

Dental care: a prophylactic approach

John Breen BSc.VN outlines the importance of prophylactically treating dental disease, something that can often be overlooked by both vets and nurses

For the cases that we know would benefit from prophylactic treatment (our very dental-disease-prone Yorkshire Terriers, for example), our arsenal of products is limited to what the customer can potentially purchase in the local pet shop, or to the one product bought on special last year that we don't really know much about.

Not only is prophylactic treatment itself important and something we should include as part of our routine dental procedures, it is also important that we use and supply products that have concrete evidence associated with them in relation to their efficacy, and that we believe in these products ourselves.

We are all very familiar with the saying 'prevention is better than cure' and, while dental disease is a continuous issue that we cannot simply cure after one descale and polish procedure, we can help prevent the speed and severity at which it returns through prophylactic care. This not only aids our patients medically; it yields results that owners can see so they can begin to appreciate the value of dentistry for their pet.

We visit our own dentists once, maybe twice, a year and in between we brush our teeth twice a day. Animals should not veer far away from the routine care we provide for ourselves; one dental procedure is not enough to maintain dental health for two or more years.

There is no shortage of choice when it comes to homecare products or prophylactic treatments but siphoning out the ones that work from the ones that have limiting results can be difficult. A little research can go a long way. Treatments boil down to a few core categories.

WATER ADDITIVES

Water additives are an easy homecare product that require virtually no work from the owner. Volumes change depending on the brand, but the same principle applies; a solution is added to the dog or cat's water bowl that will get to work in the mouth as they drink – a mouthwash for your pet! However, the difficulty with water additives is that there is an abundance of them out there, and not all of them actively work to improve dental health, with a common trend being the use of scents to mask an animal's bad breath. These additives are problematic because they don't tackle the problem, they simply cover it up with a minty fresh smell that is short lived, has poor palatability (especially in cats) and often uses trace amounts of ingredients like xylitol and sorbitol to achieve it. Others use a cocktail of various mild chemicals that can dilute the bacterial load and rinse the mouth but do little more than that. While the process of diluting and rinsing does contribute to improved oral health, it is only effective when bacterial numbers are low and haven't formed significant plaque biofilms and tartar which require scaling to properly remove.

When looking for a good water additive, search for one that has studies to back it up. You want one that isn't restricted by palatability issues, doesn't use ingredients that are toxic (even if they are below toxic levels) and actively works to reduce bacteria in the mouth as it rinses, therefore, slowing plaque and tartar buildup and combating bad breath.

TOOTHBRUSHING



Figure 1: Toothbrushing, while not possible for every patient, is the gold standard of homecare treatment

Much like water additives, toothbrushing gets the owner involved so they value their pet's dental health and can be proud that they are making a difference themselves. Toothbrushing, while not possible for every patient, is the gold standard of homecare treatment as it combines the composition of a good water additive with the mechanical effect of brushing to scrub away the plaque as it builds. While it won't stop the need for future dental treatments, it does make a huge difference to the degree of disease that can develop and the speed at which plaque and tartar return. As with water additives, it's important to source a product that does more than provide a lubrication to brush. You want one that, again, has studies to show it does more than that. It's comparable to when we shop for our own toothpaste – we want to find one that gives us a little more bang for our buck, one that provides several benefits.



Figure 2: There are two main forms of sealant available in veterinary: crown sealants and gum sealants.

SEALANTS

There are two main forms of sealant available in veterinary: crown sealants and gum sealants. They each work in different ways but can be used in conjunction with one another to capitalise on the benefits of both and maximise protection. Crown sealants, as the name suggests, work on the crown of the tooth and involve 'acid etching'. This is controlled erosion that microscopically roughens the surface of the tooth, creating grooves for the sealant to absorb into so it can chemically and physically lock into place. Crown sealants are great for stopping food particles and bacteria adhering to the tooth and causing erosion and tartar build up.

Gum sealants act like a dental super glue, sealing the free gingiva to the tooth and closing the sulcus. They are typically made from polymers and allow water and oxygen to pass through making the closed sulcus unfavorable to nasty anaerobic bacteria. Gum sealants play a big role in protecting the hidden structures of the tooth that can be severely damaged if periodontitis develops.

The beauty of sealants is that they can be reapplied six months to one year after their initial application, depending on the product, prolonging the benefits between dental procedures. A mature plaque biofilm can develop as soon as 48 hours after removal making sealants a viable and beneficial treatment. They are also perfectly safe to use as a complimentary treatment to homecare products such as water additives and toothbrushing.



Figures 3 & 4: Before and six months later. Sealants help preserve the benefits of dental procedures.

DIET

Diet has long played a part in the advice we give to owners regarding the management of dental health at home, however, a common misconception is that wet food causes disease while dry food does not. This is a bit of a blanket statement as there is no evidence that wet food does in fact cause dental disease and when it comes to dry food, not all of it is the same. Dental diets, developed by established and reputable veterinary food companies, often do their own studies to back up their claims and these are the diets you should look at if you are 'prescribing' them to manage dental health. They normally work by designing kibble to a specific shape and size with a matrix technology to help remove plaque mechanically as the animal bites down while also using ingredients such as zinc salts and polyphosphates to add antibacterial properties. Dental diets are not enough though and they should be used in conjunction with other treatments.

Dental disease isn't something we treat and move on from, it's a constant battle that we must manage throughout the patient's life and we need to educate the owner as to its effects and what they can do to help from an early stage. Introducing routine dental care into a patient's life from when they are puppies and kittens, like anything, gets them used to the process and increases their compliance. Good patient compliance, in turn, increases the owner's compliance to practice dental homecare because they don't have to battle with their pet every time. We educate owners about flea treatments, worming and vaccinations from the moment we meet their new fur baby, why should the management of dental disease be any different when its development is inevitable without intervention?

The need for dental procedures will never be eliminated but there is a lot we can do as veterinary professionals to reduce the severity of dental disease to improve our patient's welfare and health. It's a team effort between you and the owner, using a combination of what suits their lifestyle and pet best. The less dental care at home, the more work we will have to do. A combined effort is far more effective.