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Correction of Mesioverted Maxillary Canine Tooth in a Sheltie Dog

There are few ways to my knowledge on how to apply an orthodontic appliance for correction of mesioversion of the maxillary canine teeth aka "lanced canine." This patient described below was a 9-month-old male Sheltie who presented to Arizona Veterinary Dental Specialists. Correction of this condition requires orthodontic movement or extraction of the tooth. The orthodontic appliance for this patient was applied May 14, 2018 and was removed July 13, 2018.



Figure 1: Photograph showing mesioversion of left maxillary canine tooth (204) in a dog. Note the tooth 204 is not impacted on the distal surface of the maxillary left third incisor tooth (203). There is increased gingivitis affecting 204 with the maxillary lateral incisor 203.



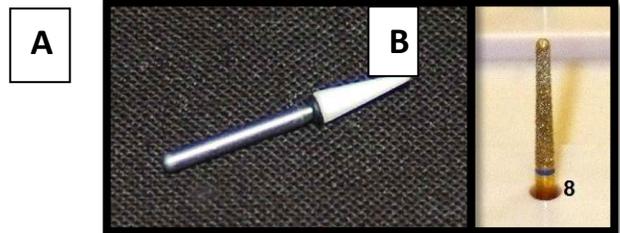
The tooth was acid etched and single bond was applied to the coronal aspect of 104 and light cured for 20 seconds. Z250 was molded to make a coronal button and light cured for 35 seconds. This will hold the elastic chain. This technique creates a coronal button on the surface of 104.

Figure 2: Photograph of the coronal button on 204 after elastic chain placement. A hook may be made out of 24 or 26-gauge wire which would be bonded in place on the coronal 1/3 of the maxillary canine tooth. However, make sure the hook is placed in the direction of the intended movement if this technique is used. This method is described in the JVD 2008 article by Loic Legendre, DVM.



Figure 3: Photograph showing orthodontic buttons applied to the anchorage teeth. A lingual button which was made out of flowable restorative composite has been bonded to the cusp of the maxillary first molar tooth.

First, the 209 and 208 were acid etched for 15 sec and rinsed. An application of single bond was applied to the areas where the buttons would be placed, and light cured for 20 seconds. Then flowable restorative composite was applied and shaped into a button. This was light cured for 35 seconds. A diamond bur was used to create more of a round button.



A: Arkansas stone; B: round end taper diamond (Goldie)

Figure 4: An orthodontic tie was twisted from the lingual button to the distal button connecting the teeth as a single anchorage unit. This was performed using 24 or 26-gauge wire. The wire continued to

twist and was bent to form a hook at the mesiobuccal aspect of the tooth of the maxillary fourth premolar tooth.

The wire and teeth were acid etched and single bond was applied which was light cured for 20 sec. Flowable composite resin is added to the buccal surface of these teeth providing a tooth/wire/composite resin anchorage unit. Application of Protemp (maxi temp) was then applied over the flowable restorative composite and hook. Then teeth which was smoothed with a round end taper diamond (Goldie) and an Arkansas stone.



Figure 5: Photograph showing the completed application of the orthodontic appliance. An elastic Maseil chain was attached to the coronal button and bracket and shortened approximately 75 to 80% of its resting length to achieve the appropriate tension force on the target tooth.



Figure 6: Photograph showing application of a bite block which was applied to the occlusal aspect of 109 and 110 to occlude from an interlock occurring as the teeth were correcting. This was applied with a similar technique as noted previously. Application of acid etch for 15 sec, rinsed then application single bond which was light cured for 20 sec. Then covered with Protemp which was smoothed. An application of universal bond was applied to the fully completed orthodontic appliance and then light cured to reduce gingival trauma.



Figure 7: Client was instructed to perform daily oral rinses using Chlorhexidine gluconate 0.13%.

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