Periodontal Disease and Dental Health in Dogs

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In this podcast interview, Dr. Jan Bellows of All Pets Dental Clinic in Weston, Florida discusses periodontal disease and dental health in dogs. Dr. Bellows is a Diplomate of the American Board of Veterinary Practitioners, a Diplomate of the American Veterinary Dental College, and is the current President of the American Veterinary Dental College. Dr. Bellows received his DVM from Auburn University and completed a small animal internship at The Animal Medical Center in New York City.

AKC Canine Health Foundation (CHF): First, can you give us a working definition of periodontal disease?

Dr. Jan Bellows (Bellows): Periodontal disease is a disease that affects the support of the tooth, called the periodontium. The periodontium includes the periodontal ligament, the gingiva or the gums around the tooth, and the bone around the tooth.

CHF: When we look broadly at canine health, periodontal disease is now recognized as the number one health concern in dogs. Can you estimate what percentage of dogs may be affected by dental health problems?

Bellows: Most all dogs that we see have some degree of periodontal disease. Unfortunately, dogs don't brush their own teeth and most owners can't figure out the whole process of brushing the pet's teeth twice a day. So, plaque builds up on the teeth and inflames the gums. If it is left to stay there, tartar, or very rough plaque, moves in. As more plaque gets on top of the tartar, the gums become more inflamed, and then the disease travels deeper.

CHF: What are some of the signs or symptoms that a dog is having dental health problems?

Bellows: The first sign is a bad or abnormal breath. So when you go to kiss your dogs or hug them, or talk to them very close, you'll smell a breath that just doesn't smell right. That's called halitosis or malodor. That's generally the first sign that you'll see. Later signs, when it gets worse, may be a dog will start to paw at the mouth, or they'll start to eat food and the food will fall out of their mouths because it's so painful. As it progresses, food will have some blood on it or toys will start having some blood on them. All of this is progression of the disease.

CHF: Are some breeds more susceptible to dental health problems than others?

Bellows: Absolutely. The smaller the breed, the greater chance the animal is having periodontal disease. Because the teeth are closer together, the plaque and tartar builds up in the interface in between those two teeth. Additionally, the smaller breeds tend to live longer, which gives the

periodontal disease more time to progress. And lastly, the smaller breeds tend to eat more soft food, which also promotes periodontal disease.

CHF: Can you tell us what plaque and tartar are, and how they form on the surface of the tooth?

Bellows: Originally, plaque forms every day on the tooth. This goes for people, too. Right after you go to the human dentist and the teeth are cleaned, you take your tongue and you rub it over your teeth and it's nice and smooth. If you don't brush your teeth that night, then you'll have a gummy film over your teeth. It's called the biofilm, and that is plaque. If plaque is left undisturbed, meaning it's not brushed off, then calcium and phosphorus will form on top of the plaque. This turns the plaque into tartar, and tartar is the same thing as calculus, which is a rough substrate on top of the teeth. Unfortunately, because it's rough rather than the nice smooth enamel, more plaque forms on top. Plaque is the big problem. If plaque gets underneath the gum line, and causes a lot of inflammation and bleeding.

CHF: When and how does a veterinarian check for dental health problems?

Bellows: On every examination, the veterinarian will examine the mouth. They'll smell to make sure there is not a disagreeable odor and they'll flip the lips. They will take a look at the canine teeth and the back teeth to make sure there isn't tartar and plaque. Also the veterinarian may use a special periodontal test strip in the mouth that will help to evaluate if there is periodontal disease underneath the gum line you can't see. This is incorporated on many of the exams now. The veterinarian will also examine the mouth for fractured teeth. Unfortunately, a lot of folks give their dogs bones and antlers and other things that they really shouldn't give them and dogs are fracturing teeth and sometimes even the nerves are exposed.

CHF: How often should plaque and tartar be removed from the surface of the dog's teeth by their veterinarian?

Bellows: Plaque and tartar should be removed by the owner at least twice a day, done with tooth-brushing or dental wipes or giving one of the approved dental chews on the Veterinary Oral Health Council approval list (www.VOHC.org). VOHC is an organization that tells you what products you can use to decrease the accumulation of plaque and tartar. A professional visit should be arranged at least twice a year with a veterinarian to see if it's time for a professional oral cleaning visit under general anesthesia.

CHF: When do veterinarians make the decision to remove teeth?

Bellows: Periodontal disease has four different grades. The first grade, called PD 1, is early gingivitis. That's when there's just inflammation at the gum line and there is no support loss. In that situation,

the teeth can be cleaned and polished, and the gingivitis resolves as long as the owner continues on daily plaque control.

PD 2, or early periodontal disease, occurs when there is less than 25% of the tooth support lost. In that scenario, medication can be placed underneath the gum line to help decrease the progression of periodontal disease.

Moderate periodontal disease, called PD 3, is when less than half the amount of support is lost. In those situations, if the client can provide homecare, then oftentimes, the teeth can be saved with surgery.

Once you get to advanced periodontal disease, or PD 4, greater than half the amount of tooth support is lost. Other than by heroic surgery, the tooth will be forever lost and will have to be extracted.

CHF: Is there more to dental health than removal of plaque and tartar, and extractions of the severely affected teeth?

Bellows: Absolutely. Dental health needs to be focused on prevention; prevention of plaque through daily homecare and prevention of breaking teeth. Do not give your dog anything that is harder than the tooth itself or anything that doesn't bend. Prevention of dental disease can also be accomplished through proper breeding.

Breeding one breed like a pug to another breed like a poodle can make a so-called "puggle" and unfortunately creates a dog that has a non-functional bite. In this, the upper incisor teeth are actually going into the lower gum line, causing trauma and pain for the animal.

It is also very important to selectively breed dogs that do not have dental disease. That can be done by looking at the numbers of teeth, seeing how and if they're crowded, and to see if there's too many or too few teeth. A lot of our dental problems are inherited, and it's a very important that the mother and father of the pups are checked dentally before breeding.

CHF: What can dog owners do at home to minimize periodontal disease?

Bellows: The most important thing to minimize periodontal disease is daily plaque control. Periodontal disease can be controlled at home through dental tooth-brushing, which tends to be difficult, or with dental wipes that you can get from your veterinarian. Check to make sure the wipes contain chlorhexidine or sodium hexametaphosphate; the wipes should be used twice a day. Try tooth-brushing with a special type of toothpaste that is poultry-flavored and tastes good for the animal.

CHF: Dog owners have a plethora of over-the-counter choices of products that are promoted for maintaining dental health. Can you tell us what they need to understand to make good choices for their dogs? Starting with teeth-brushing, what should they look for in a good product?

Bellows: There are hundreds, if not thousands, of dental products in the pet stores that make claims that, unfortunately, are not substantiated. Often, claims for whiter teeth, cleaner breath, controls gingivitis, do not have the research behind them. The Veterinary Oral Health Council is made up of veterinary dentists who volunteer to evaluate dental products to be used in dogs and cats to help retard the progression of plaque and/or tartar, and are considered safe.

Clients need to definitely stay away from bones, antlers, nylon chews that don't bend; things that could break the pet's teeth. Read the side of the containers. Look closely at what you're feeding your pet or what you're putting in your dog's mouth to control plaque. Products on the www.VOHC.org website are highly recommended.

CHF: Several chew products are promoted as improving dental health in dogs. What properties, in addition to what you've previously mentioned, should a good chew product have?

Bellows: A good chew product should be nutritious and not too salty. They should be fully digestible—many have natural products in them—and they should carry the VOHC Seal of Acceptance.

CHF: Does chew time matter for the effectiveness of these products?

Bellows: Yes, they do. The more chew time occurs, the better the final effect is. The animal is actually chewing off the plaque.

CHF: How often should dog owners provide chew products to their dog?

Bellows: Everything that the dog owner can use helps. Brushing helps, wiping helps, the chew products help. There are water additives that also help. So there's no really set amount of time. Each of the chew products, if they have the VOHC seal, will say how often the manufacturers recommend it. Generally, it's once a day.

CHF: What are our greatest gaps in knowledge in canine periodontal disease?

Bellows: The greatest gaps of knowledge involve how canine periodontal disease affects the body's distant organs; especially the liver, kidneys, and heart. Many veterinarians believe that periodontal disease is related to organ damage secondary to inflammation; however, research in this area is lacking.