

Malocclusion

Class 1

A tooth or teeth angled incorrectly;
jaw lengths are appropriate



Class 2 ("Overbite")

Mandibles shorter than the maxilla;
mandibular brachygnathism



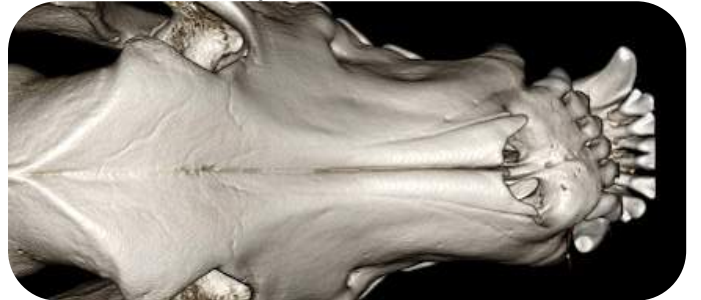
Class 3 ("Underbite")

Maxilla shorter than the mandibles;
maxillary brachygnathism



Class 4 ("Wry Bite")

Left/Right jaw lengths are not
symmetrical



When do we need to intervene?

When malocclusions are **TRAUMATIC!**

A traumatic malocclusion is one that is causing damage to other teeth, the palate, or other oral soft tissues.

Linguoverted ("base narrow") mandibular canine teeth, as seen in the pictures here, will damage the palate and maxillary canine teeth.

Mesioverted (lance) canine teeth cause crowding and can cause teeth that don't normally contact each other to touch, leading to abnormal wear and damage.



Correcting Malocclusions



Extraction

- Extraction of the teeth causing trauma is the simplest correction to the issue.
- Exaction only requires one procedure and the pet should be able to easily adjust without the extracted teeth.



- Extraction of the mandibular canine teeth does compromise the structural integrity of the mandible.
- Preserving teeth is always our goal, but crowding can necessitate extraction.

Inclined Plane

- An orthodontic device made of composite that uses a ramp to slowly shift linguovered canine teeth into correct alignment (over 8-12 weeks).
- Once the teeth have moved into correct alignment, further treatment or intervention for these teeth is not usually necessary.
- Ideally this is started at 5-6 months old.



- This is a non-invasive procedure that does not a pose risk to treated teeth.
- This procedure requires at least two anesthetic episodes and the inclined plane can break if the pet chews on something too hard (which would require another procedure to replace the broken appliance).
- Appliance requires cleaning at home.

Crown Extensions

- Another orthodontic device made of composite, placed on top of linguovered mandibular canine teeth in a 5-6 month old puppy.
- Like the inclined plane, the extensions will cause the teeth to angle outward as the pet closes their mouth (over 6-8 weeks).



- This procedure is also not very invasive, but there is an increased risk of fracture of the mandibular canines due to their increased length and abnormal forces placed on them.
- If the crown extensions break before treatment is finished, they need to be replaced (similar to an inclined plane).

Crown Amputation and Vital Pulp Therapy

- To preserve as much of the tooth as possible, the pointy tips of linguovered mandibular canine teeth can be amputated to shorten the teeth.
- This procedure, however, exposes the pulp/root canal, and vital pulp therapy must be performed to protect the pulp.



- After vital pulp therapy, about 20-25% of teeth die, which would necessitate root canal treatment or extraction (3-6 months later).
- Imaging under sedation is performed 3-6 months after crown amputation, and then annually thereafter.

Active Force Appliance

- In cases of mesioverted ("lance") canine teeth, active force appliances can move the teeth into their proper position.
- At least 2 anesthetic events are required (to place and remove the appliances), sometimes more.



- Buttons and elastic bands are the most common appliance; active pulling force from the band can bring the affected tooth into non-traumatic alignment.
- The buttons can break off and the band can stretch or fall off. Button replacement requires anesthesia.