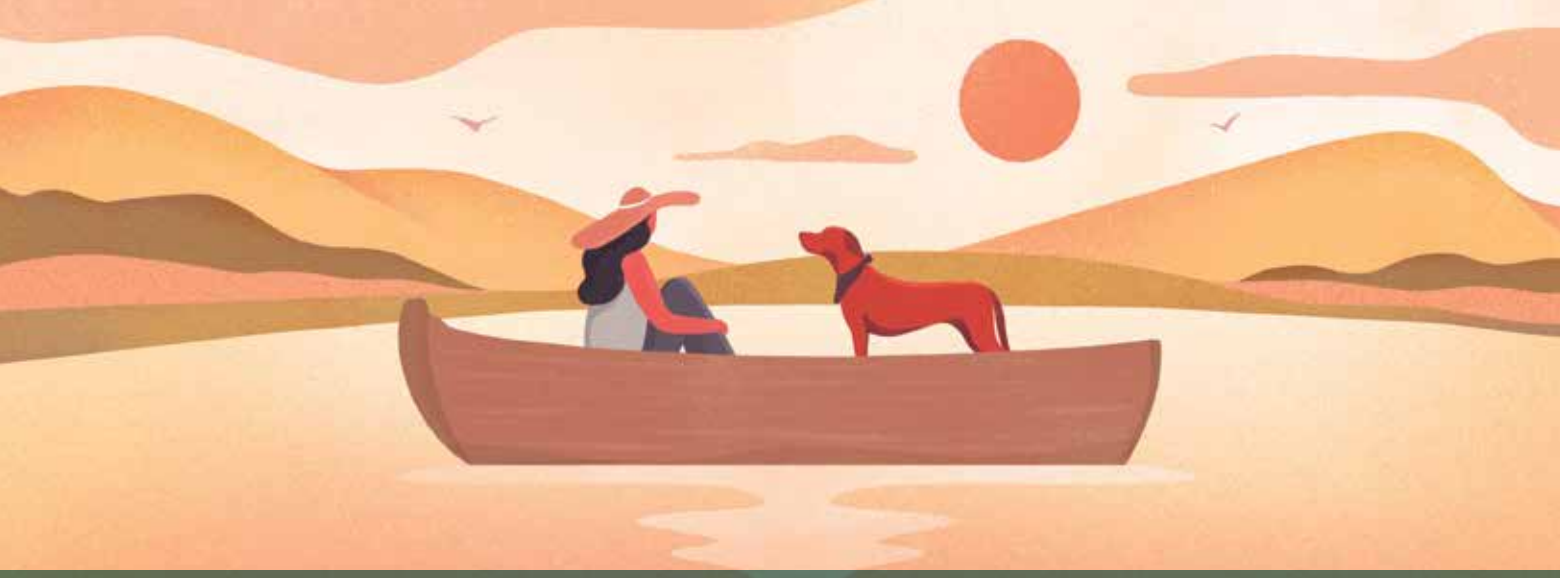

FINDING BALANCE

Supporting the Bond

Kate Boatright, VMD

We brought Maggie home on my mother's last day of radiation treatment for breast cancer. Maggie was a 12-week-old golden retriever puppy who my mom credits with playing a central role in her recovery, both physically and mentally. For weeks after coming home, the pair could be found snuggling on the couch every evening as my mom recovered from her treatments and Maggie recovered from kennel cough. The close bond they formed during Maggie's puppyhood lasted throughout her 14 years with our family.

Their relationship is a classic example of the human-animal bond (HAB)—the "dynamic relationship between people and animals that each influences the psychological and physiological state of the other."[1] Veterinary professionals play a key role in nurturing this bond and promoting its benefits for both clients and patients.

BENEFITS OF THE HUMAN-ANIMAL BOND

Pet ownership benefits physical, mental, and emotional health in humans of all ages. The Human Animal Bond Research Institute (HABRI) supports scientific investigations into the benefits of this bond and is a centralized source of current research. Studies have shown numerous physical health benefits of pet ownership, most notably an increase in physical activity and decreased risk of cardiovascular disease, particularly for dog owners.[2] Three-quarters of pet owners have reported improved mental health and half have reported improved physical health as a result of pet ownership.[3]

Most pet owners will share how their pet has supported their mental health, even without the stress of a physical ailment. Courtney Mooney, a former accountant and current veterinary student at the University of Pennsylvania, shared that her pets played a central role in her own mental health as she struggled with burnout in her previous profession. She recognizes that "while [veterinarians] are suffering from burnout, we are also helping to nurture the human-animal bond for people in other professions who are suffering from burnout as well." Beyond supporting wellbeing, interactions with animals have also been shown to support those living with long-term mental health conditions, including depression and anxiety, and reduce loneliness.[4]

In light of the social isolation experienced during the COVID-19 pandemic, it should not be surprising that pet ownership has increased, with 11 million U.S. homes welcoming a new pet in 2020.[5] Of new pet owners during the pandemic, nearly 60% of people

Bee Johnson

sought a pet for companionship and one-third to avoid or alleviate depression.[5] Pets provided companionship and a sense of hope while decreasing anxiety and boredom throughout the pandemic.[5]

The benefits of the HAB go both ways, with pets benefiting as well. People who are educated on the health benefits of pet ownership are more likely to maintain their pet's health through regular preventive care, high-quality nutrition, and regular veterinary visits.[3]

THE ROLE OF THE VETERINARIAN

Because of their integral role in maintaining the health of companion animals, veterinary professionals have a unique responsibility to help nurture the HAB between a pet and owner by addressing health concerns that may strain the relationship and educating pet owners on the benefits of this bond. Listening is one of the most important things that we can do to support the HAB between our clients and patients. When we take the time to listen to our clients, we will better understand the bond they have with their pets. When we hear what our clients are telling us about their limitations—financially, physically, and emotionally—we can design the best possible treatment plan for each individual client and patient.

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There are times when owners must choose between spending several hundred dollars on diagnostics and treatments for their pet and paying their bills. For an owner who is closely bonded to their pet, they may forego their own basic needs to provide their pet with the recommended care. These financial strains have become more common during the pandemic, resulting in increased stress of pet owners.[5] Veterinarians are incredibly resourceful and can often find ways to meet both the patient's medical needs and the client's financial ones. We must learn to embrace the idea of a spectrum of care to best serve our clients and patients.

Additionally, we must be mindful of the strains that our treatments can place on the pet-owner relationship. Oral medications can be difficult to administer to pets, especially cats, and owners may struggle with compliance due to their pet's lack of cooperation. Other treatments, such as applying ear medications, can be painful for the pet. Asking owners to give oral medication multiple times a day or treat a painful ear topically at home may result in a pet that hides from, or even bites and scratches, their owner. These incidents are physically and emotionally painful for both owner and pet, eroding their bond. Taking the time to ask clients about their ability to medicate their pet and discussing the pros and cons of long-term medications can go a long way to improve client compliance and comfort with the treatment plan. Utilizing long-acting medications that are administered within the clinic, when appropriate, is another way to help preserve the HAB while still providing treatment.

The emotional limitations of clients often come to the forefront of conversations around end-of-life care and decision making. It is often during this time that we learn a pet is the last living link to a beloved family member who passed away or the role the pet has played in supporting the owner's physical and mental health, even sometimes keeping them alive. By acknowledging this deep relationship, we can better connect with clients during these difficult conversations. Only by remaining mindful of the HAB can we counsel our clients to make the best possible decision for their pet and their family in these difficult situations.

LEARN MORE ABOUT THE HUMAN-ANIMAL BOND

Veterinarians see the close bond between pets and owners daily and understand the importance of this bond for both pet and human health. The benefits of the HAB are undergoing continuous study, and veterinarians should help to educate owners on the health benefits of pet ownership.

In a 2016 survey of pet owners, over 60% of respondents stated they would be more likely to visit the veterinarian and have a more favorable view of their

NexGard®
(afoxolaner) Chewables

Brief Summary: Before using NexGard® (afoxolaner) Chewables, please consult the product insert, a summary of which follows.

CAUTION: Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

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[1]	% (n=415)	N[2]	% (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

[1] Number of dogs in the afoxolaner treatment group with the identified abnormality.

[2] 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.

The information provided here is not comprehensive. The full FDA-approved product insert is available at www.nexgardfordogs.com. Consult your veterinarian for further information.

Product approved by FDA under NADA # 141-406

Marketed by: Frontline Vet Labs™, a Division of Boehringer Ingelheim Animal Health USA Inc. Duluth, GA 30096

NexGard® is a registered trademark and FRONTLINE VET LABS™ is a trademark of the Boehringer Ingelheim Group.

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

Brief summary preparation date: 08/2020

US-PET-0735-2020

veterinarian if they discussed the health benefits of the HAB during their appointment.[3]

For those who want to learn more, communicate with with pet owners more effectively, and improve practice profitability, HABRI and the NAVC offer a Human-Animal Bond Certification for veterinarians and team members (**navc.com/human-animal-bond-certification**). This program teaches the science behind the bond and how to communicate the benefits of pet ownership to clients.

Embracing the bond between pets and their owners will improve public health and practice profitability by bonding clients more closely to the practice that understands and nurtures the important role pets play in our daily lives.

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Dr. Boatright is a 2013 graduate of the University of Pennsylvania. She currently works as a small animal general practitioner in western Pennsylvania. Her clinical interests include feline practice, surgery, internal medicine, and emergency medicine. As a freelance writer and speaker, Dr. Boatright enjoys educating students and colleagues about overcoming stressors in the profession, including communication, team building, wellness, and the unique challenges facing recent graduates. Outside of the clinic, she is active in organized veterinary medicine at the local, state, and national levels. In her spare time, she enjoys running and spending time with her husband, son, and 3 cats.