

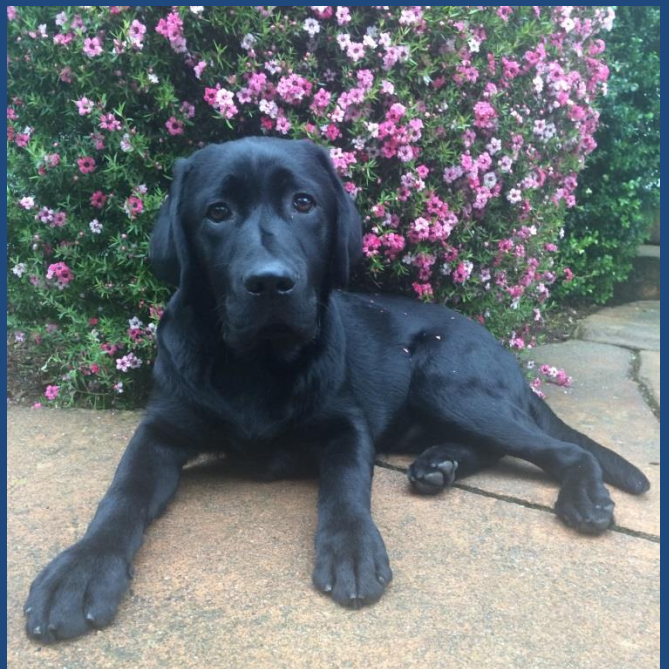
## Recognition and Treatment of a Class 2 Malocclusion – Mandibular Distocclusion

A normal occlusion is ideal for each animal. It ensures that the teeth and jaws line up correctly and result in a functional mouth that is free of defects that could cause difficulty picking things up or even causing pain and resulting infection from trauma. This article describes a class 2 malocclusion (mandibular distocclusion) in a 12 week old Labrador Retriever and the associated treatment. In this type of malocclusion, the lower jaw is too short resulting in the lower deciduous (baby) teeth hitting the roof of the mouth causing trauma (yellow arrows). In addition to the trauma, the teeth can act as an anchor of sorts, keeping the lower jaw from growing to its full potential. The four quadrants grow independently of each other and impingements like this can keep the jaw from reaching its full growth potential. Early identification is most important for the best outcome while using the growth potential to our advantage. The first step, at this early stage, is to surgically remove the lower deciduous canine teeth and incisors to stop the trauma and release the “anchor”. It is important to use appropriate technique to avoid damaging the delicate adult teeth that are forming under the gum line. Damage to the adult teeth can lead to the need for extraction or restorative repair. Once the teeth are removed, the patient is rechecked on a regular basis to observe the changes in the jaw discrepancy as well as the placement of the adult teeth as they erupt. In this case, there was a need for additional intervention to make sure the adult teeth ended up in an acceptable position. In cases where the malocclusion is not noticed until skeletal maturity, we are more limited in our options for treatment and many times can only provide relief of trauma without return to a normal occlusion. The following pictures are from “Gilligan”, Labrador Retriever that was diagnosed early and treatment began at 12 weeks (3 months) of age.



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Pictures taken at 5 months of age which was 2 months after surgical extraction of the lower deciduous incisors and canine teeth. It appears the discrepancy in jaw length is improving. There is an extra upper incisor on the left side. The lower adult canine teeth are barely poking through the gum line and appear to be heading toward the upper canine teeth in a similar fashion as the deciduous teeth were but not as severe.





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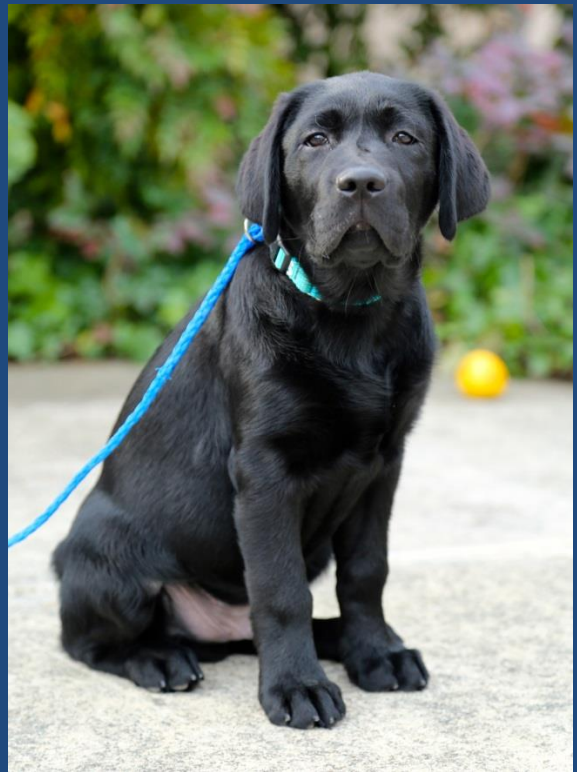
Pictures above at 5 ½ months of age showing continued eruption of the lower canine teeth and addition of composite tooth extensions. The picture on the left shows the lower right canine tooth displaced distally and touching the upper right canine tooth. This is due to the jaw length discrepancy which has been improving but not resolved. The picture on the right shows the lower left canine tooth touching the roof of the mouth.

The next set of pictures below shows placement of composite tooth extensions on the lower canine teeth to guide them equally between the upper canine teeth and 3<sup>rd</sup> incisors as they continue to erupt. The composite tooth extension basically reserves the space where the adult tooth will end up as well as encouraging proper lower jaw growth by “anchoring” the tooth in the correct position as it continues to grow. The extra incisor was also surgically extracted to relieve crowding to which can allow the 3<sup>rd</sup> incisor to move if needed.



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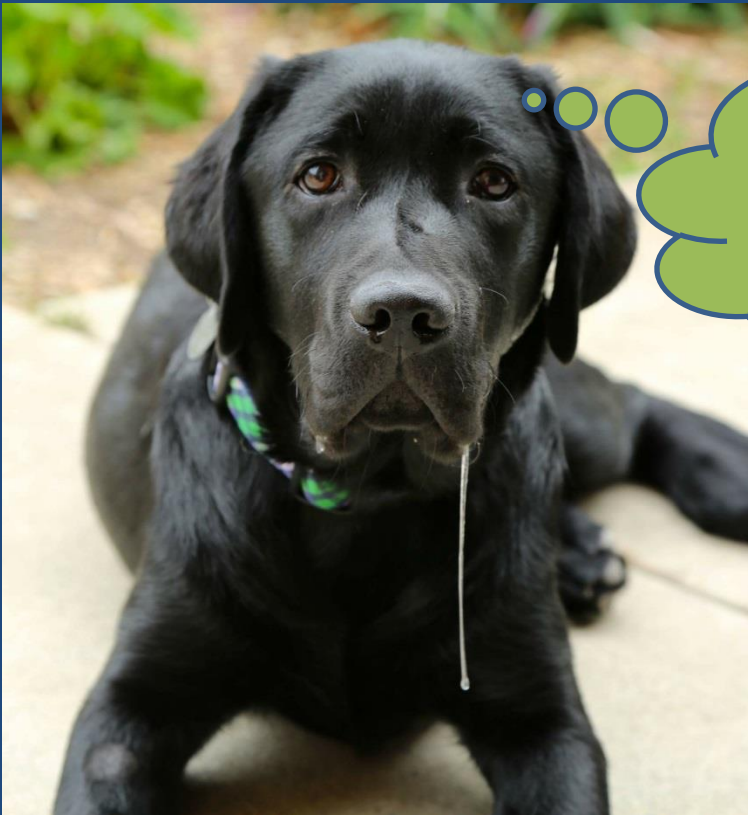
The pictures below are from the day the tooth extensions were removed. Composite tooth extensions require diligent attention to the patient's oral habits. They are not allowed to mouth play with other animals or to have toys that would put forces on the extensions. It is possible, but unlikely to break off the extension as well as the adult tooth it is attached to. This would require additional work to save the tooth or surgical extraction to remove it. In this case, the extension on the lower right canine tooth came off, which could have been from picking something up or failure of good adhesion, however timing could not have been better. The teeth were in an acceptable position so the extensions were removed rather than replaced. The picture on the upper left shows evidence of a slight malocclusion but for all practical purposes is functional and non-traumatic.





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Below are the latest pictures of the teeth at 7 ½ months of age. The discrepancy of upper and lower jaws is minimal and the patient continues to do well. By performing this treatment, we have established a nearly normal occlusion that is fully functional.



Did someone say  
lunch?

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Picture below of an 11 month old dog who had the same malocclusion as Gilligan however diagnosed at a time when most of the skeletal growth had already occurred leaving us without the opportunity to create a normal occlusion. In this case, we had the option to try to move the lower canine teeth behind the upper canine teeth, shorten the lower canine teeth and perform vital pulp therapy, or surgically remove the lower canine teeth and incisors to alleviate the trauma. It is always best to diagnose this condition early and intervene as needed while the body is growing and the teeth are in the process of erupting to have the best chance at establishing a normal, functional, pain-free occlusion.



### Disclaimer for orthodontic treatment:

Orthodontic treatment is performed on animals with malocclusions to make the mouth functional, as well as free of pain and infection. It is my strong recommendation that these animals are not be used in a breeding program as we are not sure if the traits will be passed on to offspring. Gilligan is in training to be a service animal where a normal occlusion is very beneficial for his daily performance. With intervention we were able to establish a normal occlusion without manipulating the jawbones which to me demonstrates the genetic potential to be normal by removing obstacles to proper growth compared to a situation where surgical intervention is required to rebuild or construct tissues in a fashion to cover up a genetic defect. Gilligan was neutered and is showing great promise in his training as a future service animal for a person with a disability.