

Pet Therapy: Can turkey make your dog sleepy?

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By Dr. Rebecca Ledger

Mention tryptophan to North Americans at this time of year and the first thing that comes to mind for many is turkey. The Thanksgiving post-dinner snooze customary in many households is often attributed to this sleep-inducing essential amino acid, which is thought to be copious in turkey meat. If this truly is the case, could there be benefits to feeding a turkey dinner to over-reactive pets?

Researchers have been interested in the potential for tryptophan to induce calm behavior in rambunctious pets for decades. While feeding a turkey dinner has yet to be proven effective in the management of behavioral disorders in cats and dogs, still there is some evidence that feeding a tryptophan-rich diet can have calming effects.

One of the early studies on this subject was published in the American Journal of Veterinary Medicine in 2000 by researchers at Tufts School of Veterinary Medicine in the U.S.

Nicholas Dodman and his colleagues assessed the effects of feeding high-protein versus low-protein dried kibble diets to 38 pet dogs, each with some type of anxiety-related aggression problem. In addition, some of these dogs had their diet supplemented with tryptophan, while others did not.

Dodman discovered two things. First, dogs fed the highest protein diets were more aggressive than the dogs fed low-protein kibble. And second, dogs fed additional tryptophan supplements were less aggressive than those fed their kibble straight. Overall, the reduction in aggression was most noticeable in dogs fed a low-protein diet that was also supplemented with tryptophan.

Since such findings have come to light, tryptophan-enriched diets have been formulated and made available by pet food companies with the aim of reducing anxiety and related disorders in pets, indicating that they can be a useful adjunct in behavioral therapy for fractious animals.

In 2012, researchers from the Azabu University Graduate School of Veterinary Science in Japan published their findings in the Journal of Veterinary Behavior. They found that after feeding dogs the tryptophan-enriched Royal Canin Canine CALM Diet for seven weeks, dogs coped better with stressful events such as visiting the veterinary clinic and having a nail trim, than dogs fed a regular kibble. Not only that, but urinary levels of the stress hormone cortisol were also lower in dogs fed the tryptophan-enriched diet. While the context of stress reduction is fairly focused in this study, the reduction in stress is actually much more comprehensive.

Similar stress-reducing benefits have also been found for cats that are fed tryptophan-rich diets. This month, Canadian researchers published their latest findings in the *Journal of Feline Medicine and Surgery*, regarding the behavioral benefits of 24 cats that were fed the Royal Canin Feline CALM Diet.

While cat fearfulness toward strangers was not affected by what they ate, cats that were fed the tryptophan-enriched option coped better with being in unfamiliar, stressful locations.

Further evidence of the link between tryptophan and mood in dogs was published this week in the peer-reviewed journal *Behavioral and Brain Functions*, whereby metabolites of tryptophan were measured as being lower in dogs that displayed anxious traits and in dogs that displayed ADHD behaviors.

So, why would manipulating the tryptophan levels of a cat or dog's dinner have an affect on their behavior? Is there a mechanism that explains this relationship?

The role of tryptophan in the mammalian body is very well understood, including its essential function in the production of neurotransmitters, such as serotonin and melatonin. Serotonin contributes to feelings of wellbeing and happiness, and is also involved in the regulation of moods, compulsive disorders, mating, appetite, predatory behavior, memory, and learning. Broadly speaking, the more of it (we or) a cat or dog has, the better and less anxious they feel.

For owners who feel that feeding their pets a tryptophan-rich diet is worth a try, what are the options? It is after all, low-hanging fruit when it comes to making a positive and significant dent in a pet's mental health.

First off, it is unlikely that turkey will have a significant impact on a dog or cat's anxiety, given that it is no more tryptophan-enriched than other meats. Rather, the easiest way to reap the benefits is to feed the Royal Canin CALM varieties that are available through veterinarians in Canada.

If a pet is sensitive to the chicken-based food, then tryptophan can also be added directly to their existing diets. The pet-friendly version of tryptophan (branded as **NutriCalm**) is only available on prescription from veterinarians, in part because too much can make a dog or cat very ill. But also, discussing a pet's behavior with a veterinarian first allows them to rule out any potential underlying medical problems, and to recommend more appropriate treatment options where appropriate.