

**Dental/Oral Health Disorders**

# HALITOSIS IN DOGS AND CATS



Although halitosis can occur due to other diseases, such as chronic kidney disease, it most often originates in the oral cavity.<sup>1</sup>

Malodor may occur when particles of food are trapped in the teeth, or when production of saliva decreases in senior pets.<sup>1</sup> However, a more severe halitosis is often associated with the development and progression of periodontal disease. Plaque bacteria, primarily the anaerobic bacteria that become more predominant as plaque continues to build up on the teeth, metabolize proteins in the oral cavity, leading to the release of volatile sulfur compounds, e.g., hydrogen sulfide, which are responsible for the unpleasant odor.<sup>1</sup> Halitosis is often the first sign that owners notice of periodontal disease.<sup>2,3</sup> As part of a comprehensive dental hygiene program, nutrition can play a role in the management of halitosis, as well as the associated periodontal disease, in pets.

**Key Messages**

- Research has shown that feeding dogs specially formulated dental chews and diets can reduce halitosis due to periodontal disease.<sup>2,4-7</sup> By virtue of specific ingredients and mechanical properties, dental chews and diets may inhibit production of the volatile sulfur compounds responsible for halitosis:
  - Soluble zinc salts, e.g., zinc sulfate, bind sulfur and, instead of forming volatile sulfur compounds, form compounds that do not have an odor.<sup>2,3</sup> Due to their antimicrobial activity, zinc salts may also reduce plaque.<sup>2,3,7,8</sup>
  - Inorganic phosphate salts, such as tetrasodium pyrophosphate, may inhibit mineralization of plaque to form tartar.<sup>2,3,9</sup> Tartar acts as a nidus for additional plaque accumulation, which can contribute to the release of a higher concentration of volatile sulfur compounds, as well as to further progression of periodontal disease.<sup>3,10</sup>
  - Due to enhancements that prolong chewing times and increase contact with the teeth and gums, specially formulated dental diets and chews provide an abrasive (mechanical) action, scraping off plaque and tartar as the pet chews.<sup>2,4,7-9</sup>
  - Dental chews and diets have been shown to reduce plaque and tartar accumulation in cats<sup>11,12</sup> and thus may reduce halitosis as well, although data to support this benefit has not been published.

*(continued on next page)*

## References

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