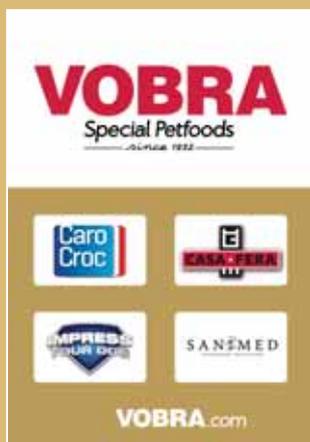




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Dental Pet Foods

Twenty years ago, the health status of more than 30,000 dogs and 15,000 cats was examined at private veterinary practices in the United States. For about 20 percent of the dogs and cats, mineralised dental plaque (calculus) and inflammation of the gums (gingivitis) were reported. Oral disease was the most frequent disorder. When the disease is left untreated, it progresses in severity and may cause oral pain and eventual tooth loss. Dental plaque, consisting of deposited proteins and colonised bacteria, triggers oral disease.

About 70 percent of the dogs and 85 percent of the cats in the United States' survey may have consumed industrially prepared food for their total intake. The marketplace offers some dry pet foods with a dental claim on the packaging. Veterinarians may prescribe dental foods. Purported benefits of these foods include clean teeth, healthy gums and fresh breath. Adequate dental foods provide mechanical cleansing of teeth and gum line through large kibble size with a non-crumbling texture. A few dental foods contain a polyphosphate compound in the coating, which may withdraw calcium from precipitation in dental plaque.

Experiments have shown that foods with enhanced textural characteristics, in comparison with other dry foods, reduced existing plaque, calculus and gingivitis in dogs and cats. Textural foods also diminished the development of these signs in animals that had their teeth scaled and polished. Textural foods generally lower the severity of oral disease signs by no more than 50 percent. Thus, regular tooth brushing or professional teeth cleaning are still required for optimum oral care. Effective dental foods can reduce the necessity for frequent brushing and elongate the interval between cleanings.

Hard Versus Soft Diet

In 1939, Burwasser en Hill published in the Journal of Dental Research that hard food protects against dental disease in dogs. The control dogs received a commercial food in the form of hard biscuits. Prior to feeding to the test dogs, the biscuits were ground to a powder and mixed with water to form a mash. Compared with the biscuits, the mash caused dental plaque, soft and dark gums, gingivitis and impaction of food particles under the gingival margins. The two rations were identical chemically in their dry matter fraction, but they were different physically. It appears that hard food can promote oral health.



There are several trials indicating that dental affections are curbed by hard food and evoked by a soft diet. Epidemiological research shows a higher incidence of oral health in dogs and cats when dry food instead of soft or wet food was administered. In general, dry versus wet food will positively influence oral health, but among different dry food brands the health benefit can differ substantially. Furthermore, in specific comparisons, moist foods may not cause more plaque and calculus formation than dry foods.

Teeth Cleansing

The texture, size and shape of food kibbles are more important in controlling plaque

and gingival inflammation than is the nutritional composition. For effective mechanical cleansing, dental foods must possess properties that promote chewing, resist crumbling and maintain contact with the tooth surface. Such foods may exercise the gums and stimulate gingival blood circulation. More chewing also enhances the production of saliva which has antimicrobial activity. The diameter of dental dog kibbles may be as large as 3 cm. The desired texture of dental kibbles can be achieved by a high level of insoluble fibre that forms a network.



The development of periodontal disease goes through the stages of dental plaque, calculus, gingivitis and parodontitis toward pain and loss of teeth. Preventing and retarding of periodontal disease aims at fighting plaque. Regular tooth brushing is the mainstay of canine and feline dental hygiene, but most owners are not able or willing to do so. An alternative is periodical professional dental cleansing. An additional measure is the feeding of a complete maintenance food specifically designed to stimulate chewing and teeth cleansing.

Various studies have shown that appropriate dental foods promote oral health. These foods reduce gingivitis development and accumulation of dental plaque and calculus better than



typical dry dog and cat foods. Dental foods also have an ameliorating effect in animals with existing symptoms. For both clean and dirty teeth, the efficacy of dental foods is generally less than 50 percent improvement. Periodontal disease is associated with oral malodour. It is not known whether owners can unambiguously perceive less offensive breath odour when their pets are given a dental food.

Food Claims

It is very difficult to decide which dental foods in the marketplace provide a significant dental benefit. Foods might make some type of oral health claim with inadequate or no research to substantiate their efficacy. Pet owners who wish to learn about the investigations underlying the dental claim on a certain pet food brand may contact the manufacturer.

The Veterinary Oral Health Council (VOHC) acknowledges pet foods that meet its standards of plaque and calculus (tartar) retardation in trials conducted according to the council's protocols. Approved foods are granted the VOHC seal which may be displayed on the packaging. The first seal was awarded in 1998 to Hill's Canine Prescription Diet t/d. The VOHC system is now recognised worldwide. All VOHC-accepted dog and cat foods and treats are listed on the council's website.

Dr Anton C Beynen writes this exclusive column on dog and cat nutrition every month. He is affiliated with Vobra Special Petfoods.