

# K9 COP

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# how GUM DISEASE

impacts  
K-9 scent  
detection

by Dr. Tom Lonsdale, DVM



Keep your working K-9's sense of smell sharp with squeaky-clean teeth and healthy gums.



It's a tale of two cultures: The veterinary profession understates the significance of periodontal disease (gum disease) and its impact on the general health and well-being of domestic animals, while simultaneously seizing on the over-servicing potential turning gum disease into a primary profit center of modern-day veterinary practice.

The medical and dental professions, albeit belatedly, began to assign critical importance to this chronic disease of the gums and supporting structures of the teeth. They have begun to investigate the complex and intriguing connections between gum disease and systemic ill health. Reports appear in the popular press warning people of the dangers of oral ill health and the need to brush and floss and thereby prevent life-threatening disease.

Twenty years ago in December, 1991, Dr. Breck Muir blew the whistle in a letter to the Australian Veterinary Association condemning processed pet foods as a prime cause of periodontal disease and a host of diseases affecting pets. In a Sydney University newsletter I wrote that "Oral disease is the source of the greatest intractable pain and discomfort experienced by our companion animals. This is a great and mindless cruelty we visit upon our animals from the whelping box to the grave."

Breck and I reminded our veterinary colleagues that wild animals rarely if ever suffer from gum disease. By feeding on whole prey, successful

carnivores scrub, brush and squeegee their teeth clean at every meal. Alas, we flew straight in the face of the conventional veterinary medicine that suggests domestic dogs and cats are somehow different to their wild counterparts and need to be fed out of the can or packet.

The medical and dental professions, meanwhile, have been placing gum disease on center stage. *Time* magazine in 2004 carried the front page article, "The Secret Killer: The surprising link between inflammation and heart attacks, cancer, Alzheimer's and other diseases."

*Time* tells us that "A long running, low grade infection — like gum disease — may keep immune cells fired up, or there may be a breakdown in the complex series of checks and balances that regulates the immune system.

"Chronic inflammation may be the engine that drives the most feared illnesses of middle and old age [heart attacks, cancer, diabetes, stroke and rheumatoid arthritis]."

Dogs, with their relatively larger jaws and 42 permanent teeth, as opposed to the 32 teeth we humans possess, are more seriously affected by periodontal disease. Halitosis (foul breath) affects most if not all domestic dogs fed junk food. Most puppies have stinky breath even before they leave the nest. Between two and six weeks of age the 28 deciduous teeth erupt through the gums. In nature this coincides with the mother providing the first chewy, tough food for the puppies to mouth and then to gnaw, and thus toughen the tender inflamed gums. Unfortunately, most puppies are first offered canned foods. Gums remain sore and inflamed, such that chewing on hard kibble, unyielding wicker baskets and chew toys fails to soothe.

The next major gum upheaval occurs between four and six months of age when the permanent teeth cut through the gums, pushing out the deciduous shells. In

nature, a litter of wolf cubs competing for prized parts of a deer carcass need to tug, rip and tear at a rapid rate using maximum force. Incisors nip the hide and shave tissue from bones; sharp canine teeth sink into the flesh which is then raked from the bones; premolars shred tissues and molar teeth crush bones. Each and every tooth gets its allotted workout and becomes ever more firmly fixed in its socket.

By contrast, most puppies raised in domestication miss out on these physical pleasures and physiological essentials. Instead they eat canned food or swallow abrasive kibble with no benefit to the inflamed gums and the deciduous teeth. Plaque bacteria flourish in the warm wet environment and are further nourished by the junk food debris coating the teeth and gums. So starts a lifetime of gum disease leading to the litany of non-specific skin, intestinal, liver, kidney and other diseases known to be associated with periodontal disease. Specific diseases such as cancer, diabetes, autoimmune joint disease and a host of other diseases become the fate of many.

Since strong, sharp, clean teeth are the tools of trade of the carnivore, we should not be surprised if chronic oral disease is the harbinger of doom for dogs of all shapes and sizes. While we may not fully understand the mechanisms in detail, some broad principles apply. I discovered that patients with depressed immune systems and foul periodontal disease-affected mouths responded exceptionally well to dental extractions and a change of diet to raw meaty bones. Immune cell numbers returned to normal, gums healed, breath freshened and the elderly pets gained a significant leap in health and vitality.

With more than twenty years counseling dog owners in numerous countries across the globe, I can assure you that the whole dog from the tip of the nose to the tip of





Photos courtesy Dr. Tom Lonsdale

*K-9 Tiki has plaque buildup common to many working dogs (top), but after several months of eating only raw meaty bones, shows marked improvement (bottom).*

the tail improves in health and well-being when a junk food diet is replaced with a raw carcass/raw meaty bones based diet. Healthier, happier dogs live longer and in the case of working dogs, they're easier to train and work better. For police, army and customs dogs, working well depends on a highly-trained and efficient sense of smell.

In a preliminary study, researchers were able to demonstrate how dogs with clean teeth are better able to detect odors. Beagles used to detect bovine estrous gradually lost the ability to perform the trained detection task. All the dogs were found to have extensive tartar (calculus) build-up on their teeth. Following teeth cleaning, the dogs' sense of smell returned to "normal" levels. Further testing showed that the reduction in sense of smell roughly correlated with tartar build-up.

With millions of dollars invested and lives at risk, it would be reasonable to expect governments and research institutes to be keen to know more. Unfortunately, we may have a while to wait.

But there's no use waiting in vain. Every dog and every dog handler deserves the best nature has to offer. As a first option, feed whole carcasses and as an acceptable second best option, feed raw meaty bones. Watch your dogs; make observations and keep records. Soon we'll have a mountain of data that will establish beyond doubt the veracity of our position. ■

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**Tom Lonsdale** graduated from the Royal Veterinary College, University of London, in 1972. In 1981 Tom moved to Australia and established a cluster of four veterinary hospitals on the western edge of Sydney. Since 1991, Tom has been campaigning for better canine and feline health through diet. He is the author of two books, *Raw Meaty Bones: Promote Health* and *Work Wonders: Feed Your Dog Raw Meaty Bones*. He can be reached at Bligh Park Pet Health Centre, Bligh Park, NSW 2756, Australia.