

Intro

2012: Year of innovation

The World is changing and changing fast! How, only a few years ago, could we imagine the importance that social media, internet, tablets and all the new technologies would have now in our society? The same trend is true for nutritional and animal knowledge. This 4th issue of News From Research_ Royal Canin is dedicated to recent findings around dog & cat nutrition.

As you know, pet obesity is one of the main stakes that you and we have to tackle within the next few years, because it has harmful

consequences, not only on pet's health but also quality of life. A recent Royal Canin sponsored study should help vets to reinforce owner motivation in the fight against their pet's excess weight.

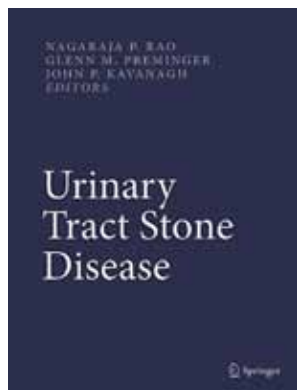
Finally, even in the 21st century, the vet scientific community is still increasing knowledge on dog virology. The stunning epidemiological study conducted for the relaunch of the Royal Canin canine "Birth & Growth" offer in 2010 helped us to identify a new digestive parasite in dogs, astrovirus.

Marie-Anne Hours (Scientific Support Manager - R&D) & Gregory Casseleux (Scientific Communication Manager - Europe)

Urinary

Royal Canin experts involved in the redaction of the new "bible" of human urologists: "Urinary tract stone disease"

This reference book covers all aspects of urinary stone diseases, from basic sciences to medical and surgical treatment.



The 60 chapters are written by 109 authors from 15 countries, and Royal Canin's experts have co-signed a very complete chapter on "Stone disease in animals".

Doreen Houston, Vincent Biourge, Denise Elliott and Andrew Moore have contributed to this 20 pages article, addressing epidemiology, clinical signs, pathophysiology, treatment and prevention of both dogs and cats urolithiasis.

Clear diagrams, photographs and X-rays provided are also particularly helpful to understand all aspects of the subject.

Urinary Tract Stone Disease.
Rao NP, Preminger GM, Kavanagh JP. Eds., Springer-Verlag, London, 2011, XIX, pp 720.



Ability of CALM diet in reducing anxiety-related disorders in dogs

Anxiety-related conditions represent a major part behavioural disorders in dogs. It is becoming clearer, however, that nutrition can affect behaviour. This study showed the positive effect of a specially formulated diet on helping dogs managing stressful situations.

This crossover trial aimed to assess to the effects of Royal Canin CALM Canine diet (enriched with alpha-casozepine and L-tryptophan) on anxiety related behaviour, compared with a control diet.

Forty four privately-owned dogs were included in the study. Participating owners completed a standardised questionnaire with items related to their dog's behaviour, derived from the Canine Behavioural Assessment and Research Questionnaire (C-BARQ). Based on this C-BARQ score, only anxious dogs were included.

Owner-reported scores for behavioural parameters

Parameter	Control diet	CALM Canine
Stranger-directed aggression*	1.25 (+/- 0.22)	0.85 (+/- 0.20)
Owner-directed aggression	0.47 (+/- 0.07)	0.43 (+/- 0.07)
Stranger-directed fear*	1.51 (+/- 0.22)	1.15 (0.14)
Nonsocial fear*	1.44 (+/- 0.22)	1.20 (+/- 0.23)
Touch sensitivity*	1.34 (+/- 0.14)	1.01 (+/- 0.12)

Scores were measured on a 5-point scale : from 0 (not performed) to 4 (excessive). Results are presented as mean score +/- Standard error of the mean.

* Significant differences between diets for the studied parameter

Twenty-eight dogs completed the study. Each diet was administered for an 8-week period with a transitional period of 1 week between diets. Owners were instructed to feed their dogs the study diet (CALM Canine, Royal Canin) or the control diet exclusively, and to divide the daily intake in two meals.

After each 7-week feeding period, the subjects visited a veterinary practice for toenail clipping, this being considered as a stressful event. At this time, the Urine Cortisol-to-Creatinine Ratio (UCCR) was also measured to assess the stress response as a complement to the interpretation of behavioural data. For more precision, 2 urine samples per dogs were obtained: one sample in the home environment, without the occurrence of any special event or stressful condition (basal UCCR), and the second one, 2 hours after returning home from the veterinary practice (Post Stressor UCCR).

The effect of the study diet (CALM Canine, Royal Canin) was found to be significant for 4 anxiety-related behavioural parameters: stranger-directed aggression, stranger-directed fear, non-social fear and touch sensitivity. The stressor-induced UCCR increase was significantly lower in dogs fed the Study diet than those fed the Control diet.

Source: Kato M, Miyaji K, Ohtani N, Ohta M. Effects of prescription diet on dealing with stressful situations and performance of anxiety-related behaviors in privately owned anxious dogs. Journal of Veterinary Behavior. (2012), 7, 21-26



Prevalence of astrovirus in large breeding kennels is 42%

After testing 316 faecal samples of puppies from 5 to 14 weeks of age in 33 breeding kennels, astroviruses were identified in 21% of puppies and in 42% of kennels.

Astroviruses have been isolated from various mammalian species, including humans, turkeys, pigs, sheep, mink, cats, and more recently marine mammals. Astrovirus infection can be asymptomatic or associated with either mild or severe signs of enteric diseases. In dogs, little is known about the presence and the clinical significance of astrovirus infection.



Risk factor assessment of astrovirus infection

Risk factor	Odds ratio [95% CI]	Clinical conclusion
Gender	2.07 [1.08 – 3.93] p value = 0,027	0.027 Risk of infection is higher in female puppies than in males
Age	0.283 [0.142 – 0.516] p value < 0,001	<0.001 Risk of infection is lower in puppies over 7 weeks of age compared with younger puppies
Kennel size	8.59 [4.12 – 17.91] p value < 0,001	<0.001 Kennel size is the main risk factor identified in this study. Risk of infection is higher in large breeding kennels (producing more than 30 puppies a year) than in smaller kennels.

Astroviruses were identified in 42% of the breeding kennels. Female puppies and puppies from large breeding kennels showed a significantly higher prevalence of astrovirus than male puppies and those from small breeding kennels, respectively.

Puppies under 7 weeks of age were also more likely to be infected than older ones. Astrovirus was detected in 18.7% of puppies with normal faeces and in 26.8% of puppies with soft faeces. However, this difference did not reach statistical difference.

This work shows that canine astrovirus is common in breeding kennels, especially in young puppies raised in large communities. Healthy carriers may play a significant role in the epidemiology of this infection.

This study was designed to assess the prevalence of astrovirus in puppies of French breeding kennels. faeces from 316 puppies from 33 kennels were collected. For each puppy, faecal quality was evaluated using a 13-point scale, and faeces were classified as acceptable or not. After spontaneous defecation, a rectal swab was collected, and tested by specific RT-PCR for presence of canine astrovirus.

Source: Grellet A, De Battisti C, Feugier A, Pantile M, Marciano S, Grandjean D, Cattoli G. Prevalence and risk factors of astrovirus infection in puppies from French breeding kennels. Veterinary Microbiology_ 2012 In Press

In a study conducted at the Royal Canin Weight Management Clinic (University of Liverpool, UK), owners of obese dogs that successfully lose weight noticed a significant improvement in their companion's quality of life.

This research involved 50 obese dogs, from various breeds and genders, referred to the Royal Canin Weight Management Clinic. A weight management protocol was instigated on each dog, using diets designed for weight loss (SATIETY SUPPORT Canine, Royal Canin or OBESITY MANAGEMENT Canine, Royal Canin).

Owners were asked to complete a standardised questionnaire designed to determine health-related quality of life (HRQL) prior and after weight loss.



Their answers were converted into scores on a scale of 0-6, corresponding to a range of four factors: vitality, emotional disturbance, anxiety and pain.

Thirty dogs successfully reached their target weight. Of the 20 dogs not reaching target weight, 10 discontinued the weight loss programme, and 10 were lost to follow up.

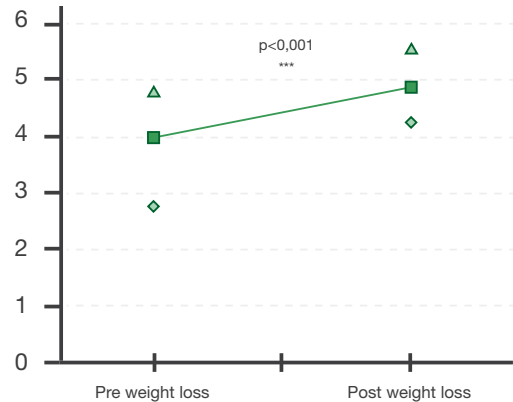
The results showed that quality of life improved in the dogs that successfully lost weight. Vitality scores were indeed significantly increased, and pain scores were significantly decreased after weight loss: the more body fat lost, the greater the improvement in vitality score. When comparing this data to the one of the dogs that did not complete the weight loss program, vitality scores were higher and emotional disturbance scores were lower.

These results demonstrated that losing weight has a very positive impact on dog's quality of life. This is of great interest to help convince owners of obese dogs of the importance of making their pets lose weight.

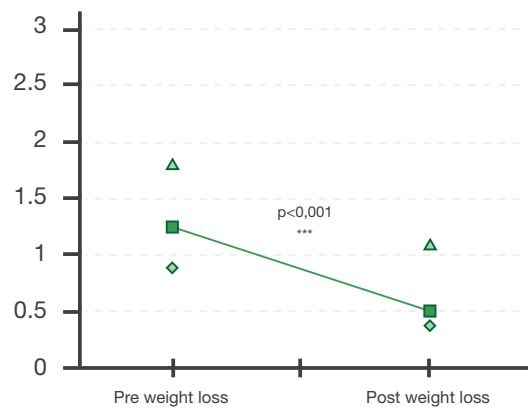
Effect of weight loss on Health-Related Quality of life

Modified from German et al, 2011

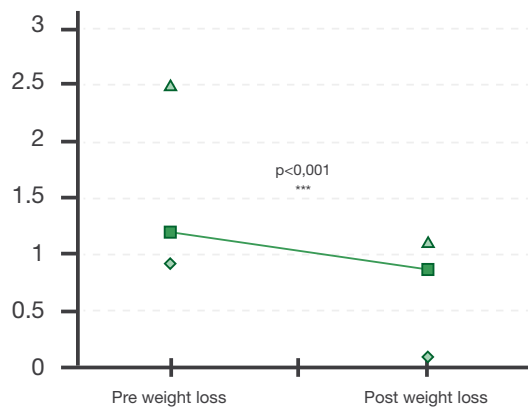
Vitality



Emotional disturbance



Pain



Results presented as Median +/- quartile

Source: German AJ, Holden SL, Wiseman-Orr ML, Reid J, Nolan AM, Biourge V, Morris PJ, Scott EM. Quality of life is reduced in obese dogs but improves after successful weight loss. The Veterinary Journal. 2011 Nov 8; epub