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\*Source: Survey conducted among small animal veterinarians who recommended animal supplements.

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2022 SURVEY OF VETERINARIAN'S RECOMMENDATIONS

# Top Recommended Veterinary Products™ from **dvm360**



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# Introducing the *dvm360*® guide to top recommended veterinary products



For many years, *dvm360*® has been a valuable source of practical information for the veterinary community and has led the way in presenting valuable information on products for pets—in print and via online venues. In 2022, we expanded our reach with *Top Recommended Veterinary Products*, a useful guide to help consumers make informed decisions based on the expert opinions of our veterinarian readers. As veterinary professionals continue to counsel clients on product choices for their pets, our recommendations also provide guidance by showcasing the brands and products that were most highly recommended by their peers.

The pet products industry is experiencing a growth period. The industry saw over \$100 billion in sales for the first time in 2020. In 2021, the industry grew 13.5%—to \$123.6 billion—over the previous year, with \$50 billion spent just on pet food and treats. According to the American Pet Products Association, that industry growth is expected to continue growing throughout 2022.<sup>1</sup>

The first *dvm360*® Top Recommended Veterinary Products survey, conducted by MJH Life Sciences® Healthcare Research & Analytics (HRA®), asked more than 1000 companion animal veterinarians for their recommendations on brands in various pet product categories. In these pages, products are organized by product category and in detailed charts that show the percentage of veterinarians who recommend each product. (Note: Survey percentages in charts total 100%.)

The categories include behavior, companion animal foods and treats, dermatology, integrative, nutraceuticals, oral health, parasite prevention, and technology. Additionally, there is a category for miscellaneous products. These product recommendations are also housed online at [dvm360.com](https://dvm360.com), where the information is searchable by category.

Additionally, this publication features articles by the *dvm360*® team with additional information about these categories. We hope you find our survey results useful and enjoy reading the first *Top Recommended Veterinary Products* guide. 🌟

## REFERENCE

1. National pet industry exceeds \$123 billion in sales and sets new benchmark. Animal Pet Products Association. April 19, 2022. Accessed July 30, 2022. [https://www.americanpetproducts.org/press\\_releasedetail.asp?id=1254](https://www.americanpetproducts.org/press_releasedetail.asp?id=1254)



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# Managing behavior in pets

*An animal behaviorist shares common issues and how to treat*

By Caitlin McCafferty, Assistant Editor



To properly treat patients, veterinary professionals must rule out all possibilities of what the underlying issue could be. If diagnostic testing has been completed with no medical issue identified, it may be a behavioral issue. Where do you start when it comes to treating behavior in felines, canines, and exotic animals? Amy Pike, DVM, DACVB, IAABC-CABC, co-owner of 2 Animal Behavior Wellness Center locations in Virginia, shared common behavior issues she sees in practice and how to help manage them, for the pet and client, with *dvm360*®.

## Felines

Often, the expressions “just a naughty cat” and “my cat is mean” are expressed to veterinary professionals when faced with a feline suffering from a behavioral issue. The main feline issue Pike treats is inappropriate elimination, or what she refers to as unwanted elimination. Because this issue is also linked to something medical, veterinary professionals must rule out any underlying issues before investigating a potential behavioral cause.

“Anytime [the clinic is] treating a behavior issue, it is very much a combination of ruling out any sort of medical concern [and] making sure there isn’t an underpinning of urinary tract disease or kidney disease contributing to the unwanted

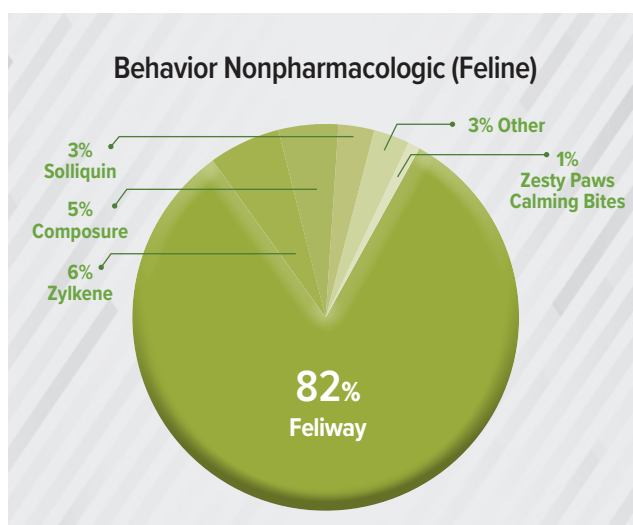
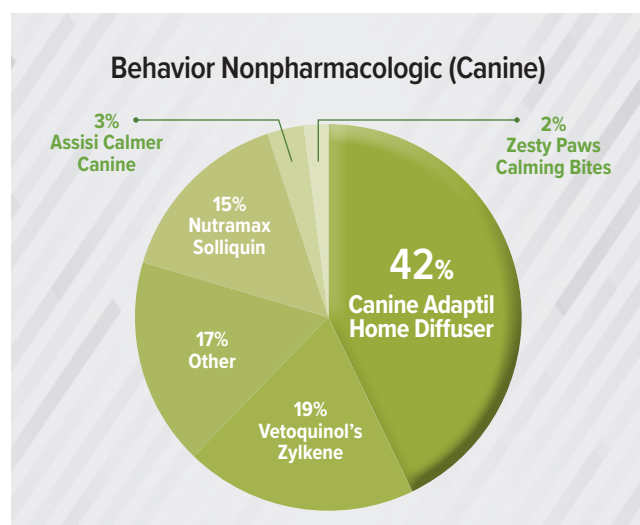
elimination,” Pike said. “Once we have rolled out everything medical, we get back into this behavioral corner. We can do a combination of management techniques, behavior modification, [and] potential medication or products to help decrease fear, anxiety, and stress.”

## Canines

Canine treatments are like feline treatments, but the issues dogs face are different. For example, the most common canine behavioral issues Pike treats at her clinic are anxiety and aggression toward humans and other dogs.

“Once we have ruled out everything that could possibly be contributing medically, then we can manage the situation by avoidance tactics and techniques. We do behavior modification to try and teach the dog an alternate incompatible behavior or teach the dog that these things are not so scary. Oftentimes, we use medication and products to decrease fear, anxiety, and stress that might be contributing,” Pike said.

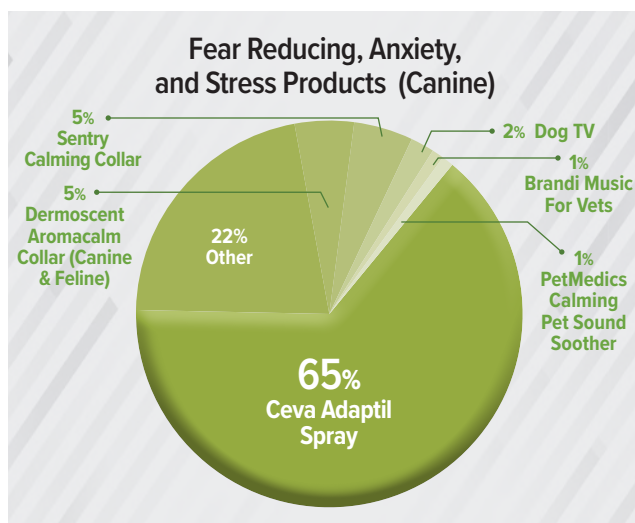
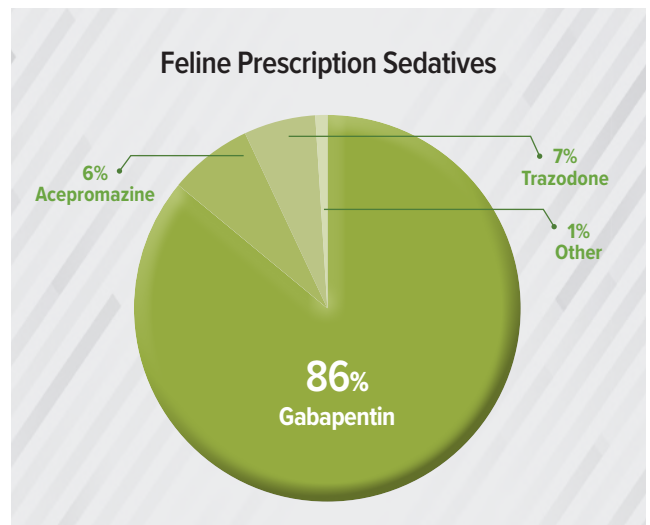
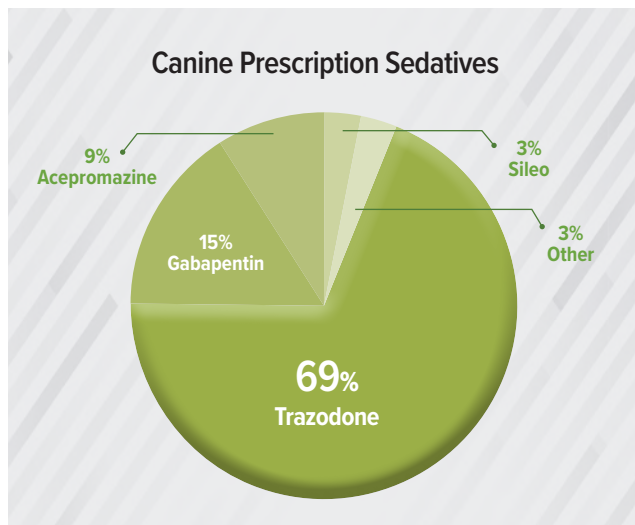
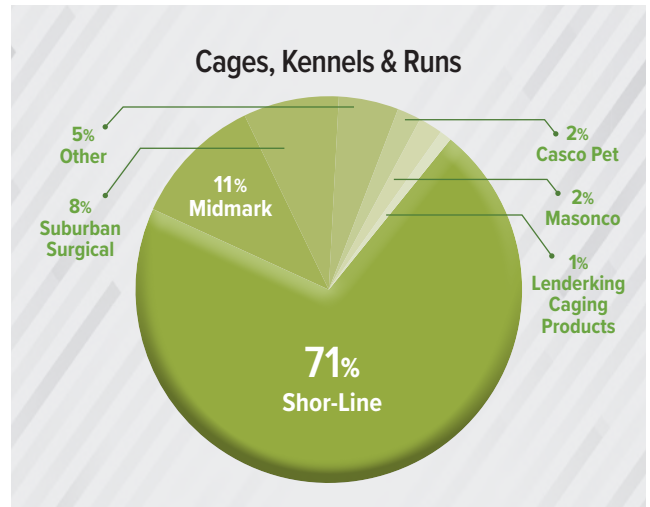
With the increase of pets during the COVID-19 pandemic, Pike noted an uptick in behavior issues or concerns from pet parents. When owners were home with pets, they gave their pet’s daily life a closer look. Once everything began to open again, anxiety appeared to increase in pets, especially those adopted during quarantines.



“The other very common [issue] I have seen, especially in our dog patients, is an increase in separation anxiety-related behaviors once owners resumed a more normal lifestyle, as well as an increase in fear-based aggression toward people and other dogs. [This was] probably because they were not able to socialize or interact normally during the initial stages of the pandemic,” Pike said.

### Access to veterinary behaviorists

Not every clinic has a behaviorist, leaving some veterinary professionals with limited or no access. But there are options, according to Pike such as attending as much continuing education as possible. Access to care through telemedicine or consulting with veterinary behavior specialists can also help with adherence for clients. ☺





# The nuts and bolts of canine atopic dermatitis

*Two dermatology experts share diagnostic and management methods for this skin condition*

By Julia Burke, Assistant Editor



Canine atopic dermatitis is the second most common allergic skin disease in dogs after flea allergy dermatitis.<sup>1</sup> In an interview with *dvm360*, Julia E. Miller, DVM, DACVD, described this condition, also referred to as atopy or environmental allergens, as a genetic predisposition to be hypersensitive to normally innocuous substances in the environment.

"This is something that when you're in general practice, you see it every single day. When you're a dermatologist, we certainly see it every day—it is exceedingly common," Miller said.

## Breeds predisposed and age of onset

Miller explained that because atopic dermatitis is a genetic predisposition, it's simply a matter of time before the clinical signs appear. "Essentially, these animals are born with this predisposition to being overly sensitive to things in their environment. And it's just kind of a ticking time bomb waiting for itself to show up," she said.

The typical age of onset for atopic dermatitis is between 6 months and 3 years, and specific breeds—golden and Labrador retrievers, pit bull terriers, pugs, boxers, and

German shepherds—have an increased risk of developing it.<sup>2</sup> However, Miller said, atopy can be present in any breed, including mixed breeds.

## Primary and secondary clinical signs

Andrew Rosenberg, DVM, DACVD, shared his knowledge on this prevalent chronic condition in dogs during a presentation at the 2021 New York Vet Show in New York, New York. Rosenberg explained that the most common skin areas affected by atopy are the pinna, axilla, front paws, hind paws, lips, and paranal. In contrast, Miller said, "With most of our environmentally allergic dogs, the area on the body that gets spared, the area they don't itch at or don't target, is usually along the dorsum."

The primary clinical signs of atopic dermatitis include erythema and pruritus, and the secondary signs include excoriations and infections, Rosenberg said. In addition, common infections caused by this disease are staphylococcus infections and *Malassezia* dermatitis, Miller said.

Rosenberg said it's equally important to note that there are no pathognomonic signs and that other skin diseases must be ruled out before making the diagnosis. Miller said the main condition atopy mimics is ectoparasites. "When

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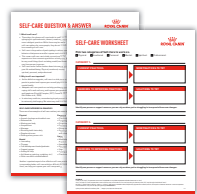
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>> Continued from page 6

I have a dog come in that is itchy...my No. 1 rule out is always fleas. And sure, it could be environmentally allergic. That's possible. But I better rule ectoparasites every time," she said.

She added that atopic dermatitis can also look like scabies or a food allergy, which present in an almost identical manner. She advises veterinarians to rely heavily on history taking and diet trials.

## How to diagnose a potentially atopic condition

### Perform a cytology or culture test

Both Rosenberg and Miller emphasized starting an examination for a potentially atopic patient with a cytology or culture test. This allows veterinarians to treat any secondary infections, whether they be yeast or bacterial.

"I really can't stress enough to do your cytologies. That should be the first thing you are doing when you're presented with an atopic dog," Rosenberg said. "Don't be afraid to culture [a] skin infection; it's never wrong to do so. If you see raw bacteria, you should be culturing, and if there's a bacterial infection that's not resolving with antimicrobial therapies, you should be culturing."

Miller added that if veterinarians simply focus on the allergies and not the secondary problems, it can cause them to be less successful in their treatment.

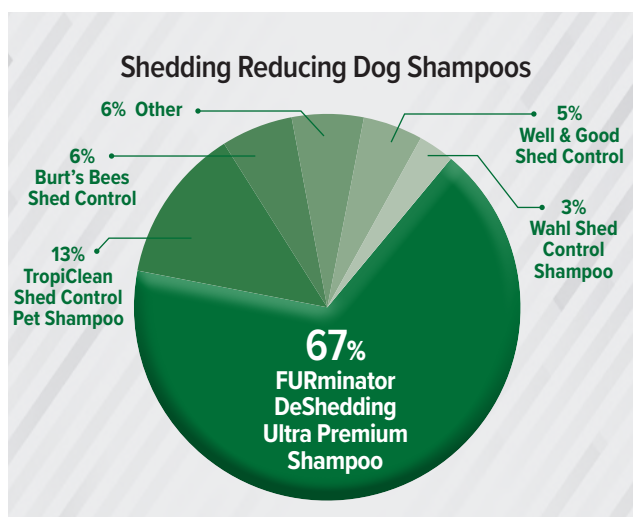
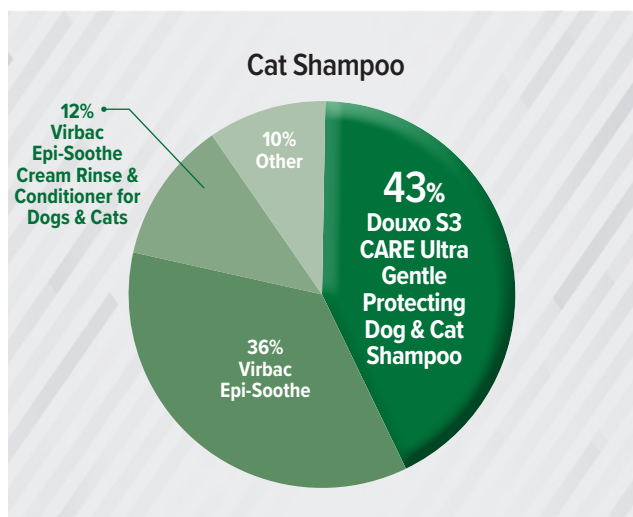
"I always recommend that you do cytology on every dog because you have to treat those secondary problems and treat them aggressively. Otherwise, you're never going to get control of the itch. And then you're never going to get control the environmental allergies," she said.

### Identify the underlying allergy

It is also key to determine which environmental allergy is affecting the patient so treatment methods can be incorporated for this as well. "It would be great if we could get to the root cause of what the dog is allergic to and manage that," Rosenberg said. Among the common allergens that cause a dog to develop atopy are pollens, mold spores, dust mites, shed skin cells, and insect proteins.<sup>3</sup>

Miller said there are 2 ways to allergy test animals: through a blood (serum) test—where you draw blood and submit it to a laboratory to have immunoglobulin E levels examined—or an intradermal allergen (skin) test—where you sedate the patient and inject the allergen directly under their skin to see if hives form. Miller said dermatologists don't recommend saliva or hair tests because they are not always accurate.

"The gold standard for what most people consider the best choice for allergy testing is the intradermal skin test," Miller

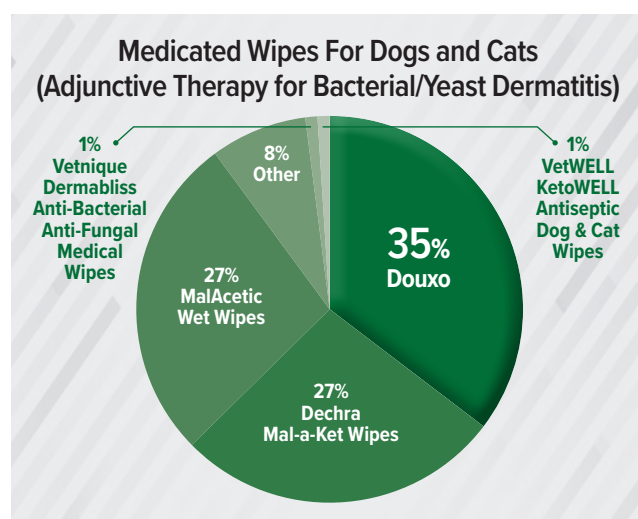
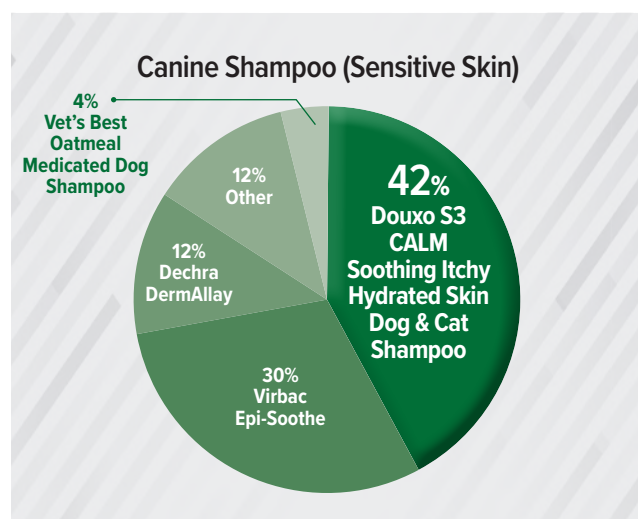


added. “But dermatologists out there certainly use both intradermal and serum allergy testing. I always recommend, wherever you practice, [that you] talk to the dermatologist in your area, find out what they’re doing and what they recommend.”

## Treat the secondary infection and allergen

### Secondary infection

Once the pet is diagnosed and it is determined that there is a yeast or bacterial infection, treating the secondary infection is vital to significantly reduce pruritus, Rosenberg said. “My principles for treating secondary infections...we’re getting away as much as we can from systemic antibiotics with all the resistance...so if there’s [a] focal infection, I encourage you to use more topical therapies. For widespread infection, we still use antibiotics,” Rosenberg said.



“I always recommend [prescribing an antibiotic for] at least 3 weeks, many times 4 weeks, and the general rule is to treat with an antibiotic for 1 week beyond a clinical cure so you treat until everything looks normal and then add on a week,” he said. “I always recommend rechecking these patients before stopping [the] antibiotic.”

### Environmental allergens

#### STEROIDS

One method for treating dogs with environmental allergens is to use oral steroids, which Miller referred to as “tried-and-true oldies but goodies.” They calm the immune system, are effective for most animals, and have few adverse effects.

“[With steroids] we stop the inflammation in the skin, because that’s going to stop the itch and then they don’t get their secondary infections,” Miller explained. However, steroids are not a good long-term protocol for dogs, and atopy is a lifelong disease.

#### IMMUNOTHERAPY

For a more long-term approach to managing atopic dermatitis, you can incorporate immunotherapy. With this holistic method, allergy shots are created based on a pet’s specific allergies and then injected into the skin to address the root of the problem.

For example, Miller said, “Say [the dog] is allergic to ragweed, it’s allergic to [some] kind of grass, and it’s allergic to [dander from] humans. We put those 3 things in a vial and then we can either inject that into the skin or we can do it under the tongue, so we can do injectable immunotherapy or sublingual immunotherapy....It’s just like what they do in humans. We’re trying to kind of rewire the immune system of that animal by exposing them to that allergen all the time, with the hope that then they won’t be quite so sensitive.”

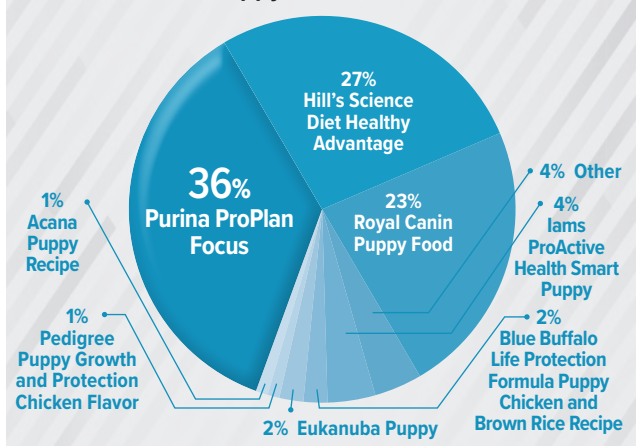
The downside to immunotherapy is that it takes a long time to reregulate the immune system, approximately a year, according to Miller. Therefore, the clients must be willing to put in the effort and have the patience to pursue this treatment for their pet. ☺

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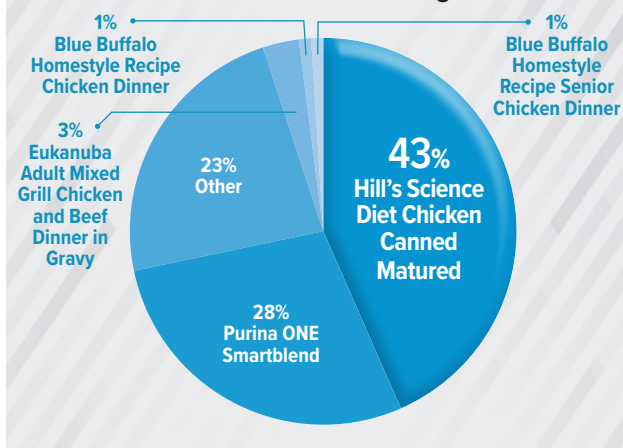
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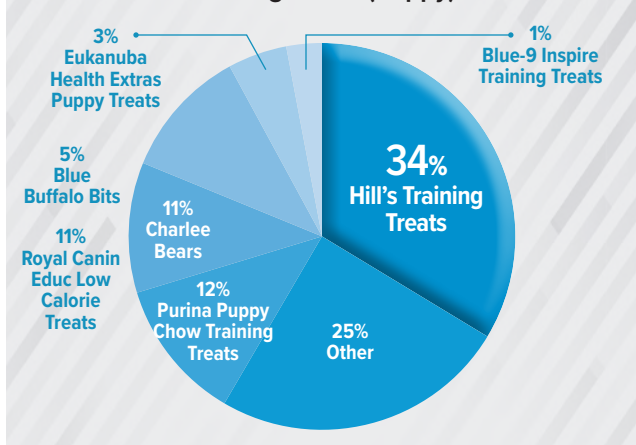
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## What ingredients to look for in dog food and treats

*Ensuring diet has the best ingredients leads to beneficial health effects*

By Sydney Yankowicz, Assistant Editor



Dogs are carnivores, but they can still obtain nutrition from plant-based sources such as grains, fruits, and vegetables. Overall, a well-balanced diet is vital to a dog's health and well-being.<sup>1</sup>

"Nutrition is the foundation. Ensuring a diet is complete, balanced, and provides all needed nutrients for optimal health is essential to having the best chance for a long and hopefully disease-free life," said Laura Gaylord, DVM, DACVIM (Nutrition), founder and owner of Whole Pet Provisions, PLLC, and North Carolina veterinary nutritionist, in an email exchange with *dvm360*.<sup>2</sup>

Nutritional problems occur most often when dogs are fed imbalanced homemade diets or certain other foods. Dog foods or homemade diets derived from a single food item are inadequate to an overall balanced diet.<sup>2</sup> Although dogs can thrive with a balanced diet of vegetarian foods, a diet of only meat does not meet the nutritional needs of a canine.<sup>1</sup> For example, feeding predominantly meat, or even an exclusive hamburger and rice diet, to dogs can induce calcium deficiency and secondary hyperparathyroidism.<sup>2</sup>

"Just as important [as] providing the right kinds and amounts of nutrients is avoiding excess calories," Gaylord said. "Currently, [over] 60% of our pets are overweight or obese, and obesity creates a state of inflammation in the body, increases risk of disease, and shortens life span."

The 6 basic nutrients needed for a canine diet include water, proteins, fats, carbohydrates, minerals, and vitamins.<sup>1</sup> Veterinary professionals can consult nutritional guidelines established by the Association of American Feed Control Officials (AAFCO) to ascertain the nutritional content of commercial foods and to ensure these products meet AAFCO standards.<sup>1</sup>

### Recommending products to clients

#### Food

Deborah Linder, DVM, MS, DACVN, head of the Tufts Obesity Clinic for Animals in North Grafton, Massachusetts, provided

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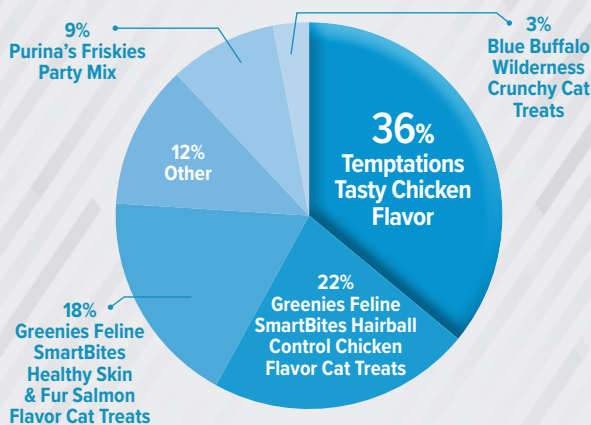
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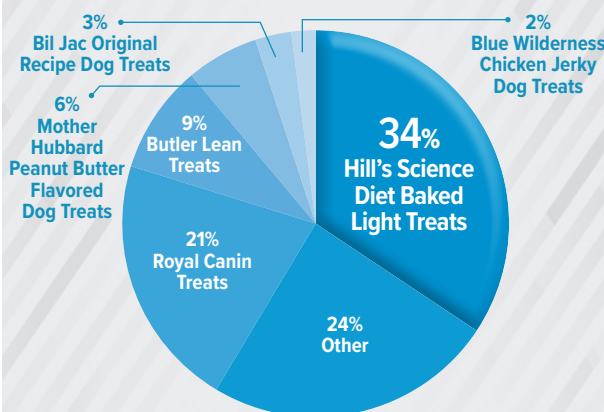


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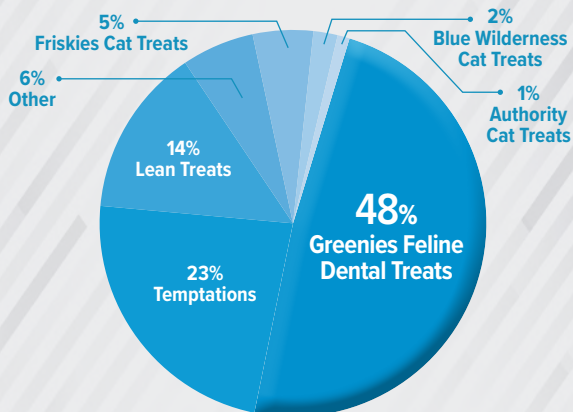
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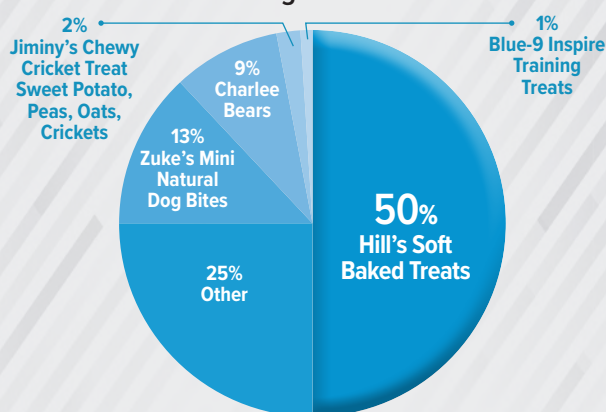
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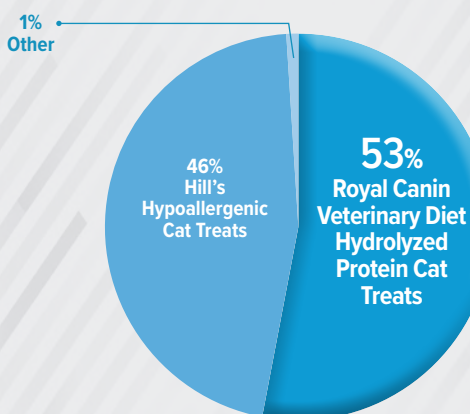
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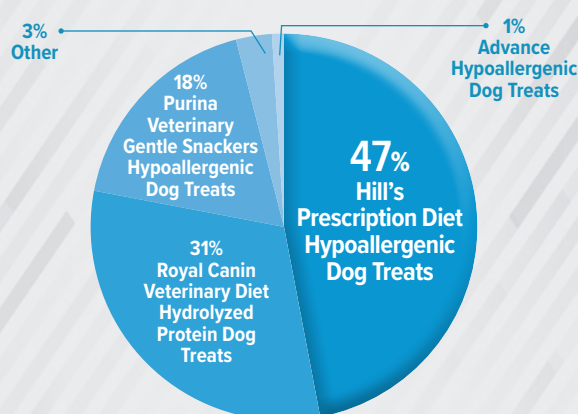
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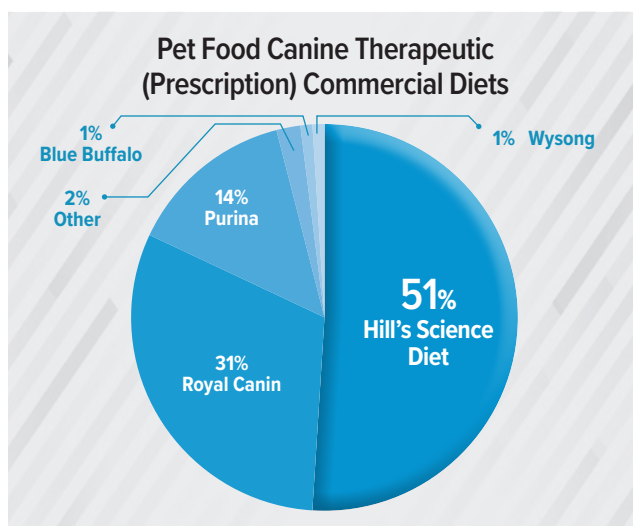
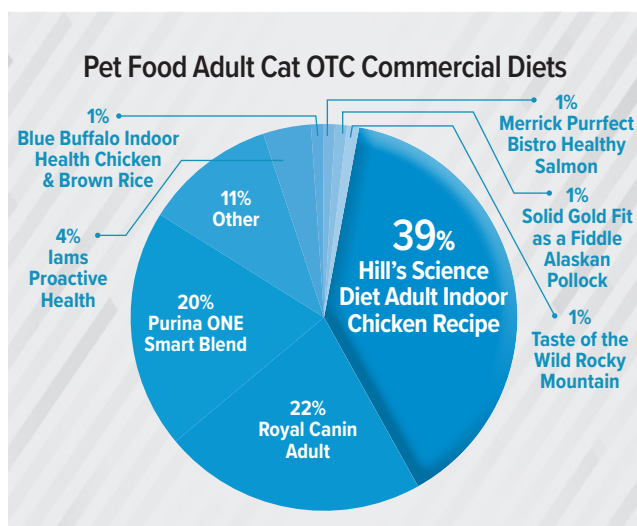
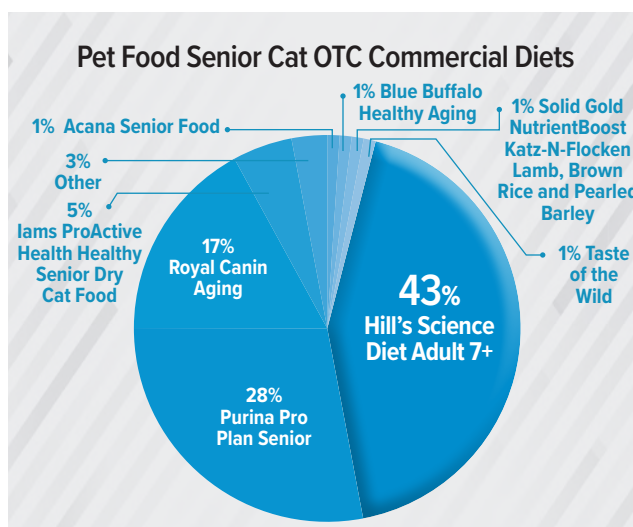
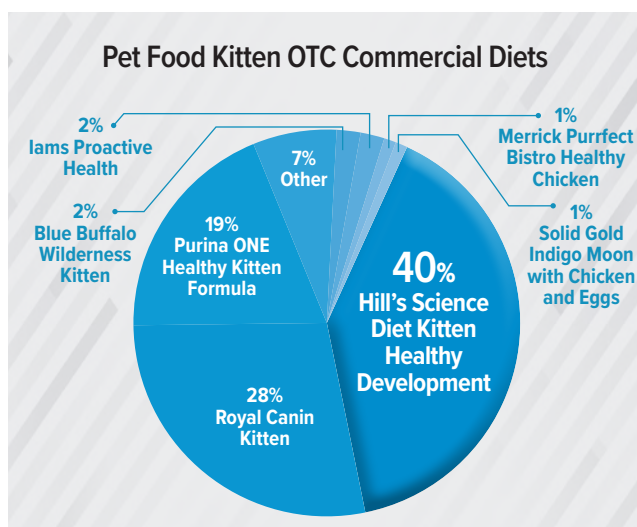
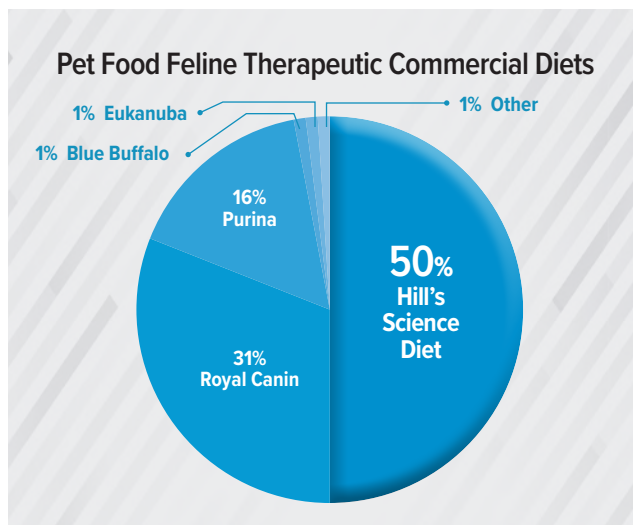
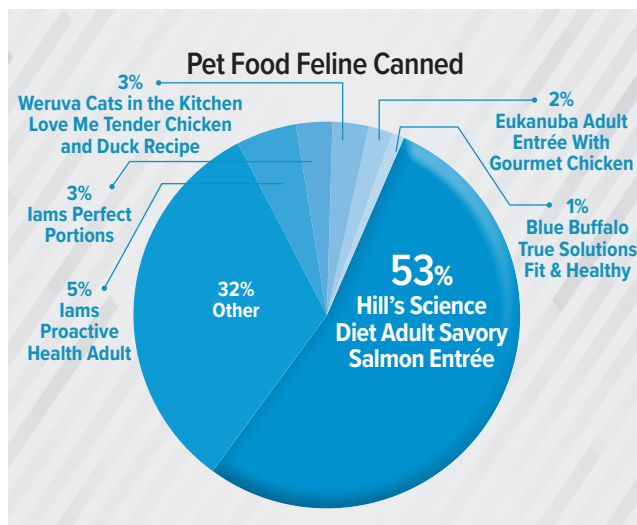
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# An inside look at integrative medicine

*From acupuncture to herbal medicine, patients can have a better quality of life when alternative and conventional treatment methods are combined*

By Caitlin McCafferty, Associate Editor



Integrative medicine has gained traction in the past couple of years within the veterinary community, as teams look for new ways to treat their patients for multiple illnesses. Since 1998, Janice Huntingford, DVM, DACVSMR, CVA, CVPP, CCRT, has studied integrative medicine and its different techniques. She discussed with *dvm360*® how some integrative techniques can help.

## Treatments with integrative medicine

Many treatments can help patients suffering from multiple diseases. In these cases, Huntingford noted that a mix of integrative and conventional medicine is an ideal combination. If your patient needs surgery, they need surgery. There is no other option. Integrative medicine comes in later when the patient is dealing with postsurgical pain or discomfort.

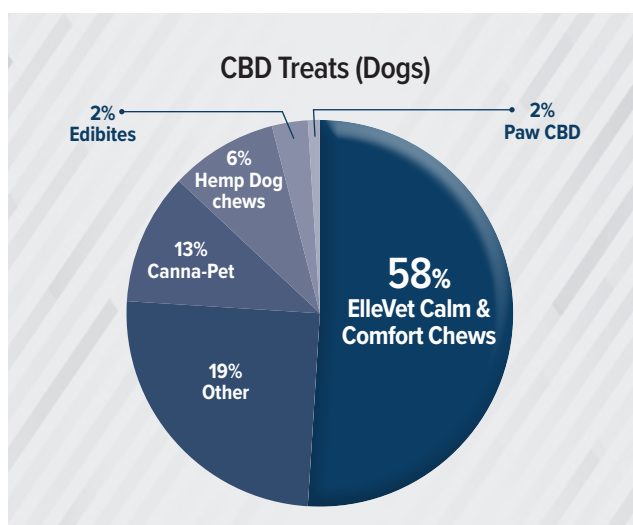
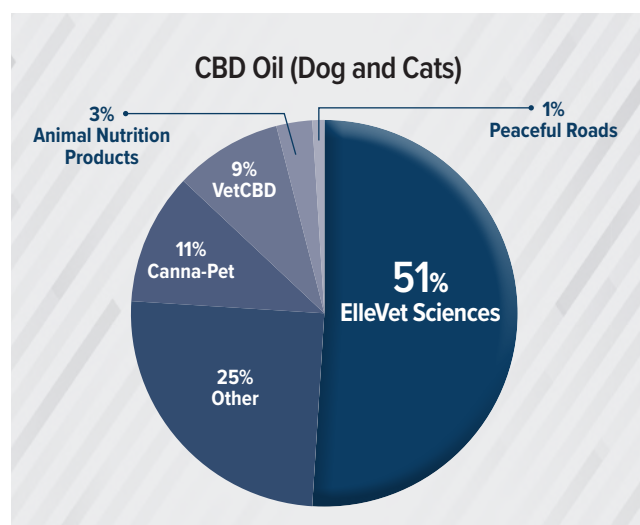
Along with postsurgical cases, Huntingford outlined other areas that benefit from integrative medicine. “[I] treat a lot of gastrointestinal diseases. Certainly pain, lots of pain, is treated with integrative medicine. I have treated seizures, and [you also] can [use] integrative medicine with diabetes. You certainly do musculoskeletal things a lot.... I think about doing acupuncture and herbs, which are probably the most common things that I [use], as well as rehabilitation. But...

there are basically herbals that you can use to treat anything. In integrative medicine, we’re looking at the whole patient, so I do a lot of nutritional consults,” Huntingford explained.

Although using integrative medicine is easier with canines, Huntingford said feline patients also benefit from it. If you have feline patients that you think would benefit from herbal treatments, consult an herbalist or an integrative medicine specialist to ensure they receive the correct herbs. “We’ll [often] take a liquid herb and mix it with something that’s tasty. You can mix it with a little bit of canned food,” she said. “[Many] cats will take little tiny pills. You can use Chinese tea pills and herbs for them, but we probably use more liquid for the cats than we do tablets,” Huntingford added.

## Responding to skeptics

Sometimes, habits and preferences make it easy to fall into a pattern when it comes to treating patients. This can cause some veterinary professionals to be skeptical of integrative medicine. Huntingford, a former skeptic herself, advised those who only want to provide evidence-based medicine to read peer-reviewed papers on integrative medicine. “If you read peer-reviewed papers, there are lots of papers on evidence for different modalities,” she noted. ©





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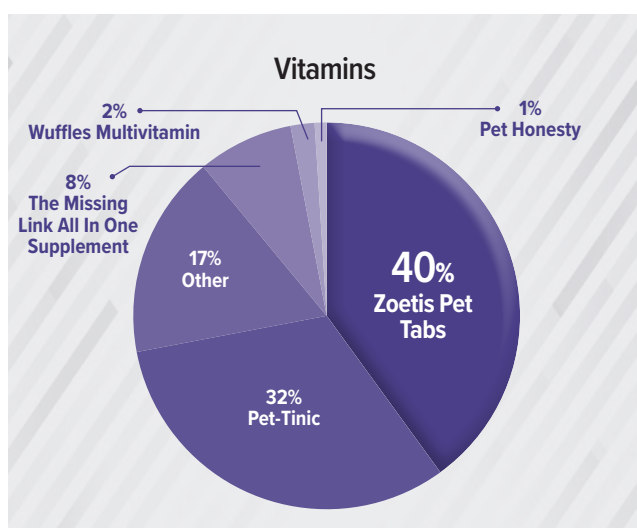
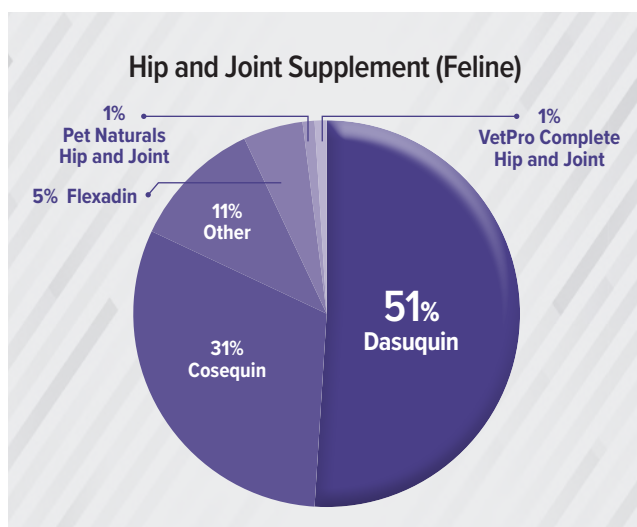
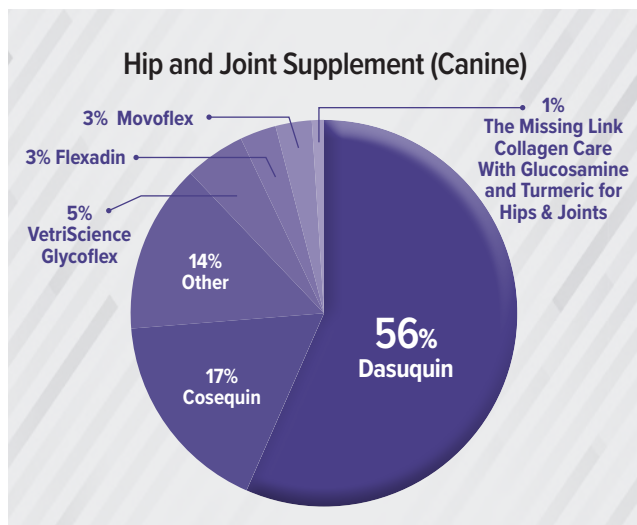
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## Nutraceuticals for managing arthritis

*Experts discuss how avocado and soybean unsaponifiables, green-lipped mussels, undenatured type II collagen, and other dietary ingredients can ease canine osteoarthritis and musculoskeletal arthritis*

By Julia Burke, Assistant Editor

➔ The term “nutraceutical” was coined in 1989 by Stephen DeFelice, MD, combining the words “nutritional” and “pharmaceutical.”<sup>1</sup> Since then, nutraceuticals have made their way into the world of veterinary medicine as an emerging modality.

In an interview with *dvm360*®, Robert Silver, DVM, MS, founder and medical director, Well-Pet Dispensary in Boulder, Colorado; and chief veterinary officer of Real Mushrooms in British Columbia, Canada, opined that nutraceutical is a “fancy word” for animal supplement or functional food.

Because nutraceuticals are not drugs, there is no federal oversight on the veterinary market, thus it’s important to look at research regarding these products rather than marketing claims, added Matthew Brunke, DVM, DACVSMR, CCRP, CVPP, CVA, sports medicine and rehabilitation specialist for Veterinary Surgical Centers in Virginia, while presenting a session at the *dvm360*® Directions in Veterinary Medicine conference in Indianapolis, Indiana.<sup>2</sup>

According to these experts, nutraceuticals can be used to help manage osteoarthritis<sup>2</sup> and musculoskeletal arthritis.

### Glucosamine, chondroitin sulfate, and methylsulfonylmethane

Silver highlighted glucosamine as a popular nutraceutical, and a “comparable compound” is chondroitin sulfate. When these are combined, they can be beneficial for arthritis because chondroitin sulfate has more anti-inflammatory activity. Methylsulfonylmethane, which is a solid form of dimethyl sulfoxide, is also often coupled with glucosamine and chondroitin sulfate because of its potent anti-inflammatory actions. “So those are probably the 3 most common nutraceuticals that we’re going to see in products for joints,” Silver said. “They have been around a long time.”

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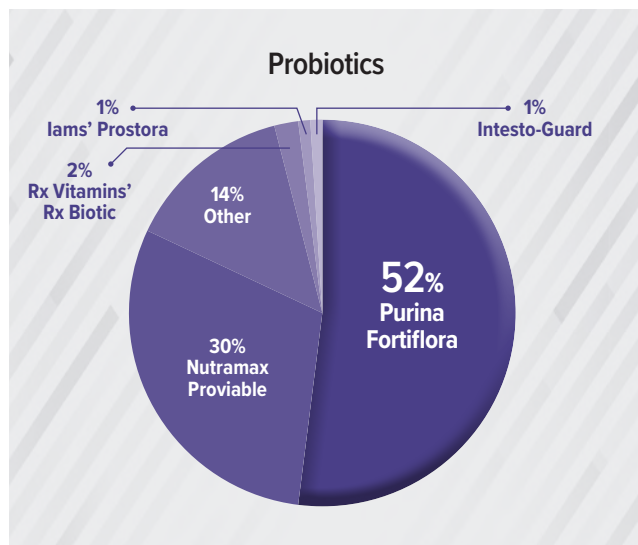
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\*Source: Survey conducted among small animal veterinarians who recommended animal supplements.

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>> Continued from page 18



### Avocado/soybean unsaponifiables

According to Brunke, avocado/soybean unsaponifiables are extracts from avocado and soybean oils that inhibit inflammation. In his talk, he highlighted a study on this nutraceutical and its efficacy for degenerative osteoarthritis. In the investigation, OA was induced by anterior cruciate ligament transection of the right knee in 16 crossbred dogs; 8 were given a placebo, and 8 were given avocado/soybean unsaponifiable. Post mortem, growth samples at necropsy were histologically examined.<sup>3</sup>

"The dogs in the treatment group had fewer osteophytes. They had thicker, more robust cartilage and had a better calcified cartilage versus spongy stuff," Brunke said.

Brunke said when researchers looked at the cartilage on a microscopic level for the placebo group, it was fibrillated and irritated in both the femur and the tibia, whereas in treatment group, it was smooth, which promotes less friction and less drag. In their conclusion, the investigators noted that "this study demonstrates that treatment with avocado/soybean unsaponifiables can reduce the development of early osteoarthritic cartilage and subchondral bone lesions in the anterior cruciate ligament dog model of osteoarthritis."<sup>3</sup>

### Green-lipped mussels

Newer nutraceuticals available include marine-life extracts, including those of green-lipped mussels (GLMs). "[GLMs] contain good levels of glycosaminoglycans—which is what glucosamine and chondroitin are—but they also contain anti-inflammatory fatty acids like EPA [eicosapentaenoic acid] and DHA [docosahexaenoic acid] that we find in fish oil, [as

well as]... eicosatetraenoic acid, which is even more potent than EPA or DHA as an anti-inflammatory agent," Silver said. "GLMs also have a couple of other different fatty acids that we commonly find in fish oil, which gives [them] value."

The fatty acids in GLMs can be beneficial for joints. "GLMs have been shown in dogs to work in pathways of omega-3s, of chondroitin, so it's a little bit of a hodgepodge of the mechanism of action. [GLMs contain] a lot of good things, but you can't just go and get regular mussels. You can't get the zebra mussels that are spreading throughout the United States....It must be the GLMs out of New Zealand," Brunke added.<sup>2</sup> He also shared key research displaying the significance of the dosage when it comes to these nutraceuticals<sup>4-6</sup>: "If [GLMs are] dosed at 25 mgs per kg, [there is] no difference. You have to dose [them] at least at 77 mg per kg per day," he said.

### Undenatured type II collagen

One of the more recent nutraceuticals emerging in the arthritic pain realm is undenatured type II collagen (UC-II). Silver explained that certain types of cartilage have UC-II, which can be more effective with the inflammatory types of arthritis like rheumatoid arthritis; however, UC-II is also being used for osteoarthritis.

In his talk, Brunke discussed using UC-II from chicken sternums essentially as an immunotherapy. He said it gets absorbed in the gastrointestinal tract and is an active modulator. Additionally, it's convenient because, regardless of an animal's size, it is dosed at 10 mg once daily per patient.<sup>1</sup>

"[UC-II] is going to slow down the inflammatory response," said Brunke. He also said there is evidence regarding UC-II's efficacy on its own and when combined simultaneously with glucosamine and chondroitin.<sup>7,8</sup> The studies discovered that when these 3 nutraceuticals were used together, UC-II didn't work as well as when it was used alone because something in glucosamine blocks the absorption of UC-II. "If your [pet is] on a glucosamine-chondroitin supplement, you give that in the morning, [and] you give the UC-II hours later so that the gut is not being exposed to them both at the same time. Otherwise you're not getting as robust of an effect," Brunke said.

### More nutraceuticals

Some additional nutraceuticals that Silver highlighted include manganese, cannabidiol herbal extract, Boswellia, turmeric, and devil's claw, which are being used for their anti-inflammatory properties. ©

References available online at [dvm360.com](http://dvm360.com)



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# Oral health products for at-home dental care

*Client adherence is important for pets between professional cleanings*

By Bob Alaburda, Senior Editor



Research has shown that 80% of dogs and 70% of cats will develop from some form of periodontal disease by 3 years old.<sup>1</sup> As many as 90% of dogs already show signs of periodontitis by age 2.<sup>2</sup> Because most pets receive a professional dental cleaning only once or twice per year, at-home oral health products may have a role to play in combating periodontal disease during the remaining 363 days on the calendar.

Client adherence with at-home dental care is important for pet oral health. “When I have done dental [care], I always like to provide a dental home kit because...just in a matter of a few weeks...plaque and tartar can build up, and pet parents want to be proactive,” said Adam Christman, DVM, MBA, chief veterinary officer for dvm360® in an episode of The Vet Blast Podcast. “They want to actively do something.”

Here, dvm360® highlights 3 categories of dental products designed to make it easier for pet parents to help their furry friends maintain a healthy mouth.

## Water additives

Pet water additives are not a replacement for regular toothbrushing, but rather serve as supplementary care analogous to the use of mouthwash in humans. Many water additive products that are available today are designed to freshen breath and reduce plaque-causing bacteria in the oral cavity.

Owners simply add the typically liquid solution (although a few brands offer powder or gel) to their pet’s water dish. Most water additives are colorless and flavorless to ensure pets will not refuse the treated water. However, some brands offer flavors, such as peanut butter, that may add an additional incen-

tive for pets who enjoy it. The goal is that through regular intake of water enhanced with antimicrobials, pets ultimately accumulate less bacteria, slowing the progression periodontal disease.

Speaking with Christman on *The Vet Blast Podcast*, Emily Stein, PhD, noted the key role of water alone in oral health, emphasizing the importance of hydrating pets effectively. “I know...some breeds...especially on a raw diet, don’t drink much water, but the water does a great job of flushing out the harmful waste products that the bacteria secrete,” she said.

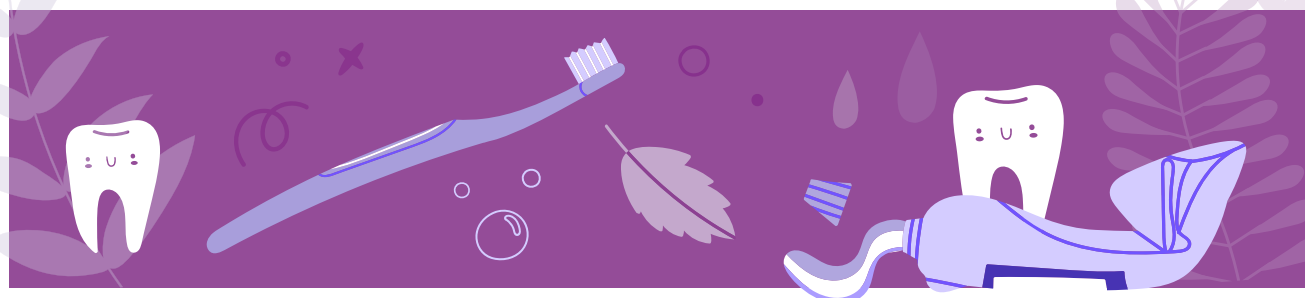
## Toothpaste

Regular toothbrushing is cited by the American Veterinary Medical Association as the most effective way to keep a pet’s teeth healthy between dental cleanings.<sup>3</sup> Ideally, a pet owner would brush daily to reduce plaque on the surface of their pet’s teeth, as well as below the gumline. Pet-friendly flavors, such as poultry, beef, and many others, are available to help with adherence.

Christman noted that regular toothbrushing can be the cornerstone to a multimodal approach at home. “If you can brush the teeth, that’s awesome. If you can give probiotics, [that’s] even better. If [possible], continue to maintain it [with] physical exams, coming in every 6 months to make sure the teeth look good, because...some dogs are more predisposed to dental disease than others,” he said.

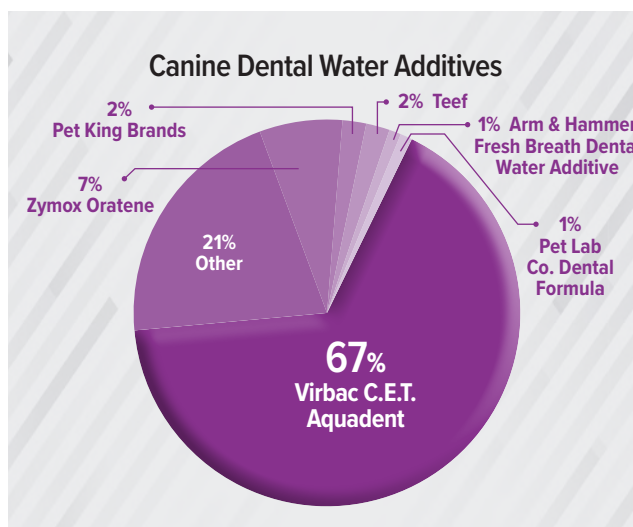
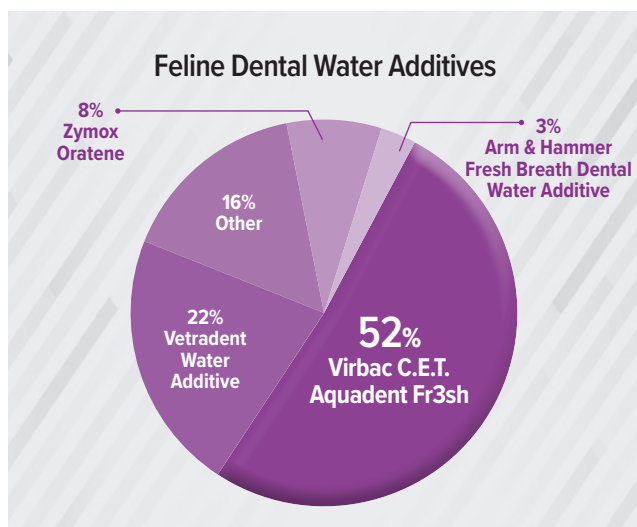
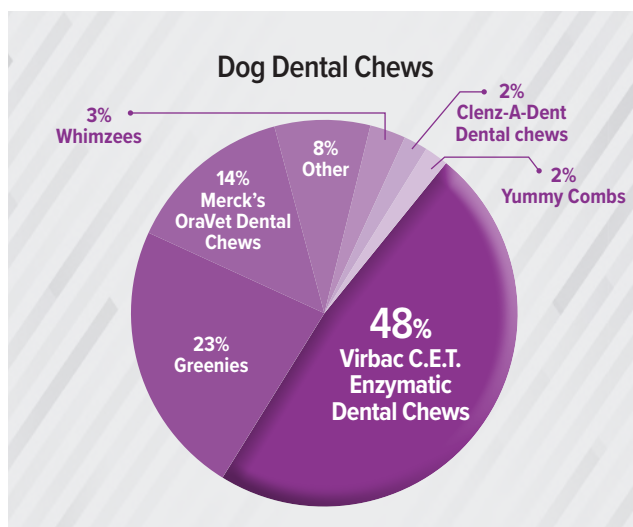
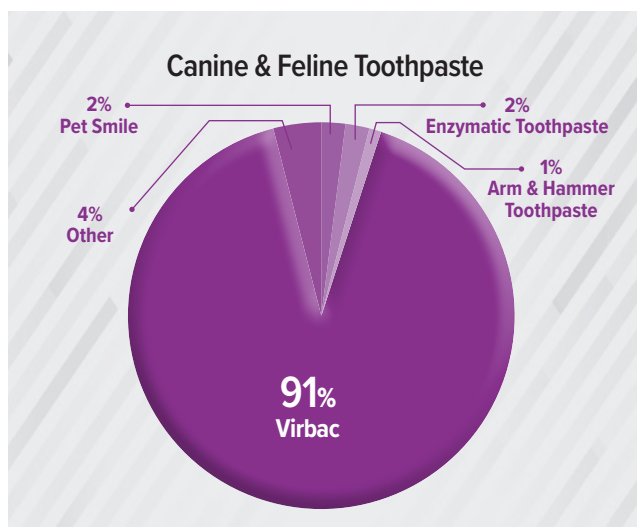
## Chews

Pet dental chews are another option for at-home removal of plaque and tartar buildup. In an article in the August 2021 issue of dvm360®, Jan Bellows, DVM, DABVP, FAVD, wrote,



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"Administering [a particular brand's dental chew] is one of the easiest ways to reduce plaque and tartar."<sup>4</sup>

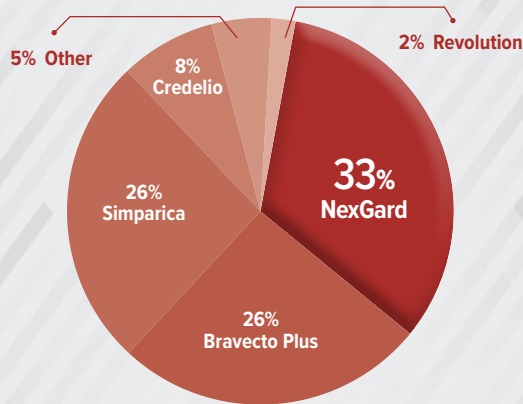
There are many chews available on the market that make a wide array of claims. A useful tool for recommending dental chews—and all oral health products—to clients is to reference the Veterinary Oral Health Council's (VOHC) list of approved products. There, the VOHC maintains a list of products approved by its testing, with an indication of what claims the VOHC has verified.<sup>5</sup>

Peer recommendations on which oral health products to choose were made through a survey of veterinary professionals and can be viewed in the Top Recommended Veterinary Products guide. 📄

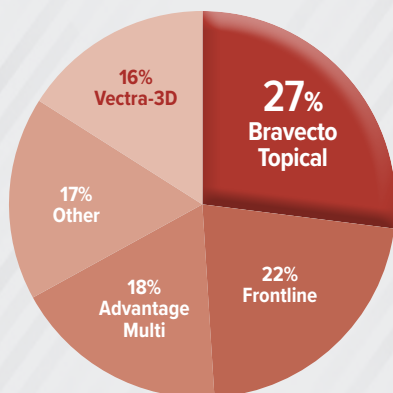
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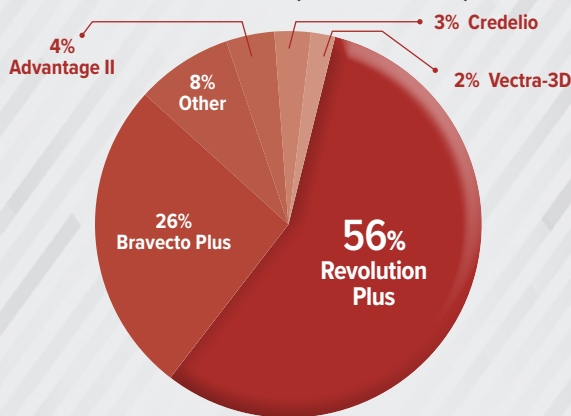
### Parasiticides (Flea and Tick)—Dog Oral



### Parasiticides (Flea and Tick)—Dog Topical



### General Parasiticides (Flea and Tick)—Cat



## Tick prevention for year-round protection

*Although the summer months are upon us and ticks have become more of a threat, tick preventives must be used every time of year*

By Sydney Yankowicz, Assistant Editor



Tick prevention adherence is an easy way to combat potential tick-borne diseases from bites, as vaccinations are not available for most of these infections.<sup>1</sup> Ticks are active throughout the year, and therefore tick control should be practiced consistently to protect the health of the pet and prevent untreated companion animals from bringing ticks into the home and thus infesting their owners or family.<sup>2</sup> Some popular options of tick preventives are topical, oral, and tick collars.

In a *dvm360*® interview, Brian Herrin, DVM, PhD, DACVM (Parasitology), discussed what he tells his clients about the importance of tick prevention. “We talk about using tick prevention for all our pets, because these are easily preventable diseases,” Herrin said.

### Tick-borne diseases

Sometimes a tick bite only results in a small amount of blood loss and a wound from the bite area. However, ticks can also carry and transmit diseases and pathogens onto the pet they bite. The most common transmitted diseases are Lyme disease and, in cats, Cytauxzoonosis.<sup>3</sup>

Tick bites can also cause anemia and skin infections from the bite area.<sup>3</sup> “Transmission of a given pathogen is often restricted to a particular tick genus or species. For example, only members of the genus *Ixodes* are known to be competent vectors of spirochetes that cause Lyme disease,” according to the Companion Animal Parasite Council.<sup>2</sup>

### Discussing tick control and preventives with clients

In a previous *dvm360*® interview, Beckie Mossor, RVT, shared common challenges veterinary professionals face when discussing parasite preventives with clients. “A lot of our

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\*Assessment was conducted by IDEXX and leveraged veterinary clinic PIMS transaction level data for 2021. This analysis included veterinary practices with consistent data from 2019 to 2021. To be included, patients needed to have at least one parasiticide transaction in 2020 and 2021. The analysis was limited to loyal patients, where loyalty was defined as having one flea/tick control brand during the full three-year period. The average number of months of NexGard purchased per year was 6.8. The average number of months of BRAVECTO purchased per year was 6.7. This analysis overestimates the duration of efficacy for BRAVECTO. For comparison purposes, each BRAVECTO chew was assessed as providing three months of flea & tick protection versus the labeled 12-week coverage for fleas and three species of ticks, and 8-week coverage for Lone Star ticks.

1. Data on file at Boehringer Ingelheim. 2. Data on file at IDEXX Laboratories, Inc. Westbrook, Maine USA.



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**Description:** NexGard is a soft chewable for oral administration to dogs and puppies according to their weight. Each chewable is formulated to provide a minimum afoxolaner dosage of 1.14 mg/lb (2.5 mg/kg).

**Indications:** NexGard kills adult fleas and is indicated for the treatment and prevention of flea infestations (*Ctenocephalides felis*), and the treatment and control of *Ixodes scapularis*, *Dermacentor variabilis*, *Amblyomma americanum*, and *Rhipicephalus sanguineus* infestations in dogs and puppies 8 weeks of age and older, weighing 4 pounds of body weight or greater, for one month. NexGard is indicated for the prevention of *Borrelia burgdorferi* infections as a direct result of killing *Ixodes scapularis* vector ticks.

**Dosage and Administration:** NexGard is given orally once a month, at the minimum dosage of 1.14 mg/lb (2.5 mg/kg). See full product insert for dosing table and details.

**Warnings:** Not for use in humans. Keep this and all drugs out of the reach of children. In case of accidental ingestion, contact a physician immediately. Keep NexGard in a secure location out of reach of dogs, cats, and other animals to prevent accidental ingestion or overdose.

**Precautions:** Afoxolaner is a member of the isoxazoline class. This class has been associated with neurologic adverse reactions including tremors, ataxia, and seizures. Seizures have been reported in dogs receiving isoxazoline class drugs, even in dogs without a history of seizures. Use with caution in dogs with a history of seizures or neurologic disorders.

The safe use of NexGard in breeding, pregnant or lactating dogs has not been evaluated.

**Adverse Reactions:** In a well-controlled US field study, which included a total of 333 households and 615 treated dogs (415 administered afoxolaner; 200 administered active control), no serious adverse reactions were observed with NexGard.

Over the 90-day study period, all observations of potential adverse reactions were recorded. The most frequent reactions reported at an incidence of > 1% within any of the three months of observations are presented in the following table.

Table 1: Dogs with Adverse Reactions.

	Treatment Group			
	Afoxolaner		Oral active control	
	N <sup>1</sup>	% (n=415)	N <sup>2</sup>	% (n=200)
Vomiting (with and without blood)	17	4.1	25	12.5
Dry/Flaky Skin	13	3.1	2	1.0
Diarrhea (with and without blood)	13	3.1	7	3.5
Lethargy	7	1.7	4	2.0
Anorexia	5	1.2	9	4.5

<sup>1</sup> Number of dogs in the afoxolaner treatment group with the identified abnormality.

<sup>2</sup> Number of dogs in the control group with the identified abnormality.

In the US field study, one dog with a history of seizures experienced a seizure on the same day after receiving the first dose and on the same day after receiving the second dose of NexGard. This dog experienced a third seizure one week after receiving the third dose. The dog remained enrolled and completed the study. Another dog with a history of seizures had a seizure 19 days after the third dose of NexGard. The dog remained enrolled and completed the study. A third dog with a history of seizures received NexGard and experienced no seizures throughout the study.

**Post-Approval Experience (July 2018):** The following adverse events are based on post-approval adverse drug experience reporting. Not all adverse events are reported to FDA/CVM. It is not always possible to reliably estimate the adverse event frequency or establish a causal relationship to product exposure using these data.

The following adverse events reported for dogs are listed in decreasing order of reporting frequency for NexGard: Vomiting, pruritus, lethargy, diarrhea (with and without blood), anorexia, seizure, hyperactivity/restlessness, panting, erythema, ataxia, dermatitis (including rash, papules), allergic reactions (including hives, swelling), and tremors.

**Effectiveness:** See full product insert for details regarding Effectiveness.

**Animal Safety:** In a margin of safety study, NexGard was administered orally to 8 to 9-week-old Beagle puppies at 1, 3, and 5 times the maximum exposure dose for a total of six treatments. There were no clinically-relevant effects related to treatment on physical examination, body weight, food consumption, clinical pathology (hematology, clinical chemistries, or coagulation tests), gross pathology, histopathology or organ weights. Vomiting occurred throughout the study, with a similar incidence in the treated and control groups, including one dog in the 5x group that vomited four hours after treatment.

In a well-controlled field study, no adverse reactions were observed from the concomitant use of NexGard with other medications.

**Contact Information:** For a copy of the Safety Data Sheet (SDS) or to report suspected adverse drug events, contact Boehringer Ingelheim Animal Health USA Inc. at 1-888-637-4251. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or [www.fda.gov/reportanimalae](http://www.fda.gov/reportanimalae).

The information provided here is not comprehensive. The full FDA-approved product insert is available at [www.nexgardfordogs.com](http://www.nexgardfordogs.com). Consult your veterinarian for further information.

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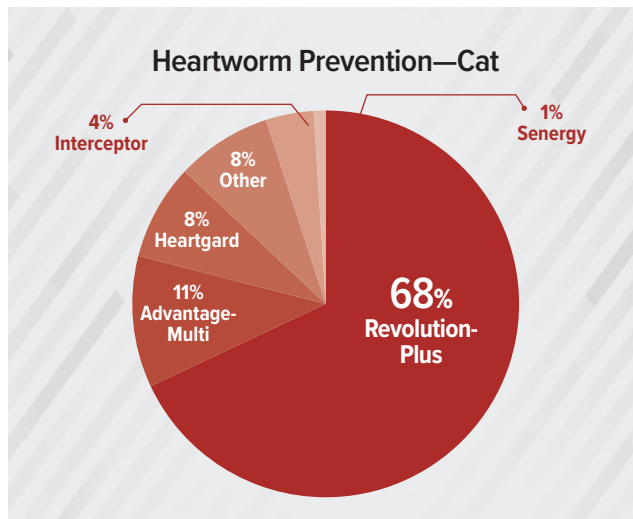
Reference package insert: 1050-4493-09 Rev. 11/2019

Brief summary preparation date: 08/2020

US-PET-0735-2020

## PARASITE PREVENTION

>> Continued from page 24



clients have a misunderstanding about how frequently they need to use preventives, or the fact that it is something they need to use all 12 months of the year,” Mossor said.

Mossor highlighted that, oftentimes, having a simple discussion with clients can help remind them to use tick control year-round. In an episode of the *dvm360®* program, *Vet Perspective*, Katina Carter, DVM, noted that ticks are adapting to colder weather. “Now we can see them year-round, as they don’t mind the damp in the South and they don’t mind the North, either,” Carter said.

Mossor also shared her tips for discussing tick preventives with clients. “Be honest and straightforward. Remember you are advocating each time you are educating. Whittle down the information you are giving [the client]. Stop using the word, ‘recommend,’ [and] start using [words] like ‘prescribe’ or ‘best practices,’” she said.

Herrin noted that tick preventives “could also be an investment in [a] pet’s health, where later down the line, [the owner is] skipping out on \$1000 to \$2000 vet bill just by preventing that disease process.” Clients can be reminded that the initial financial cost of using tick control year-round tends to outweigh the consequences of opting out.

## What to do when you find a tick on your pet

Tick prevention products aim to lower the chances of a pet being bitten. However, a tick may still jump onto the animal’s body. Owners should be advised that if a tick is seen, it is best to remove it as

quickly as possible, before it can attach to the pet's skin, according to Herrin.

"The best way to remove them is to try to grab the tick as close to the skin as you can—[don't] try to squeeze the back end—[then] pull directly out. There's no need to try to twist [the tick off], [and] definitely [don't] try to burn them off," Herrin said. "If [pet owners] are concerned, [I recommend saving] them in a piece of clear tape. That way you would have that tick in case your pet started feeling ill in the next couple of weeks, and you could take that to your veterinarian [for further inspection]."

The American Society for the Prevention of Cruelty to Animals recommends regularly checking your pet for ticks when they go outside, especially in high-grass or wooded areas. The organization suggests to run your hands carefully over your pet every time they come inside and to thoroughly check inside and around the ears, head, and feet.<sup>3</sup> 🕒

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>> Continued from page 10

guidelines for counseling dog owners about choosing the right dog food during a virtual 2020 Fetch dvm360 Conference. "I like to give owners some agency, so they understand how I'm selecting food and thinking through what's best for pets," Linder said. "I also give them information so they can be more active in the decisions."<sup>3</sup>

How can you know whether a company is responsible? Linder advocates phoning them directly. This is one way to find out whether a company employs critical staff, such as a board-certified veterinary nutritionist, a PhD nutritionist, an animal food formulation specialist, and a toxicologist.

"At the end of the day," Linder said, "someone with expertise [must] come up with the formulation for a food, think through that recipe, consider all the ingredients that should go into it and how [they] interact with each other, and know the biochemistry and nutritional physiology behind that."

Gaylord also offered a tips for guiding clients with product selection and feeding amounts, which include the following:

- ✦ Select the appropriate product for your pet's life stage. Avoid exotic protein ingredients.
- ✦ Consider feeding some or all the diet as a commercial, balanced, less-processed diet option (cooked fresh foods).

#### Treats

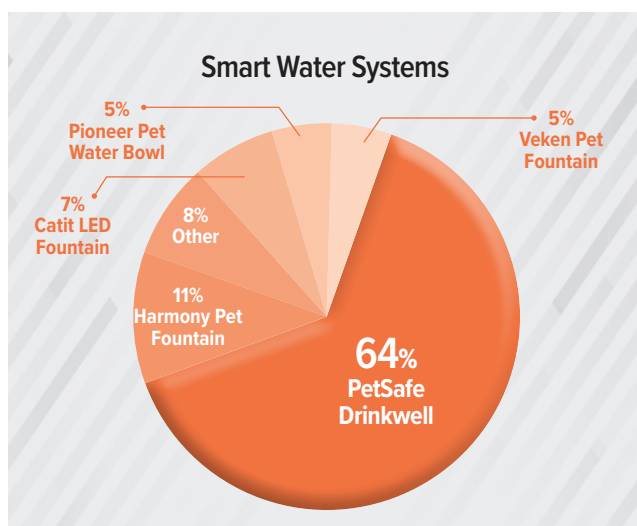
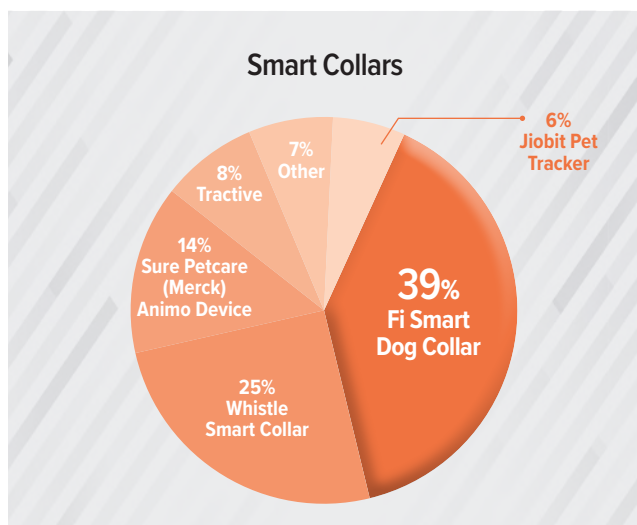
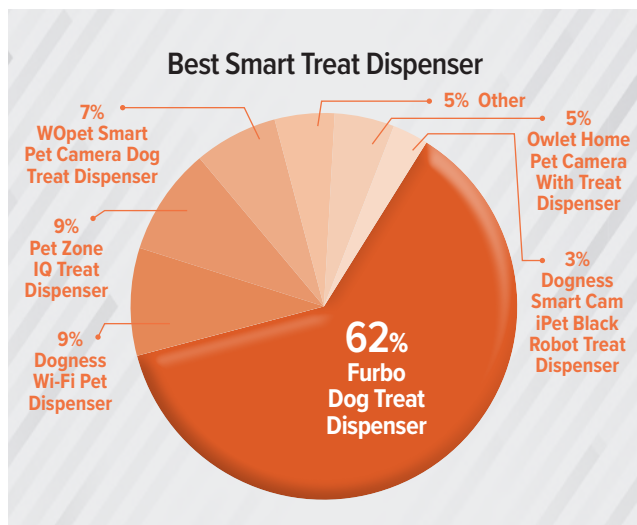
Gaylord noted that treats can potentially be high in calories and are sometimes overfed to pets. "Choosing lower-calorie treats [perhaps less than 5-10 kcal or calories each] is a good idea. I have seen some treats as high as 50 kcal or calories per treat. In general, treats and snacks should be limited to no more than 10% of the diet—[this is 10% of the calories the dog or cat eats every day]—to avoid unbalancing the total daily diet," she said.

#### Conclusion

Overall, it is important to consider the pet's specific dietary needs, in consideration of breed, age, and health conditions. However, in general, pet owners can be advised to choose recognizable, whole-food ingredients and a low-calorie diet for their dogs.<sup>1</sup> 🕒

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# Improving continuity of care with new technology

*Three modern advances help clinicians continue to be a resource outside the exam room*

By Bob Alaburda, Senior Editor



Modern technology allows clinicians to monitor patients like never before. Virtual care platforms, at-home wearables, and monitoring devices

facilitate real-time patient data and more frequent communication between veterinarians and clients. These innovations let clinicians extend their reach beyond the exam room, providing more touch points for patient care through remote options that clients have come to expect.

Here are 3 ways technology is changing the landscape and improving continuity of care:

## 1. Telehealth/virtual care

Whether the veterinary industry was ready for mass adoption of telemedicine, the COVID-19 pandemic forced its hand. As clinics scrambled to find ways to continue care for patients in the age of social distancing, virtual care stepped in as a stopgap. More than 2 years later, the fear of interacting face-to-face is slowly waning, but the newfound benefits of remote care for certain types of appointments (such as recheck visits) remain.

The most immediate benefit of virtual care is the convenience to all parties. The pet is spared a potentially stressful office visit, the owner saves on travel time and expenses, and the clinician can be more flexible when scheduling if an exam room is not required. Additionally, many virtual care platforms offer some form of patient and pet health portal. This allows clients to upload relevant patient data, including photos or videos of postoperative wound healing complications.

Clients can also access patient information such as vaccine records or documents they may need to share with other parties such as specialists or daycare services. What's more, many platforms have options for pet parents to request appointments, have prescriptions refilled, and message the clinic. These portals are a powerful source of client education, whether through direct communication with the care team or verified resources relevant to their pet's care. These



factors mean less work for the front desk and more ways for veterinary professionals to stay on top of their patients' care.

## 2. Consumer-oriented smart devices

Smart collars are a growing product category among pet owners. As the "Fitbit for dogs," smart collars provide basic tracking data such as heart rate and steps taken. They tend to have a GPS tracking feature that allows owners to keep an eye on the location of their furry friend. Smart collars offer a simple, objective way for clients to monitor their pets' activity and ensure they are sticking to clinician recommendations for exercise and fitness. In a similar fashion, consumer-oriented smart food and water dispensers are available to assist the pet parent in managing and tracking hydration and nutrition information.

## 3. Professional-grade monitoring devices

The veterinary industry continues to develop and produce products aimed at helping clinicians monitor pet vitals. Continuous glucose monitors are one such example of a wearable, remote monitoring device helping veterinarians

improve continuity of care. In an article for [dvm360.com](https://dvm360.com), Steven D. Garnett, DVM, DACVS-SA, said: "These allow for accurate monitoring of blood glucose [levels] without the need for traditional blood glucose curves.<sup>1</sup> Owners can also monitor and record measurements at home using the device and app. These can then be reported to the veterinary team to assist in adjustments [to] insulin dosage over time."<sup>2</sup>

Garnett also discussed wearable temperature, pulse, and respiration (TPR) monitors that continuously transmit pet vitals and are accessible via app or website. According to Garnett, they allow clinicians to monitor the patient's vitals outside the hospital and respond quicker to any changes.

## Technology continues to offer opportunities

The common thread among all these technological solutions is that they allow the clinician to reach beyond the exam room for more personalized care. When technology provides more ways to access and assess patients, veterinarians have more data to make better-informed treatment decisions. 🌀

*References available online at [dvm360.com](https://dvm360.com)*

# Other products for your pets

*Advice on selecting and recommending the best pet products for patients and clients*

By Bob Alaburda, Senior Editor; Julia Burke, Assistant Editor, and Sydney Yankowicz, Assistant Editor



There is a plethora of products available on the pet market for play, grooming, hygiene, and more. The following survey results feature veterinarian recommendations for dog chew toys, nail trimmers, cat litter, pet insurance, microchip implants, and DNA testing.

## Toys

Toys are for more than just fun. Play is essential to a pet's overall well-being. Owners can find the best toys for their pets by providing options, then analyzing their behavior to determine the best fit. In an interview with *dvm360*®, Debbie Martin, CPDT-KA, KPA CTP, LVT, VTS (Behavior), co-owner of TEAM Education in Animal Behavior, said dogs' preferences in toys can be breed specific, such as retrievers. "They like to put [or hold] things in their mouth. Maybe they like to chase, get the thing, and bring it to you," Martin said.

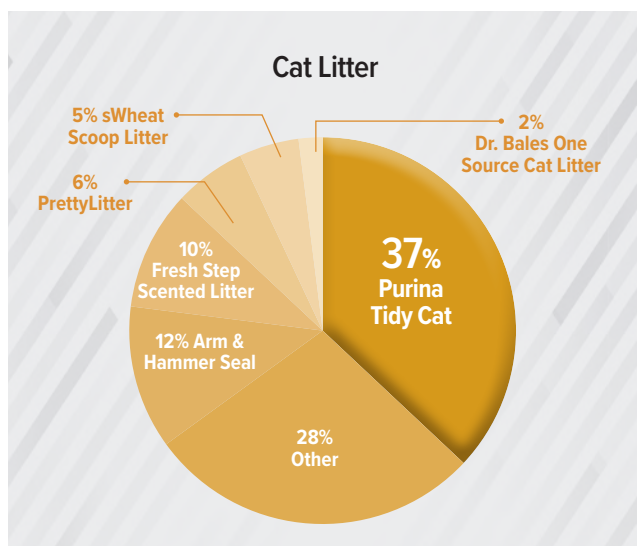
## Nail trimmers

In a recent episode of the Fear Free Pets podcast, Steve Dale, CABP, addressed the anxiety some pets face with nail trimmers. He spoke with the lead animal trainer for Fear Free Pets, Mikkel Becker, CTC, KPA CTP, CBCC-KA, CPDT-KA, CDBC. For the owner whose pet runs or hides when the nail clippers come out, they provided the following tips and tricks:

- ✳ Replace trimmers your pet already associates with fear.
- ✳ Make a positive association before clipping a single nail.
- ✳ Give positive reinforcement for each nail clipped.

## Cat litter

Finding the right cat litter is important not only for the cat, but also the cat owner. According to The Humane Society, "Most cats prefer fine-grained litters, presumably because they have a softer feel. Newer scoopable and 'clumping' litter ➤➤



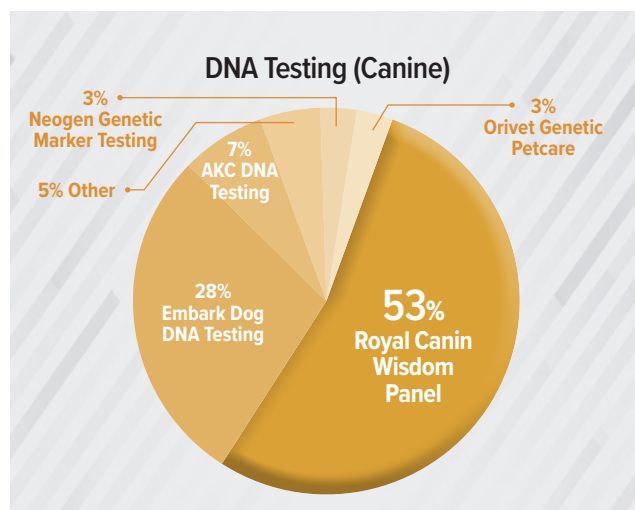
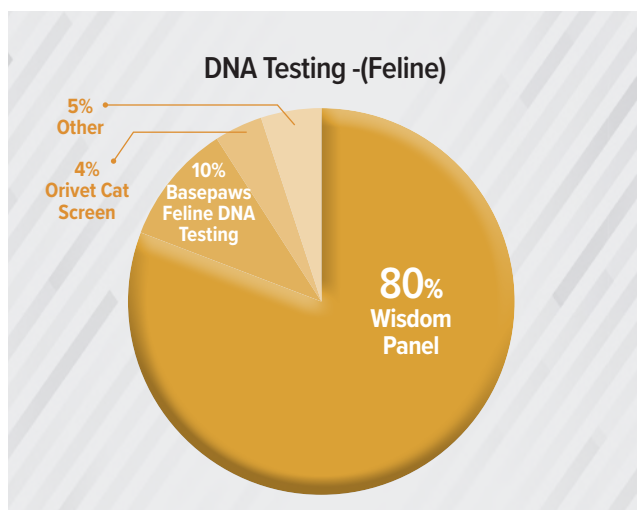
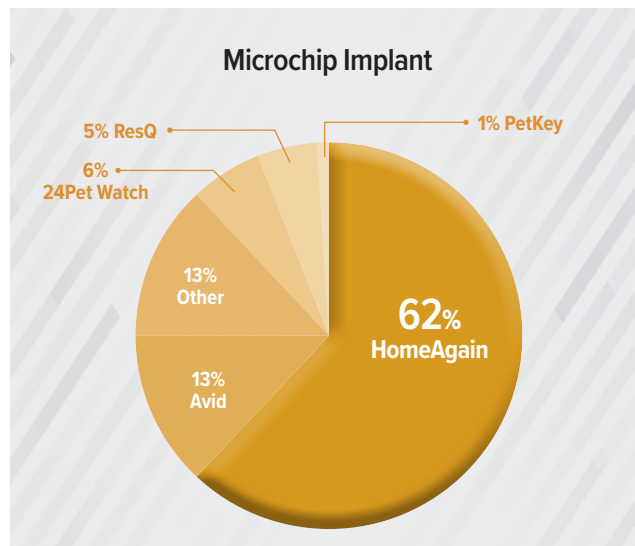
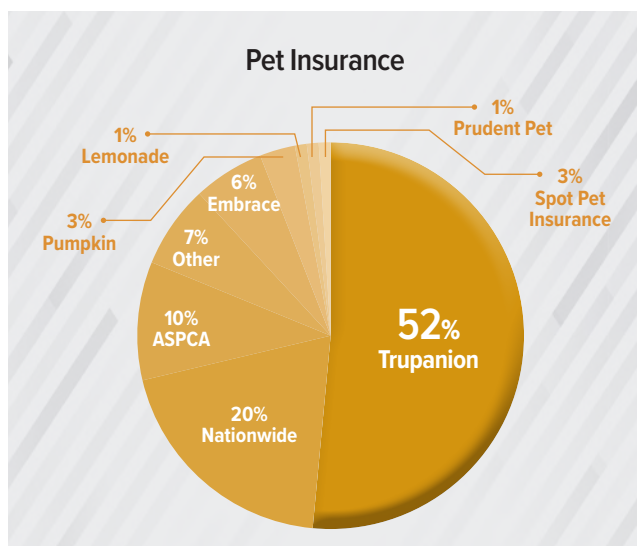
have finer grains than typical clay litter and are very popular because they keep down the odor. But high-quality, dust-free clay litters are fairly small-grained and may be perfectly acceptable to your cat.”<sup>1</sup>

## Pet safety products

With technology consistently evolving, there are more and more pet products available for ensuring the safety of your pet. Some of these include pet insurance, microchip implants, and DNA-testing. 📍

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