

Second Edition

Canine and Feline Behavior

for Veterinary
Technicians and Nurses



Edited by **Debbie Martin** • **Julie K. Shaw**



WILEY Blackwell

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Behavior for
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Edition history

First edition © 2015 by John Wiley & Sons

Published by John Wiley & Sons, Inc., Hoboken, New Jersey.

Published simultaneously in Canada.

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Library of Congress Cataloging-in-Publication Data

Names: Martin, Debbie, 1970– editor. | Shaw, Julie K., 1963– editor.

Title: Canine and feline behavior for veterinary technicians and nurses / edited by Deborah Ann Martin, Julie Kay Shaw.

Description: Second edition. | Hoboken, NJ : Wiley-Blackwell, 2023. |

Includes bibliographical references and index.

Identifiers: LCCN 2023004393 (print) | LCCN 2023004394 (ebook) | ISBN 9781119765400 (paperback) | ISBN 9781119765578 (adobe pdf) | ISBN 9781119765592 (epub) | ISBN 9781119765585 (obook)

Subjects: MESH: Dogs–psychology | Behavior, Animal | Cats–psychology | Veterinary Medicine–methods | Animal Technicians

Classification: LCC SF433 (print) | LCC SF433 (ebook) | NLM SF 433 | DDC 636.7/0887–dc23/eng/20230215

LC record available at <https://lcn.loc.gov/2023004393>

LC ebook record available at <https://lcn.loc.gov/2023004394>

Cover Design: Wiley

Cover Image(s): Courtesy of Debbie Martin

Set in 8.5/11pt MeridienLTStd by Straive, Pondicherry, India

Dedication

This text is dedicated to Dr. Andrew Luescher, DVM, Ph.D, DACVB. Dr. Luescher envisioned the role of a veterinary technician in animal behavior in 1998 and then developed and defined that role over the years. He believed pet owners were best served with a team approach to the treatment of behavior issues and he saw the importance of veterinary technicians on that team. He is our mentor, teacher, and friend and without him, it is unlikely this text would have ever come to fruition. Thank you Dr. Luescher for all you have done to promote, protect, and support the human–animal bond and veterinary technicians over the years. We hope we have made your proud.

Julie and Debbie

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Julie is a charter member of the Society of Veterinary Behavior Technicians and the Academy of Veterinary Behavior Technicians. She is also a faculty emeritus for the Dog Trainer Professional Program through the Karen Pryor Academy for Animal Training and Behavior.

Julie has received many awards including the North American Veterinary Conference Veterinary Technician Speaker of the Year Award and the Western Veterinary Conference speaker of the year, and was named the 2007 NAVC Mara Memorial Lecturer of the year for her accomplishments and leadership in the veterinary technician profession.

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Thank you to the following contributors of content for the first edition of the book. Although they were not involved in the revisions of the chapters noted for the second edition, much of their organization and content remain in the updated chapters. Their original contributions were invaluable.

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Preface

The human–animal bond is a powerful and fragile union. Pets, dogs specifically, have evolved from being primarily for utilitarian purposes to taking on the role of a human companion and family member. Consequently, pet owners’ expectations have changed and are continuing to change. As the stigma of human mental and emotional health begins to be shattered, so is the stigma of treating animals with behavioral issues. Pet owners are beginning to recognize their pet’s emotional and mental needs and are reaching out to veterinary professionals for assistance.

We believe it takes a mental healthcare team that includes a veterinarian, veterinary technician, and a qualified trainer to most successfully prevent and treat behavior issues in companion animals.

The veterinary technician is in a unique position to be a pivotal and key component in that mental healthcare team. Technicians interact and educate pet owners on a daily basis about preventive and intervention medical treatments. Through behavioral preventive services and assisting the veterinarian with behavioral intervention, communicating and working closely with the qualified trainer, veterinary technicians can become the “case manager” of the team, in turn saving lives and enhancing the human–animal bond.

Many books have been published geared toward the role of the veterinarian in behavioral medicine. The purpose of this text is to provide the veterinary technician with a solid foundation in feline and canine behavioral medicine. All veterinary technicians must have a basic understanding of their

patient’s behavioral, mental, and emotional needs. Companion animal behavior in this regard is not a specialty but the foundation for better understanding and treatment of our patients. General companion animal behavior healthcare should no longer be an “elective” in veterinary and veterinary technician curriculums but rather a core part of our education. How can we best administer quality healthcare if we do not understand our patient’s psychological needs?

The reader will learn about the roles of animal behavior professionals, normal development of dogs and cats, and be provided with an in-depth and dynamic look at the human–animal bond with a new perspective that includes correlations from human mental healthcare. Learning theory, preventive behavioral services, husbandry and veterinary care, standardized behavior modification terms and techniques, and veterinary behavior pharmacology are also included.

There is vibrant change occurring in the world of animal behavior professionals. It is as though a snowball that took some work to get started has begun rolling and growing on its own. People like you are propelling that snowball forward and improving the lives of animals and the people who love them.

After the first moment you open this book we hope it becomes outdated – because you will continue to push the snowball forward with new ideas and techniques.

Thank you for improving the lives of animals.

Julie K. Shaw and Debbie Martin

Acknowledgments

Debbie Martin

I would like to thank Julie Shaw, a wonderful teacher, mentor, and friend. It was her passion for educating others and initiative that brought this book to fruition. I was honored to have been invited to co-edit the book with her for the first edition and equally honored she trusted me to be the primary editor for the second edition.

I would also like to acknowledge my husband, Kenneth Martin, DVM, DACVB, for his patience, guidance, and understanding as I spent countless hours, days, weeks, and months on this project. His

insights and feedback provided much needed support and assistance throughout the process.

Julie K. Shaw

Thank you to Ginny Price, MS, CVT, VTS (Behavior), Danielle Bolm, RVT, LVT, KPA CTP, VTS (Behavior), and Dr. Liam Clay, Ph.D, B. App. Sc. (Vet tech) VTS (Behavior) B. App. Sc.(Hons) for their research assistance.

I would like to thank my friend Debbie Martin for making my life better and making this book possible.

About the companion website

This book is accompanied by a companion website:

www.wiley.com/go/martin/behavior

The website includes:

- Powerpoints of all figures from the book for downloading
- Appendices from the book for downloading
- Self-assessment quizzes
- Videos cited in the chapters

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The role of the veterinary technician in animal behavior

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The veterinary staff plays a significant role in preventing, identifying, and treating behavioral disorders of pets. Inquiring about behavior at each veterinary visit, as well as creating client awareness about behavior disorders and training problems, strengthens the client–hospital bond, the human–animal bond, and prevents pet relinquishment. The veterinary technician can excel and be fully utilized in the behavior technician role. The responsibilities of the veterinary technician in animal behavior begin with educating and building awareness regarding the normal behavior of animals. The veterinarian–veterinary technician partnership allows for

prevention and treatment of behavioral disorders and training problems. Distinguishing and identifying behavior disorders, medical disorders, lack of training issues, and being able to provide prevention and early intervention allows for the maintenance and enhancement of the human–animal bond. Clearly defining the roles and responsibilities of the veterinary behavior team facilitates harmony within the team without misrepresentation. The veterinary technician's role as part of the behavior team is often that of “case manager”; the technician triages and guides the client to the appropriate resources for assistance. Before delving into the extensive role

of the veterinary technician in the behavior team, the roles of the veterinarian and the animal trainer will be explored. By understanding these roles first, the pivotal role of the technician will become evident.

- The veterinary technician's role as part of the behavior team is often that of "case manager"; the technician triages and guides the client to the appropriate resources for assistance.

Veterinarian's roles and responsibilities

The veterinarian is responsible for the clinical assessment of all patients presented to the veterinary hospital. The veterinarian's role in behavior includes

1. setting the hospital's policy and procedures,
2. determining which behavioral services are offered,
3. developing the format of the behavior consultation history form for medical documentation,
4. establishing a behavioral diagnosis and list of differentials, as well as medical differentials,
5. providing the prognosis,
6. developing a treatment plan and making any changes to the plan,
7. prescribing medication and changing medication type or dosage, and
8. outlining the procedure and protocols for follow-up care.

- The veterinarian is responsible for the clinical assessment of all patients presented to the veterinary hospital.

Only a licensed veterinarian can practice veterinary medicine. The practice of veterinary medicine means to diagnose, treat, correct, change, relieve, or prevent any animal disease, deformity, defect, injury, or other physical or mental conditions, including the prescribing of any drug or medicine (Modified from: Title 37 Professions and occupations Chapter 18. Veterinarians Louisiana Practice Act [La. R.S. 37: 1511–1558]). The mental welfare

of animals and the treatment of mental illness are included in many states' veterinary practice acts. Only by evaluating the patient's physical and neurological health and obtaining and reviewing the medical and behavioral history, can the veterinarian establish a diagnosis and prescribe appropriate treatment. When dealing with the behavior of animals, it must be determined whether the behavior is normal, abnormal, the manifestation of a medical condition, an inappropriately conditioned behavior, or simply related to a lack of training.

The veterinarian, by establishing a diagnosis and prescribing behavioral treatment, is practicing veterinary behavioral medicine comparable to a medical doctor practicing human psychiatry, this medical specialty deals with the prevention, assessment, diagnosis, treatment, and rehabilitation of mental illness in humans. The goal of human psychiatry is the relief of mental suffering associated with behavioral disorder and the improvement of mental well-being. The focus of veterinary behavior is to improve the welfare of pets and consequently enhance the well-being of clients. This strengthens the human–animal bond. When addressing the behavior of animals, the mental well-being of the patient should be evaluated in direct relation to the patient's medical health. In this manner, the veterinarian is using a complete or holistic approach and treating the entire patient. This may be accomplished only by a visit to the veterinarian (Figure 1.1).

The veterinarian or veterinary technician should obtain behavioral information during every hospital visit. Many behavioral issues are overlooked in general veterinary practice without direct solicitation.



Figure 1.1 Veterinarian performing a physical examination of the patient at home.

Current pet management information regarding feeding, housing, exercising, training, and training aids should be documented in the medical record. Behavioral topics for puppy visits should include socialization, body language, house training, play biting, husbandry care, and methodology for basic training and problem solving. Behavioral topics for kitten visits should include play biting and scratching, litter-box training and management, husbandry care, and carrier training. All senior patients should be screened annually for cognitive dysfunction syndrome. Only through questioning clients regarding their pet's behavior will potential behavioral disorders or training problems be identified. The veterinary staff may then recommend suitable behavior services to address the specific issues. This may prompt scheduling an appointment with the appropriate staff member: the veterinarian, veterinary behavior technician, or a qualified professional trainer.

- Many behavioral issues are overlooked in general veterinary practice without direct solicitation.

When a behavioral disorder is suspected, interviewing the client and obtaining a thorough behavioral history is essential for the veterinarian to make a behavioral diagnosis. The behavioral history should include the signalment, the patient's early history, management, household dynamics and human interaction schedule, previous training, and a temperament profile. The temperament profile determines the pet's individual response to specific social and environmental stimuli. Triggers of the undesirable behaviors should be identified. Pet owners should describe the typical behavioral response of the pet. In addition, the chronological development of the behavior, including the age of onset, the historical progression, and whether the behavior has worsened, improved, or remained the same, must be documented. Discussing a minimum of three specific incidents detailing the pet's body language before, during, and after the behavior, as well as the human response, is necessary. The medical record should document previous treatments including training, medical intervention, and drug therapy. Changes in the household or management should be questioned. Inducing the behavioral response or observing the behavior on previously

recorded video may be necessary. However, caution should be used in regard to observing the behavior. Often the behavioral history provides sufficient information for a diagnosis. If the description of the behavior does not provide sufficient information, then observation of the patient's *first* response to a controlled exposure to the stimulus may be required. Safety factors should be in place to prevent injury to the patient or others. This should only be used as a last resort as it allows the patient to practice the undesirable behavior and carries risk. (For an example of behavior history forms, see Appendices 1–5.)

The veterinarian and veterinary staff are instrumental in recognizing behavior issues when a pet is presented for an underlying medical problem. All medical diseases result in behavior changes and most behavioral disorders have medical differentials. A behavior disorder may lead to the clinical presentation of a surgical or medical disease. Surgical repair of wounds inflicted by a dog bite may prompt the veterinarian to recommend behavior treatment for inter-dog aggression. A cat or dog presenting with self-inflicted wounds may indicate a panic disorder or compulsive behavior (Figure 1.2). Dental disease including fractured teeth may prompt the veterinarian to inquire about anxiety-related conditions such as separation anxiety. Frequent enterotomies may indicate pica or some other anxiety-related condition. The astute veterinarian must use a multimodal approach with the integration of behavioral questionnaires and medical testing to determine specific and nonspecific links to



Figure 1.2 Boxer presenting for excoriation of the muzzle due to separation anxiety (barrier frustration) with frequent attempts to escape the crate.

behavioral disorders. Medical disease may cause the development of a behavior disorder. Feline lower urinary tract disease may lead to the continuation of inappropriate elimination even after the inciting cause has been treated. Many behavior disorders require and benefit from concurrent medical and pharmacological treatment.

- All medical diseases result in behavior changes and most behavioral disorders have medical differentials.

- The astute veterinarian must use a multimodal approach with the integration of behavioral questionnaires and medical testing to determine specific and nonspecific links to behavioral disorders.

Medical differentials to behavior disorders

When faced with a behavior problem, the veterinarian must determine if the cause is medical and/or behavioral. The rationale that the problem is only either medical or behavioral is a flawed approach. Neurophysiologically, any medical condition that affects the normal function of the central nervous system can alter behavior. The nonspecific complaint of lethargy or depression may be caused by a multitude of factors including pyrexia, pain, anemia, hypoglycemia, a congenital abnormality such as lissencephaly or hydrocephalus, a central nervous system disorder involving neoplasia, infection, trauma, or lead toxicity, endocrine disorders such as hypothyroidism or hyperadrenocorticism, metabolic disorders such as hepatic or uremic encephalopathy, and cognitive dysfunction or sensory deficits. Behavioral signs are the first presenting signs of any illness.

- Behavioral signs are the first presenting signs of any illness.

As a general rule, veterinarians should do a physical and neurological examination and basic blood analysis for all pets presenting for behavioral

changes. The practitioner may decide to perform more specific diagnostic tests based on exam findings. Additional diagnostics will vary on a case-by-case basis.

The existence of a medical condition can be determined only after a thorough physical and neurological examination. Completing a neurological examination is difficult in patients displaying fear and/or aggression with handling. The neurological examination may be basic and limited to the cranial nerves, muscle symmetry and tone, central proprioception, ambulation, and anal tone. Other minimum diagnostic testing should include a complete laboratory analysis (complete blood count [CBC], serum chemistry profile, and urinalysis) and fecal screening. A further look into sensory perception may include an electroretinogram (ERG) or brain-stem auditory evoked response (BAER). Thyroid testing (total thyroxine, free thyroxine, triiodothyronine, thyrotropin, and/or antithyroid antibodies) may be indicated based on clinical signs, suspicion, and the class of medication considered for behavioral treatment. Imaging techniques, such as radiographs, ultrasound, magnetic resonance imaging (MRI) or computed axial tomography (CT) may provide invaluable information. The workup for medical conditions and behavioral conditions is not mutually exclusive. However, exhausting every medical rule out may pose financial limitations for the client. After all, diagnosis is inferential behaviorally and medically, and the purpose of establishing a diagnosis is not to categorize but to prescribe treatment.

- After all, diagnosis is inferential behaviorally and medically, and the purpose of establishing a diagnosis is not to categorize but to prescribe treatment.

Behavioral dermatology

A relationship between dermatologic conditions and anxiety-related conditions exists in humans and pets. Environmental and social stress has been shown to increase epidermal permeability and increase the susceptibility to allergens (Garg et al. 2001). A dermatological lesion can be caused behaviorally by a compulsive disorder, a conditioned behavior, separation anxiety, or any conflict behavior. Behavioral dermatologic signs in companion

animals may include alopecia, feet or limb biting, licking or chewing, tail chasing, flank sucking, hind end checking, anal licking, nonspecific scratching, hyperesthesia, and self-directed aggression. Medical reasons for tail chasing may include lumbosacral stenosis or cauda equina syndrome, a tail dock neuroma or a paresthesia. Anal licking may be associated with anal sac disease, parasites, or food hypersensitivity. Dermatological conditions may be related to staphylococcal infection, mange, dermatophytosis, allergies, hypothyroidism, trauma, foreign body, neoplasia, osteoarthritis, or neuropathic pain. Diagnostic testing may include screening for ectoparasites, skin scraping, epidermal cytology, dermatophyte test medium (DTM), woods lamp, an insecticide application every three weeks, a food allergy elimination diet (FAED), skin biopsy, intradermal skin testing or enzyme linked immunosorbent assay (ELISA), and a corticosteroid trial. It is important to realize that corticosteroids have psychotropic effects in addition to antipruritic properties. A favorable response to steroids does not rule out behavioral factors. Steroid-treated dogs with pruritus may show increased reactivity to thunderstorms and noises (Klink et al. 2008).

Conversely, behavioral disorders may be maintained even after the dermatological condition has resolved. Dermatological lesions may be linked to behavioral disorders and lesions can facilitate and intensify other behavior problems including aggression. Dogs with dermatological lesions are not necessarily more likely to be aggressive, but dogs with aggression disorders may be more irritable when they have concurrent dermatological lesions. In a study of dogs with atopic dermatitis, pruritus severity was associated with increased frequency of problematic behaviors, such as mounting, chewing, hyperactivity, coprophagia, begging for and stealing food, attention-seeking, excitability, excessive grooming, and reduced trainability (Harvey et al. 2019).

Aggression

The relationship between the viral disease of rabies and aggression is very clear. All cases of aggression should be verified for current rabies vaccination status and/or clients should be advised to maintain current rabies vaccination for their pet to protect from liability. Iatrogenic aggression in canine and feline patients has been induced by the administration of certain drugs such as benzodiazepines, acepromazine, and ketamine.

- All cases of aggression should be verified for current rabies vaccination status and/or clients should be advised to maintain current rabies vaccination for their pet to protect from liability.

The relationship between hyperthyroidism in cats and irritable aggression is very likely present, although not definitively established. The relationship between hypothyroidism and aggression in dogs is inconclusive. Hypothyroidism may lead to structural and functional changes in the brain that can potentially lead to changes in behavior such as aggression, apathy, lethargy or mental dullness, cold intolerance, exercise intolerance, and decreased libido (Camps et al. 2019). Numerous case reports suggesting a link between aggression in dogs and thyroid deficiency have been published in the veterinary literature. The effect of thyroid supplementation on behavior without the benefit of a control group in these case studies offers limited evidence of a causative relationship. In a controlled study of nonaggressive and aggressive dogs no significant differences in thyroid levels were found (Radosta-Huntley et al. 2006). Thyroid hormone supplementation in rats results in elevation of serotonin in the frontal cortex (Gur et al. 1999). Serotonin is a neurotransmitter associated with mood stabilization (see Chapter 10). The possible elevation of serotonin due to thyroid supplementation may result in beneficial behavioral changes in dogs that display aggression. In a small study of dogs with spontaneous hypothyroidism, thyroid supplementation produced no significant difference in circulating serum concentrations of serotonin at six weeks and six months when compared to baseline (Hrovat et al. 2018). Spontaneous resolution of aggression with thyroid supplementation is probably overstated and hypothyroidism is unlikely the cause of aggression. While malaise can lead to irritability, many dogs that have hypothyroidism do not show aggression.

The presence of sensory deficits may contribute to aggressive behavior and anxiety. This is particularly important when assessing the behavior of senior patients with concurrent medical disorders. Age-related behavioral changes in the brain can lead to the presentation of clinical signs consistent with cognitive dysfunction syndrome. These signs may include disorientation, interaction changes with the

owner, changes in the sleep–wake cycle, and house soiling. Activity level may be decreased or increased.

Elimination disorders

Elimination problems in dogs may be related to urinary tract infection, urolithiasis, polyuria/polydipsia, incontinence, prostatic disease, renal disease, constipation/diarrhea, acute or chronic pain, neoplasia, or acute or chronic stress. Elimination problems in cats may be related to idiopathic cystitis, urolithiasis, infection, neoplasia, incontinence, acute or chronic pain, polyuria/polydipsia, constipation/diarrhea, acute or chronic stress, or associated with long hair. Urological diagnostics may include a CBC, chemistry, urinalysis, urine culture, adrenocorticotropic hormone (ACTH) stimulation, water deprivation tests, imaging, cystoscopy, or a urethral pressure profile. Gastrointestinal diagnostics may include a CBC, chemistry, and urinalysis to assess for contributing or concurrent problems that may affect treatment decisions, fecal float/smear/PCR, abdominal-thoracic imaging studies, GI panel (B12/folate/TLI/PLI), baseline cortisol or ACTH stimulation test for Addison’s disease, and gastrointestinal endoscopy/laparotomy/biopsy.

When one is uncertain whether it is a behavioral or medical problem, one must do some reasonable fact finding and treat the entire patient, physically and psychologically. When necessary, infer the most likely diagnosis and treat all contributing factors. Medical and psychological factors must be treated concurrently. A treatment plan that includes conventional medical treatment and behavioral intervention is necessary for successful resolution of the inciting problem.

- When one is uncertain whether it is a behavioral or medical problem, one must do some reasonable fact finding and treat the entire patient, physically and psychologically.

Chronic pain conditions

Chronic and undiagnosed pain-related conditions are extremely common in veterinary patients. They can directly contribute to and exacerbate behavioral disorders. The anticipation of pain can change behavior and lead to anxiety. It is imperative that patients, regardless of age and activity level, are

routinely evaluated for pain. Pain automatically creates fear, anxiety, and stress in pets. If a behavioral condition is being treated but the patient is experiencing chronic pain, we are not treating the well-being of the entire patient and behavioral therapy might not be as effective.

Through learning, a dog might pair the approach of a person or another animal in the house, while the dog is resting on the couch, with pain. The dog when approached moved or shifted his body and experienced a sharp pain in his back. Now when approached he anticipates pain and might begin to display defensive aggression to inhibit the approach of the person or other animal. Ruling out pain conditions when a pet displays aggression when approached, especially by familiar people, is imperative.

Another example is with food-related aggression. Consider pain-related conditions contributing to difficulty apprehending, chewing, or ingesting food in cases of food-related aggression. Dogs may be hungry and motivated to eat, but frustrated and irritable due to dental or oropharyngeal pain or discomfort with eating. Gastrointestinal upset and discomfort may be associated with aggression around food. Musculoskeletal disease may lower the dog’s threshold to display irritable behavior. Rather than rising and moving away with the object, a dog with musculoskeletal pain may be more likely to remain stationary and display aggression.

There has also been a correlation between musculoskeletal pain and noise sensitivities in dogs (Lopes Fagundes et al. 2018). The non-pain and pain groups in the study showed similar behavioral response to loud noises. However, in the pain group the onset of noise sensitivity was later; on average four years later than the non-pain group. Dogs with pain were more likely to generalize and show avoidance of associated environments and other dogs. All dogs (pain or non-pain groups) responded well to treatment but the pain group only once pain was treated.

Behavior disorder versus training problem

Behavioral disorders of animals are emotional disorders that are unrelated to training. Training problems relate to pets that are unruly or do not know or respond to cues or commands. These problems are common in young puppies and adolescent dogs without basic training. These dogs lack manners.

Training involves the learning of human-taught appropriate behaviors that are unrelated to the emotional or mental well-being of the patient. There are many different approaches to training. Some are purely force free or free of aversives (positive reinforcement) and others use aversive methodology (positive punishment and negative reinforcement). Trainers may also be “balanced” or somewhere in the middle regarding methodology, using a combination of pleasant and unpleasant consequences. Depending on the methodology used, positive and negative associations can be made by the dog. Aversive-free methods are less emotionally damaging and can strengthen the human–animal bond. Aversive methods risk creating a negative emotional state and may contribute to the development of a behavioral disorder. Dogs that are behaviorally normal and emotionally stable yet lack basic manners training related to heeling on leash, coming when called, sitting, lying down and staying, fit into the category of a training problem. Yes, some emotionally unstable dogs may, in addition, have training problems, but training problems and behavior disorders are treated independently as separate entities. Dogs with fear- or anxiety-related conditions can benefit from aversive-free training in much the same way as shy children benefit from team sports or other confidence-building activities. Dogs previously trained using aversive methodology often need to be retrained using force-free methods for performing behavioral modification techniques as a result of the negative emotional response caused by the previous aversive training. Many well-trained dogs have behavioral disorders (Figure 1.3).



Figure 1.3 Therapy dog who suffers from thunderstorm phobia.

Examples include separation anxiety or human-directed aggression. These disorders occur in spite of the fact that the dog may be very well trained and responsive to the handler. Dog training does not directly treat behavioral disorders and is not considered practicing veterinary behavioral medicine.

- Behavioral disorders of animals are emotional disorders that are unrelated to training.

- Training involves the learning of human-taught appropriate behaviors that are unrelated to the emotional or mental well-being of the patient.

- Some emotionally unstable dogs may, in addition, have training problems, but training problems and behavior disorders are treated independently as separate entities.

It should be noted that there are many benefits to having an aversive-free trainer associated or working within the veterinary practice. Pet owners have been shown to search the internet for information and call their veterinary hospital for their pet’s behavioral and training needs (Shore et al. 2008).

Qualified professionals to treat animal behavior disorders

When the pet’s behavior is considered abnormal, with an underlying medical or behavioral component, comprising fear, anxiety, or aggression, owners should seek guidance from a trained professional. The veterinarian is the first person who should be contacted when a pet exhibits a problem behavior or the pet’s behavior changes. Changes in behavior or behavior problems reflect underlying medical conditions, which must be evaluated by a veterinarian. Many underlying medical problems, including pain, can alter the pet’s behavior in ways that are difficult for pet owners to identify. Once medical conditions have been ruled out, behavioral advice should be sought. It is important to understand the qualifications of people who use titles that indicate

they are behavior professionals. This is difficult because, unlike the titles veterinarian, psychologist, and psychiatrist, which are state licensed, the title “animal behaviorist” or similar titles can be used by anyone, regardless of their background (modified from www.certifiedanimalbehaviorist.com). Qualified animal behavior professionals include a veterinarian with special interest and training in animal behavior, a Diplomate of the American College of Veterinary Behaviorists (DACVB), or a Certified Applied Animal Behaviorist (CAAB).

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The American Veterinary Society of Animal Behavior (AVSAB) is a group of veterinarians and research professionals who share an interest in understanding the behavior of animals. AVSAB emphasizes that the use of scientifically sound learning principles that apply to all species is the accepted means of training and modifying behavior in pets and is the key to our understanding of how pets learn and how to communicate with our pets. AVSAB (<https://avsab.org>) is thereby committed to improving the quality of life of all animals and strengthening the human–animal bond.

The American College of Veterinary Behaviorists or ACVB (<https://www.dacvb.org>) is a professional organization of veterinarians who are board-certified in the specialty of Veterinary Behavior. This veterinary specialty is recognized by the American Board of Veterinary Specialization. Board-certified specialists are known as *diplomates*. Veterinarians who have the honor of calling themselves diplomates may use the designation “DACVB” after their names. The requirements for veterinarians include completing the equivalency of a one-year veterinary internship, completing a conforming approved

residency program or a nonconforming training program mentored and approved by ACVB lasting usually three to five years, authoring a scientific paper on behavior research and publishing it in a peer-reviewed journal, writing three peer-reviewed case reports, and successfully completing a comprehensive two-day examination.

The Animal Behavior Society (ABS) is a professional organization in North America for the study of animal behavior. Certification by the ABS (www.animalbehaviorsociety.org) recognizes that, to the best of its knowledge, the certificant meets the educational, experimental, and ethical standards required by the society for professional applied animal behaviorists. Certification does not constitute a guarantee that the applicant meets a specific standard of competence or possesses specific knowledge. Members who meet the specific criteria may use the designation, “CAAB,” after their names. CAABs (<http://corecaab.org>) come from different educational backgrounds and may include a PhD in Animal Behavior or Doctor of Veterinary Medicine. CAABs, who are not veterinarians, usually work directly with veterinarians or through veterinary referral to provide behavioral care.

Trainer’s and consultant’s roles and responsibilities

The role of the animal trainer in behavior is coaching and teaching of pets and pet owners about basic training and manners. Trainers are teachers. Some trainers function as coaches for competitive dog sports such as obedience, tracking, agility, rally, or protection. Those who work with veterinarians provide an instrumental role in implementing behavior modification as prescribed in a treatment plan.

Comparatively, as it would be inappropriate for a schoolteacher to diagnose or prescribe treatment for a child with a behavioral disorder, dog trainers may not diagnose or prescribe treatment for veterinary behavioral disorders (Luescher et al. 2007). Although the treatment of animal behavior disorders is considered the practice of veterinary medicine, many states have been unwilling to prosecute when treatment is done in the name of animal training.

Animal training is a largely unlicensed and unregulated profession in the United States. As of 2022, anyone who wishes to call himself/herself a dog trainer or animal behaviorist may do so, without any formal education or true understanding of learning