



## In Dogs with Periodontal Disease Is Feeding a Complete Raw Meat Diet More Effective Than a Complete Kibble 'Dental' Diet at Reducing Periodontal Disease?

A Knowledge Summary by

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### Clinical bottom line

In light of the absence of evidence, vets and vet nurses should be cautious when recommending raw diets to support periodontal health and advise clients accordingly by relying on their clinical experience rather than the literature until more evidence is generated.

### Question

In dogs with periodontal disease, is feeding a complete raw meat diet more effective than a complete kibble 'dental' diet at reducing periodontal disease?

### Clinical Scenario

You are asked by a client for advice on improving the dental health of their dog after they read on the internet that periodontal disease negatively affects their dog's wellbeing. They read that raw feeding is better in improving the dental health of their dog than a commercial prescription kibble dental diet and are now asking you if there is evidence to support this.

### The Evidence

No published research evidence currently exists regarding the influence of complete raw diets on dental health in dogs. During the literature search some expert opinion papers were found that made reference to dental health and raw feeding. The reference lists of these papers were scrutinised for relevant evidence, however none of the sources retrieved this way were relevant to the research question for this paper.

### Appraisal, application and reflection

Although raw feeding in carnivores has been discussed for many years (see e.g. Fagan (1980) and Bond and Lindburg (1990)), it has become an increasingly popular concept in companion animals in recent years (Schlesinger and Joffe, 2011; Freeman et al., 2013) and owners regularly seek feeding advice from veterinarians. However, the evidence-base for raw feeding-related issues in dogs, and companion animals in general, is underdeveloped. The majority of research relating to raw feeding to date has focused on nutritional risk/benefit to the animal and public health and consumer safety. Schlesinger and Joffe (2011) argue that although some high level evidence based on mainly North American studies is available regarding the latter, the evidence base for the former is weak.

In all literature search strategies, the balance between sensitivity and precision of the literature search is key (O'Connor et al., 2014). Due to the nature of the evidence regarding raw feeding, the search strategy for this paper was deliberately on the sensitive side so that no potential relevant papers would be missed. As a result, the authors believe the outcome of this paper to be representative of the lack of research on raw feeds and feeding, rather than it being related to the specificity of the literature search strategy.

During the inclusion/exclusion stage of the literature review 18 unique records were excluded for reporting on complementary feeds rather than complete feeds. These records included both raw and non-raw feed types. This shows there is merit in a critical evaluation of the current literature for evidence regarding complementary raw feeds and dental health in dogs. In addition, as the current systematic scrutiny of

existing knowledge clearly highlights a gap in the evidence, a strong justification for further research is present (Lund et al., 2016). The authors therefore recommend original research into dental health and complete raw feeding is undertaken.

## Methodology Section

Search Strategy	
Databases searched and dates covered:	CAB Abstracts (1973-2017) PubMed (1950-2017) – Veterinary Science filter applied Web of Science (1970-2017)
Search terms:	(dog OR dogs OR canine OR canines OR bitch OR bitches) AND (periodontal disease OR gingivitis OR gingiva OR tartar OR plaque OR stomatitis OR periodontitis OR gum disease OR dental disease OR calculus) AND (feed OR diet OR food OR pet food)
Dates searches performed:	3rd January 2017

Exclusion / Inclusion Criteria	
<p>Inclusion and exclusion criteria were determined in advance of the search phase. Papers were initially screened by title and abstract and included for analysis if they met the inclusion criteria below. Where there was doubt, papers were included. Subsequently, full-text articles were obtained and a second inclusion/exclusion phase based on the criteria below was performed. Where there was doubt about the suitability of a full text paper, an independent party was consulted and a majority vote applied.</p>	
Exclusion:	<ul style="list-style-type: none"> <li>• Non-dietary dental hygiene treatments</li> <li>• Dental hygiene complementary feeds (e.g. treats, chews, etc.)</li> <li>• Review papers</li> <li>• Non-peer reviewed material</li> </ul>
Inclusion:	<ul style="list-style-type: none"> <li>• Primary research papers</li> <li>• Systematic reviews (SR)</li> <li>• Dental hygiene complete feeds</li> <li>• Complete raw feeds</li> </ul>

Database	Search Outcome						Total relevant papers
	Number of results	Excluded – not related to PICO	Excluded – not primary research/SR	Excluded – non-dietary treatment	Excluded – not complete feed	Excluded – kibble feed only	
CAB Direct	186	113	37	8	16	12	0
NCBI PubMed	210	181	9	3	10	7	0
Thomson Reuters Web of Science	185	151	5	11	9	9	0
Total relevant papers when duplicates removed							0

## CONFLICT OF INTEREST

Nieky Van Veggel declares no conflict of interest.

Matthew Armstrong declares the conflict of interest that he is an employee of Natures Menu, a producer of commercial raw pet food.

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