st</sup> and 2<sup>nd</sup> molars (M1 & M2) which prevents normal bone formation and creates a more ideal environment for periodontal disease to establish putting the large M1 at risk of being lost in the future. The radiograph below shows the effect of the obstructed eruption where the 1<sup>st</sup> molar appears to be "tilted" down in the front. The blue line is through the cementoenamel junction and the green line demonstrates where those same structures should be



Picture taken after surgical extraction of the lower right 2<sup>nd</sup> and 3<sup>rd</sup> molars and operculectomy of the 1<sup>st</sup> molar which is removal of the gingiva obstructing tooth eruption. Sometimes bone must be removed as well.

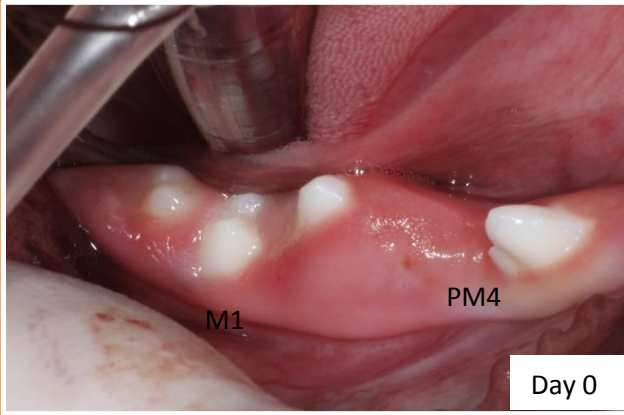
Post-operative dental radiograph showing complete removal of the lower 2<sup>nd</sup> and 3<sup>rd</sup> molars



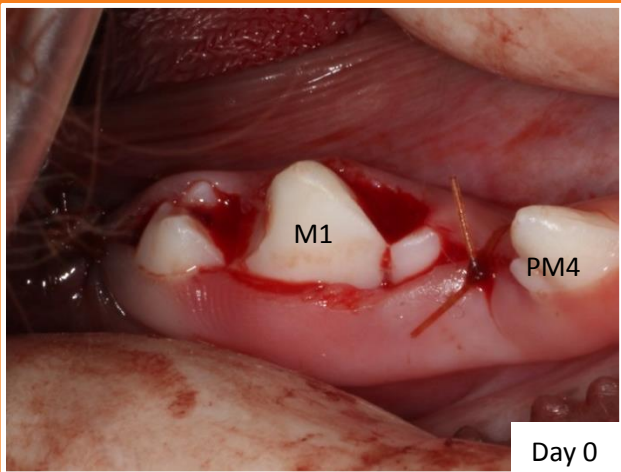
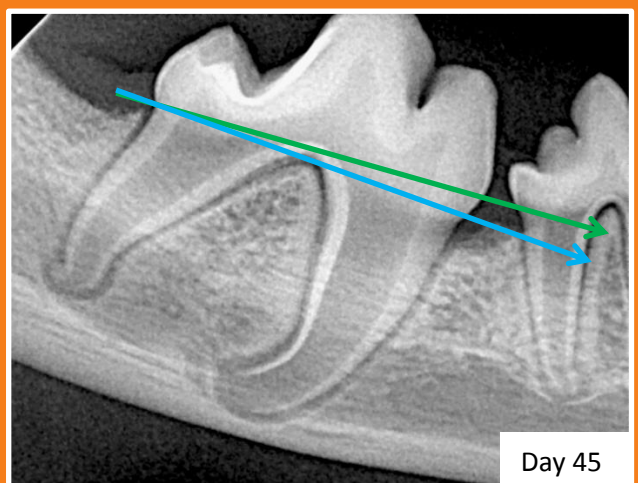
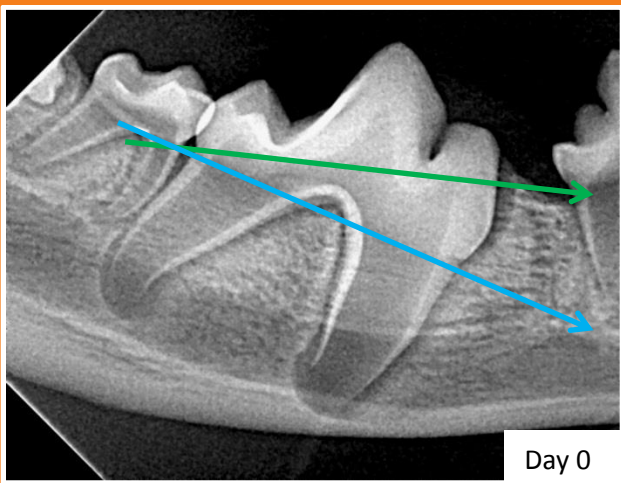
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This page is to demonstrate progress of the eruption of the lower 1<sup>st</sup> molar after removal of soft tissue that was delaying, and possibly preventing correct development. The radiograph on the right and below demonstrates acceptable progression. Note the narrowed angle between the blue line (current position of cemento-enamel junctions) and the green line (desired position of the cemento-enamel junctions) in the radiograph on the right compared to the radiograph of the same tooth 45 days prior.



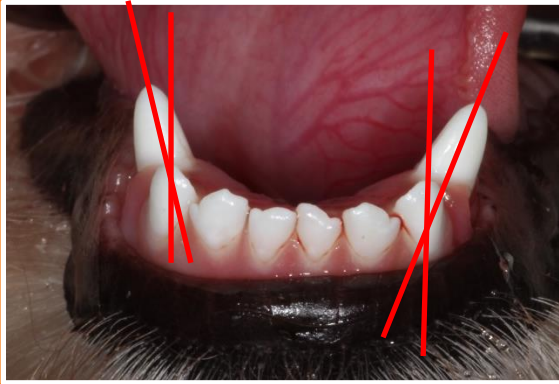
Picture taken after surgical extraction of the lower right 2<sup>nd</sup> and 3<sup>rd</sup> molars and operculectomy of the 1<sup>st</sup> molar which is removal of the gingiva obstructing tooth eruption. Sometimes bone must be removed as well.

Picture taken on day 45 showing continued eruption of the lower 1<sup>st</sup> molar. Note the gingivitis and plaque accumulation. Daily plaque control by brushing of the teeth is recommended.

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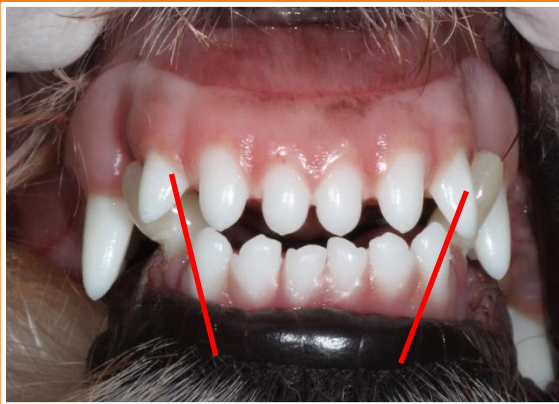
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Base narrow canine teeth result in trauma to the palate and must be resolved by orthodontically moving the teeth, surgically removing the teeth or in the case of a more mature animal, shortening the teeth and performing endodontic therapy. In this case, we provided orthodontic care to move the canine teeth while they are still developing and taking advantage of the eruption potential.

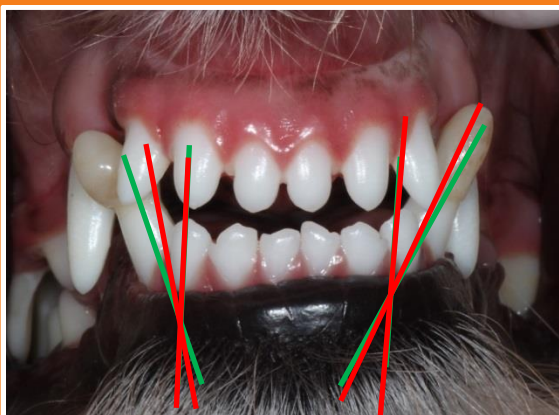
Day 0 - Red lines are used to estimate the angle between the long axis of the K9 teeth and 3<sup>rd</sup> incisors



Day 0 red lines estimate the long axis of the K9 teeth. Notice the composite tooth extensions that are placed to extend the length of the tooth in such a manner that the tip of the composite rests on the outside of the palate to guide the erupting tooth into the correct position. In subsequent photos you can see the angle of the lower K9 teeth changes to a proper position



Day 14 red lines estimate the long axis of the K9 teeth



Day 45 - Red lines represent estimated angles between the long axis of the K9 tooth and 3<sup>rd</sup> incisor from Day 0.

Green lines represent estimated angles between the long axis of the K9 tooth and 3<sup>rd</sup> incisor on Day 45. We are trying to achieve further movement so composite was added to the lingual aspect of the lower right K9 tooth. It may require an additional 30-45 days to establish this position.



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Day 103 - Pictures of the mouth after removal of the composite tooth extensions. The owners have been performing daily home care including brushing the teeth with addition of an oral hygiene rinse. Note the decreased gingivitis in the bottom picture compared the picture of the same area on day 45

