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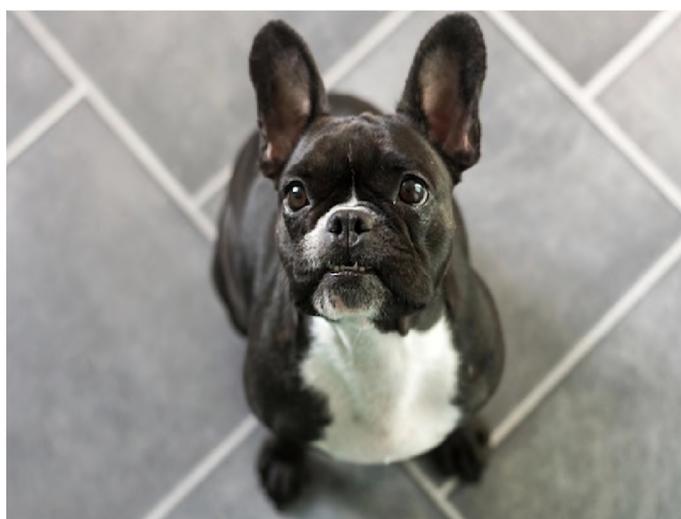
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Dogs with Underbites: What Is Canine Malocclusion?



By Maura McAndrew

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Photos of "dogs with underbites" have been the focus of many an adorable Internet slideshow. But while misaligned teeth in dogs, or **canine malocclusion**, may make our pets seem more endearing or "ugly-cute," it can be a serious health issue.

To learn more about this condition, we spoke with two board-certified veterinary dentists from the Cornell University College of Veterinary Medicine (CUCVM). Here is everything you need to know about canine malocclusion, including symptoms and causes, and when to seek treatment.

What Is Canine Malocclusion?

Canine malocclusion simply refers to when a dog's teeth don't fit together properly, whether it's his baby teeth or adult teeth. Determining whether a dog suffers from malocclusion can be tricky because, unlike with humans, there's no standard way a dog's bite should look. "The dimensions and bite configuration of every dog are so different," says Dr. Santiago Peralta, assistant professor of veterinary dentistry and oral surgery at CUCVM. "The big question is not whether it's 'normal,' but more so: is it functionally comfortable for the animal?"

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So, what makes for a comfortable bite? In general, “The lower canines should be sitting on the outside of the gum line and in front of the upper canines,” explains Dr. Nadine Fiani, assistant clinical professor of dentistry and oral surgery at CUCVM. “One of the most common abnormalities that we see is where the lower canine is so upright that it actually barges up into the hard palate.” Basically, if your dog has tooth-to-tooth contact or tooth-to-soft tissue contact that shouldn’t be there, that’s clinically relevant malocclusion, she says, and it is sometimes accompanied by *erosion* or trauma to teeth or tissue.

While clients and breeders may use descriptors like “underbite” or “overbite,” Peralta and Fiani don’t use these terms in their practice. “The meaning of each of those terms may vary depending on who you ask. And because it’s subjective lay-terminology, it potentially can be very confusing,” Peralta says. Veterinary dentists rely instead on technical nomenclature, like that preferred by the **American Dental Veterinary College** (ADVC), in making their diagnoses and considering treatment.

Symptoms and Health Effects of Malocclusion in Dogs

The big question on a dog owner’s mind when it comes to any health issue is, of course, *how can I tell if my dog is suffering?* In the case of canine malocclusion, it won’t be obvious—just because your dog appears to have an underbite doesn’t mean he is experiencing pain or discomfort. Sometimes, a veterinarian may note a malocclusion in a puppy at the time of vaccination, Fiani says. But otherwise, you’ll need to observe your dog’s behavior and bite, and bring any issues to your vet’s attention. “The reality is, most dogs that have some kind of malocclusion will have had it for the vast majority of their life,” she says, “and so often, they will be in pain, but they may not necessarily overtly show that.”

If your dog is indeed in pain, he or she might engage in subtle behavior changes such as acting “head-shy” (recoiling when you pet her on the head or face), rubbing her head against the wall or with her paws, or demonstrating difficulty picking up or chewing food, Peralta explains. Physical symptoms of malocclusion may include unusually bad breath or bloody drool.

Any changes in behavior or physical health—even subtle ones—are worth checking out, since untreated malocclusion can have very painful consequences. Fiani cites **oronasal fistula** as one of the most severe side effects, which is when an abnormal communication (or hole) forms between mouth and nose as a result of a lower canine that is too vertically positioned. This can lead to not only great pain and discomfort, but also possible nasal disease. And if a malocclusion involves teeth that are crowded together, Fiani says, this can cause a buildup of plaque and, eventually, *gingivitis* or gum disease.

Causes of Canine Malocclusion

In broad terms, malocclusions are either skeletal or dental in origin, Fiani explains. A dental origin is when a dog may have “one or a couple of teeth that are abnormally positioned within a normal facial skeletal structure,” and are causing pain or discomfort.

The skeletal type of malocclusion, Fiani notes, is where the facial skeleton is abnormal, causing the teeth not to fit together properly. For example, the “underbite” affects short-faced breeds like Bulldogs and Boxers, which have malformed skulls because of breeding. (Long-faced breeds like Sighthounds are prone to similar issues.)

While breeding can have an impact, there is a range of potential causes for either type of malocclusion. “Malocclusions can have a genetic basis that will be likely transmitted from generation to generation,” Peralta says, “and some of them will be acquired, whether because something happened during *gestation* or something

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happened during growth and development, either an infection or trauma or any other event that may alter maxillofacial [face and jaw] growth." He explains that trauma to the face and jaw can stem from events like being bitten by another animal or getting hit by a car. Fiani adds that jaw fractures that don't heal properly can also result in malocclusion.

When to Seek Treatment for Malocclusion in Dogs

"It doesn't always exactly matter *why* there's a malocclusion, the question is: do you need to treat it?" Fiani says. "The bottom line is, if you have abnormal tooth-to-tooth contact or if you have abnormal tooth-to-soft tissue contact, then something has to be done about it." If you notice any of the previously mentioned signs, it's time to consult with your veterinarian, who will typically determine whether a referral to a dental specialist is warranted for further assessment. If you've got an image-obsessed hound, let's be clear: veterinary dentists treat medical issues, not cosmetic ones. "We will not perform any sort of orthodontic treatment on an animal for aesthetic purposes," Fiani emphasizes. "There has to be a clear-cut medical reason for preventing disease or prevention of discomfort or pain."

Treatment options will vary depending on the specific issue facing your dog, his age, and other factors, but typically will fall into one of two categories: extraction or orthodontic treatment. Tooth extractions can be performed by your general practitioner or a dental specialist, depending, Fiani says, but orthodontics is always the purview of specialists. "That's really when we're using appliances to try and shift the teeth around so that they fit together in a way that no longer hurts the dog," she explains.

So, if your dog is known for his quirky underbite, it's probably a good idea to seek medical advice. It can be difficult to tell if malocclusion is causing issues, so don't be afraid to ask your veterinarian questions, and pay close attention to your dog's health and behavior. The bottom line is that, left untreated, malocclusion can lead to more than just an off-kilter smile—it can result in a painful life for your pooch.

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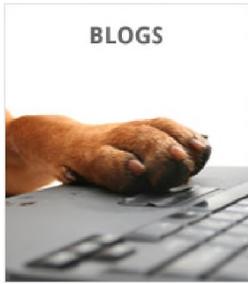
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