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Behavior Case Report

Diagnosis: Fear Related Aggression Toward Unfamiliar Dogs

“Lemon”

A 21kg 6-year-old spayed female brown brindle pit bull terrier mix owned by Ben and Chantal Kelly

Prognosis: Fair to good

Fear related aggression towards unfamiliar dogs’ manifests when a dog feels threatened by an unknown dog. Body language can include but is not limited to tail tucked, ears back, crouched body and signs of arousal such as piloerection and dilated pupils. Dogs may use barking, lunging, and growling as distance-increasing behaviors. If the fear provoking stimulus continues to be a threat, defensive aggression can occur which can result in bite incidents. Clients may easily misinterpret barking and lunging as offensive aggression without understanding the dog is fearful. With repeated exposures, defensively aggressive responses can intensify because the dog learns that these behaviors functionally remove the threat more quickly: either the client moves the dog away to increase distance, or the other dog retreats. Fear-related behaviors can often be exacerbated by being on-leash as the dog is not able to easily escape from the fear provoking stimulus (Overall, 2013; Shaw & Martin, 2023).

Presenting complaint:

Lemon, a 6-year-old, female spayed, 21 kg pit bull cross presented for biting an unknown dog during an off-leash interaction in the client’s yard. The clients, Chantal and Ben Kelly, noted this was Lemon’s first known bite incident with another dog. Following the altercation Lemon began barking, lunging, and growling at other dogs while on leash walks in their neighborhood.

Behavior History:

Lemon was adopted from a rescue group that transport bully breeds and their mixes from a variety of locations for local adoption. At the time of adoption Lemon was estimated to be 6 years old. Her history is relatively unknown before she was transported long-distance to a local shelter. She was found in poor physical condition with a body condition score of 3/9 and was previously used for breeding. The clients were informed that she was selective about canine companions but lived in a foster home with another male bully breed mix with no concerns. Ben and Chantal Kelly were told she did well with male dogs, especially ones that were larger than her. Lemon had been spayed in the shelter approximately one month prior to adoption.

Lemon was introduced slowly to the other dog in the house, a large male greyhound mix. There were no concerns with Lemon’s behavior with Cornelius, they did not play together often but did lay together and run around the yard with one another. Upon adoption it was noted that Lemon was difficult to walk and pulled significantly. The clients cannot remember her reacting to dogs at this time, but her walks

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were short due to the pulling on-lead. Three months after adoption she met a female/spayed, 3 yr. old Border collie mix known to the clients. Both dogs met in the Kelly's backyard. Upon initial meeting, the dogs ignored each other, however, when the Border collie sniffed Lemon's face, the clients recall her tucking her tail and then snapping at the collie. The Border collie walked away and left Lemon alone for a short time and when she attempted to interact with Lemon a second time, Lemon barked multiple times and moved towards her. This time the Border collie did not retreat and Lemon bit her neck near her right shoulder.

The bite was superficial, level 2 on the Ian Dunbar Bite Scale, and did not require medical attention. However, the Kellys believed had they not grabbed Lemon's collar the dogs would have begun fighting more intensely. The Kellys immediately grabbed Lemon by her collar and placed her in the house. Lemon continued to watch the dog from the sliding door window and could be heard barking and whining. The clients noted that they perceived Lemon as "feeling bad" after the bite incident with the Border collie. After this altercation, Lemon began barking, lunging, and occasionally growling at smaller dogs she saw on walks and occasionally dogs larger than she. Lemon would become hypervigilant and scan the environment without a visual stimulus present. If she did see another dog, it could take 1-3 minutes for her to refocus on the clients and respond to known cues.

Her relationship with the dog she lived with, Cornelius, continued to be harmonious. Ben and Chantal did not introduce her to any more dogs. They phoned the veterinary practice and spoke with the registered veterinary technician. During the technician triage call, the technician recommended a physical exam and behavior consultation. The technician also offered management strategies to implement in the interim which included avoiding walks and unknown dogs until her behavior consultation when a treatment plan would be provided (Shaw & Martin, 2023).

Assessment:

An in-clinic behavior consultation occurred with the veterinarian and the registered veterinary technician two weeks after the incident. A behavior questionnaire was supplied and filled out prior to this appointment. It was noted on her file to ensure no other dogs were within view of her prior to entering and leaving the clinic and this was adhered to. Lemon entered the exam room with her tail wagging broadly, ears forward, and quickly sat near the counter where the treats were normally dispensed. The veterinarian completed a physical examination including orthopedic and neurologic evaluation. The veterinarian had previously diagnosed Lemon with allergic dermatitis and alopecia soon after adoption. These conditions had been well managed on Melatonin 0.25mg/kg BID, weekly baths with Douxo Pyo® shampoo and Douxo Seborrhea® pipettes topically. At the time of examination no dermatologic lesions were present. Her body condition score was 5/9. The remainder of her physical examination was within normal limits. Her Fear Freesm Fear Anxiety and Stress (FAS) score was between 0-1 throughout her exam; she took treats during the whole exam while wagging her tail with a relaxed body posture.

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The clients, Ben and Chantal, expressed their concerns with Lemon's newly developed behavior especially due to her breed mix. A discussion about the possibility of this occurring in other breeds is just as likely and that strict management and behavior modification will be implemented to ensure safety for others and Lemon. The clients were also concerned about the possibility of Lemon developing aggression directed toward her housemate dog, a 3-year-old greyhound. There had been no known tension between these dogs prior to or since the incident, but recommendations were made to continue to support their positive relationship with short (2 minute) training sessions together working on known cued behaviors, "sit", "down" and "place" taught using positive reinforcement, and ensuring both dogs are walked separately and have adequate enrichment.

Lemon was fitted with a Baskerville basket muzzle. She was lured with canned cheese on a tongue depressor through the mouth of the muzzle to ensure it was the right fit while protecting Lemon from experiencing stress during the fitting (The Muzzle Up! Project, n.d.). Lemon did not display signs of fear during this fitting and continued her canned cheese 'popsicle' until it was finished.

A blood sample was collected from the right cephalic vein using a butterfly set while Lemon ate treats as a distraction. Urine was collected via free catch.

CBC, Chemistry, T4, and Urinalysis results were all within normal limits.

The veterinarian diagnosed Lemon with fear-related aggression toward unfamiliar dogs. The following medication was prescribed: Clomipramine 1.9mg/kg BID ongoing (Overall, 2013) Client education, management protocols, behavior modification protocols, and recheck evaluations were delegated by the veterinarian to the veterinary technician verbally and in writing. Communication between the DVM and CrVT was maintained verbally and via medical records maintained within the clinic environment throughout the treatment period. The CrVT served as the primary point of contact for the client through most of the treatment period.

Client Education:

The technician met with Ben and Chantal to explain Lemon's barking and lunging was prompted by her fear of unfamiliar dogs. When she was on-leash, Lemon could not choose to retreat from the other dog, so she barked and lunged to communicate she needed more space. The barking and lunging was effective from Lemon's point-of-view. For example, Lemon sees another dog and feels afraid. She barks and lunges. Ben and Chantal turn away to move Lemon further from the other dog, or the other dog's handler crosses the street to avoid Lemon. When the unfamiliar dog is further away, Lemon feels relieved. Because the barking and lunging is effective in creating more distance between Lemon and the other dog, it is a functional behavior. Since the barking and lunging serves this purpose, Lemon may continue to show this behavior, and it may increase in frequency and intensity over time.

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The technician explained to the Kellys Lemon's treatment plan would include a number of steps. The client doesn't need to know or memorize the terms used to describe the process, but they were provided in writing to support the in-person explanations:

Management: Controlling the environment and making choices about when, where, and how to walk Lemon to minimize her fear and also minimize repetition of barking and lunging. Developing individualized mental and physical exercise and enrichment plans.

Skills Training: Teaching Lemon a series of skills to use on walks so she knows what to do to earn rewards when she sees another dog. Practicing these skills first with a decoy dog, then with stimulus or helper dogs in a controlled setting, then on real life walks.

Desensitization: Gradually exposing Lemon to the sight of other dogs in small enough increments she does not become afraid. We will carefully control the exposures by staying far enough away from the unfamiliar dogs and starting at a point we feel confident Lemon is unlikely to be afraid. Since she is not fearful, she will be less likely to bark or lunge. Practice first with a decoy dog, then with stimulus dogs, then on walks.

Classical counter conditioning: Learn what Lemon likes. She loves treats, so we will try to replace her current fearful response with the pleasurable emotion she has in response to delicious treats. During desensitization practice, we will strategically deliver her favorite treats to help create the new emotional response.

Operant counter conditioning: Watch for behaviors we want Lemon to do when she sees another dog, such as checking in with the client. Mark and reward these behaviors whenever they happen. Over time, another dog appearing will become Lemon's cue to check in with the client to receive a special treat.

Management:

Recommended management for fear related aggression included avoiding walks and unfamiliar dogs for 6-8 weeks until medication would be fully effective. When off-property walks were reintroduced, Lemon was to be walked by herself rather than together with Cornelius to allow the clients to focus on meeting Lemon's needs. The technician reiterated the importance of avoiding situations that cause Lemon to be fearful and display undesirable behavior. Repeatedly encountering other dogs causes Lemon to experience fear, barking and lunging as a result. It was important the clients knew to avoid both Lemon experiencing avoidable fear responses, and her rehearsing barking and lunging.

It was recommended to drive Lemon to local outdoor locations such as enclosed arenas and private dogs' parks to safely meet her need for physical and mental activity without the risk of her seeing

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unfamiliar dogs. Decompression walks were not recommended at this time due to the likelihood of confronting a off-leash or on-leash dog. Decompression walks could be considered in the future once Lemon acquired more skills (Stremming, January 9, 2018). Environmental enrichment recommendations were made which included food puzzle toys daily for morning and dinner feedings, scent games and physical exercise in the house and in the backyard playing tug and fetch with Lemon.

Lemon was fitted for a front connecting harness and 6ft leash for all walks and training, and the clients instructed to carry a clicker and high value treats. Lemon was to wear a muzzle on walks once she was positively conditioned to it (Overall, 2013; Shaw & Martin, 2023). When reintroducing walks, it was recommended that walks were scheduled early in the morning and late in the evening to decrease the likelihood she would see other dogs.

Behavior Modification:

A behavior modification plan was implemented including:

- Skills training using positive reinforcement marker-based training (prompting, capturing, shaping, and luring):
 - “Touch” (Dog’s nose to client’s palm)
 - “This Way” (180 degree turn during leash walking)
 - Looking toward the client when a dog is visible
 - Responding to other known cues (sit, down, etc) when a dog is visible
- Desensitization to the presence of other dogs using controlled exposures
- Classical counter conditioning and operant counter conditioning to the presence of other dogs

At the start of treatment, sessions were conducted in the house and the backyard. Ben and Chantal were familiar with positive reinforcement training as the veterinary technician had coached them while training their other dog, Cornelius. The veterinary technician demonstrated a new cue taught using positive reinforcement, “this way” to teach Lemon to turn the opposite way in the loose leash walking position, with the handler on either the inside or the outside of the turn. This behavior is helpful with dogs that display pulling, lunging, and barking behaviors in the presence of stimuli to substitute the unwanted behavior with an incompatible behavior, this behavior removes the patient from the stimulus and reinforces the known cued behavior (Shaw & Martin, 2023). A combination of voice, body movement, and a treat lure were used to teach Lemon the new behavior, with the food lure later faded.

Reinforcement procedures for loose leash walking were also reviewed, the clients were familiar with rewarding their other dog for loose leash walking, and Lemon responded enthusiastically to the clicker and treats. Training these behaviors with low levels of distraction help to solidify the behaviors and help clients with mechanics so that once the same behavior is required by both the client and dog with the stimulus present, they are more inclined to be successful. The clients had already taught Lemon “sit”

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and “down” using positive reinforcement.

Teaching a “touch” cue; nose to hand target, was recommended as another new cue to be taught to Lemon. A shaping plan was made and a video of how to teach this behavior was emailed to the clients. “Touch” is a versatile behavior, in this context it can help the dog refocus on their clients and because it is not cued as frequently as “sit” or “down” for example, it has less chance of being “poisoned”.

To desensitize and classically counter condition Lemon to unfamiliar dogs it was recommended to mark and reward for seeing another dog, this helps to replace the current unwanted emotional response with a pleasant emotional response. Over time, as her emotions change, she will likely begin to look away from the stimulus and look at the client, which would also be positively reinforced. During this protocol, the sight of the unfamiliar dog will usually become a contextual cue for the dog to look at their handler. When Lemon begins to look at her handler in when she sees another dog, she is becoming operantly counter-conditioned to the stimulus of the unfamiliar dog. At the time of the behavior consultation this was discussed, and an infographic handout was given to the clients, but this was to be demonstrated during behavior modification sessions beginning with a stuffed decoy dog (Choose Positive Dog Training, n.d.; Shaw & Martin, 2023).

Muzzle training was recommended using classical conditioning and operant conditioning using positive reinforcement. Ben and Chantal were instructed to throw “muzzle parties” for one week, to help classically condition Lemon to the muzzle. During these “muzzle parties”, the muzzle would be placed onto the ground and the client would place high value treats around the muzzle and then remove the muzzle once the treats were finished. The remaining muzzle training protocol recommendations including a shaping plan were to be discussed at her in-home follow up consultation so as not to overwhelm the clients and move at Lemon’s pace (The Muzzle It Up! Project, n.d.).

Follow-ups between 2-4 months post diagnosis:

Lemon had 12 follow-up sessions of 30 minutes each over the course of 4 months post diagnosis. During her initial follow up session, Lemon had been on Clomipramine 1.9mg/kg for 6 weeks and the clients noted no change in her behavior. Because the clients did an excellent job following the management protocol, change would have been difficult to observe. A more realistic idea of how effective the medication would be for Lemon would be indicated once her desensitization and counterconditioning sessions began.

The first session was done at the clients’ home 2 months post diagnosis with a stuffed decoy dog in the backyard. Lemon saw the decoy in the yard and barked and growled. This can be a normal reaction for some dogs when they see a stuffed decoy dog (or any unfamiliar object) for the first time. Lemon was given the opportunity to approach the stuffed dog. She stopped barking and showed a relaxed body posture.

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The veterinary technician demonstrated to the client a desensitization and counterconditioning protocol. The starting point was standing with Lemon on-leash 30 feet away from the decoy. If Lemon looked at the dog, the handler clicks at the instant of the look. Because Lemon understands the clicker, she orients when she hears the click and a treat is given. If Lemon did not reorient when she heard the click, this is a sign the distance was too small and more distance should be added. After the demonstration, the clients practiced the mechanics of the exercise while the technician provided coaching. The clients were instructed to reward by placing treats on the ground to encourage Lemon to sniff. Sniffing can potentially reduce Lemon's stress level, but also give the clients time to decipher if they needed to increase or decrease the distance between Lemon and what would eventually be a real dog based on Lemon's body language.

Using a successive pattern of approaching incrementally, clicking and treating for the sight of the dog, retreating a few steps and then approaching again. Lemon was able to walk on-leash with the client to within 1' of decoy after about 10 minutes of practice.

The clients had successfully introduced the "this way" and "touch" cues between visits. After a short break, the veterinary technician coached the clients on incorporating and the "this way" and "touch" cues needed for operant counter conditioning/response substitution. Ben and Chantal were also encouraged to capture offered focus from Lemon; if she chose to look at them, they were directed to immediately click and treat.

Muzzle parties had been successful for Lemon. When Lemon saw the muzzle she began to wag her tail, ears forward, and immediately ran up and started sniffing it. Her body language was congruent with a dog who has made a positive association with the equipment. The next step in her muzzle training shaping plan was to teach her to place her muzzle into the basket. This was done with a verbal marker "yes" and high value treats as using a clicker can be cumbersome for some clients when handling a muzzle as well. Lemon was classically conditioned to the verbal marker "yes" using treats.

Lemon enthusiastically placed her muzzle into the basket several times and was able to increase her duration. Ben and Chantal practiced this with her and did very well. It was recommended to practice this in the house as well as in the yard for 2 minutes once daily (Howell & Feyrecilde, 2018).

The 11 remaining sessions were conducted with various known stimulus dogs. Prior to each session, the stimulus dog handlers were debriefed and a communication system established for stopping a repetition, moving closer, or moving further away at the technician's instruction. Sessions were conducted in a field behind the veterinary practice at a starting distance of over 30' with a gradual progression of exposures culminating in Lemon and the stimulus dog being on the sidewalk, but still at a distance below Lemon's response threshold.

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For the first five sessions, calm dogs larger in size than Lemon were selected. Occasionally the same dog would be used more than once. All the dogs used belonged to the staff or training team at the veterinary practice and their temperaments were known. As the conditioning plan continued, stimulus dogs were more varied in their energy levels, sizes, and appearances.

If Lemon's behaviors included scanning, alert posture, or direct stares at the other dog, the session was shortened to prevent escalation to more explosive behaviors. The clients were coached to identify the body language Lemon displayed as she began to approach her response threshold so they could respond by increasing distance prior to any lunging or barking. Thoughtful setups and client coaching meant it was always possible to maintain Lemon below her threshold of response. Never once in these sessions did Lemon, bark, growl, or lunge at the unfamiliar stimulus dog. She was able to rehearse numerous approach scenarios in a safely controlled environment while the clients practice assessing the situation, incorporating cues such as "this way" and "touch," clicking and treating for the presence of the other dog, rewarding every time Lemon chose to look at the client, and Lemon began intermittently choosing to notice the other dog, look away from it, and look at the client.

During actual walks, the clients reported variable success. Some walks Lemon was able to focus on the clients and respond to their cues, while other walks she would bark at a dog but was rarely lunging or growling. The client had been directed to increase the value of their treats on walks. They increased the treat value but did not observe any change in Lemon's behavior. To help mitigate the stress of the clients and Lemon during walks, it was recommended to continue taking her out during quiet times of the day rather than attempting more difficult walks.

Decompression walks were added to the protocol. The clients were instructed to connect a long-line (a leash between 10' and 30' in length) to Lemon's harness and allow her to explore and sniff in a wooded area that was not frequented by other dogs. These walks often allow both the client and the dog to decompress. The clients did carry citronella spray to use in case of an emergency (unleashed dog) they did believe at this time Lemon would be able to be called away and removed if an on-leash was seen during these walks.

It took 6 weeks to fully muzzle train Lemon. Several minutes were dedicated to practicing the shaping plan at the end of each behavior modification session. Lemon was comfortable wearing her muzzle for walks which helped the clients feel more comfortable and confident when walking her. One complicating factor was that treats delivered onto the ground became difficult for her to access and she was becoming frustrated and would occasionally paw at her muzzle if she could not access a treat. A new reinforcement strategy was introduced. The clients were instructed to try using a refillable silicone squeeze bottle filled with anything spreadable Lemon liked. Licking treats squeezed from the tube through the opening in the front of her muzzle worked much better for Lemon, greatly reducing her frustration.

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Email Follow-Up:

Ben emailed the veterinary team 6 months post diagnosis and reported Lemon had been doing relatively well on her walks, but the clients were still concerned because she was barking and occasionally lunging if smaller dogs were seen across the street. The veterinarian prescribed a weaning protocol to discontinue Clomipramine over a 2-week period followed by introducing 1 mg/kg of Fluoxetine SID and 10 mg/kg of Gabapentin BID (Overall, 2013).

Seven Month Follow-Up:

In-home follow-up visit performed. Ben and Chantal were happy with Lemon's behavior since her medication had been changed. They reported Lemon had not barked or lunged at any dogs. Her management recommendation to walk her at quieter times of the day continued and the decompression walks allowed for both clients and Lemon to relax more in an outdoor environment. They continued her enrichment schedule, they continued to generalize her muzzle training during some of her off-leash time in the outdoor enclosed arena, and incorporated tricks to maintain her positive association with her muzzle. A review of her "this way" cue, loose leash walking, and "touch" demonstrated good fluency under a variety of conditions. Lemon had begun consistently looking away from unknown dogs and choosing to look at the clients during walks. The stimulus of the sight of another dog had become a cue to check in with the client.

Lemon's tail was a good barometer for the clients to watch if they could not see her face while she observed other dogs. The more closely Lemon approached her response threshold, the higher her tail would elevate. It was recommended if Lemon's tail started to creep over her back the clients should not wait for Lemon to choose to look away from the other dog and focus on them, but rather to click, treat, and move away. During this behavior modification session Lemon was taken on a walk with the clients and registered veterinary technician. In a 20 min walk, Chantal and Lemon were observed encountering 4 other dogs. Chantal was able to monitor Lemon's body language, assess that it was acceptable to wait for Lemon to look away from the other dog and at her and reinforce the look-away-from-dog-look-at-client behavior with each dog.

Lemon remained at a safe distance across the street from all dogs. It was recommended the client do two walks per week, less than 10 minutes, during busier times of the day and work to have Lemon practice the "look away" behavior and continue to have her muzzled for all walks. The remaining days of the week's walks were to be scheduled at quieter times of the day or decompression walks. It was recommended the clients continue with half hour desensitization and counterconditioning sessions with unfamiliar stimulus dogs in controlled conditions, provided by the registered veterinary technician. However, the clients felt they were comfortable continuing this aspect of behavior modification on their own and wanted to recruit their friend's dogs to practice with Lemon. The veterinary technician reiterated body language to watch for that would suggest Lemon is stressed, such as ears back, scanning the environment, high or tucked tail carriage, weight forward and vocalization

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such as barking as it was necessary this was avoided during these behavior modification sessions. Further discussion on ensuring she remains at a distance that does not elicit any fear or anxious responses. The clients were asked to video tape these sessions and send them to the clinician and veterinary technician. The Kellys provided video of 2 sessions. The videos indicated Lemon was progressing in these sessions with no obvious concerns.

Eight Month Phone Follow-Up:

Telephone follow-up with veterinary technician. Lemon was going on multiple walks during the week during higher volume times with good success. The clients had attempted to walk by another dog sharing the same sidewalk, which is beyond what was previously recommended. Lemon was unable to pass the dog on the same sidewalk without reacting, but she was able to pass by all dogs that across the street while focusing on the clients. Most recently a dog barked at her from across the street. The client observed Lemon showing muscle tension and a stiff gait and tail, but the client clicked and treated her immediately for looking at the dog and Lemon was able to respond to the sound of the clicker, refocus on the client and continue walking away.

Nine Month Follow-Up:

Ben and Chantal had hoped to join the adult dog class run by the veterinary clinic. The clients had emailed the veterinary team with videos of three short walks where Lemon was able to walk by two different dogs while across the street. She briefly looked at both dogs, ears forward, eyes soft and tail below her topline. She quickly looked at Chantal and received a click and treat. Two more half hour follow-up sessions were recommended and booked with unfamiliar dogs for the veterinary technician to assess her response to unfamiliar dogs in person. During both sessions, Lemon was able to demonstrate attention to the clients and respond to known cues. She was able to observe the other dogs without barking, lunging, or growling. Lemon did this successfully while walking across the street and on the same side of the sidewalk keeping 8-10 ft distance between the dogs. Her body language was loose and her engagement with the clients demonstrated a strong reinforcement history and connection.

After a progress discussion with the veterinarian, he agreed with the veterinary technician that adding a group class to the treatment plan for Lemon would be safe and likely beneficial.

Conclusion:

By 9 months post diagnosis, Lemon was invited to join the veterinary practice's adult dog group training class. Lemon was matched with a class comprised of three other dog-handler teams who had also been private training clients of the practice's trainers. The class match was performed this way to provide a good blend of Lemon with dogs of known temperament and training history. This class was taught by the veterinary technician working with Lemon's case. Lemon did very well in class and participated in

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most exercises. If she was unable to participate for safety reasons, she was given alternative options. The veterinarian had recommended the Kellys could begin weaning Lemon off her Gabapentin upon graduation, but they have chosen to keep her medication regimen stable at this time.

Case Discussion:

To treat Lemon's fear-related aggression, a combination of medication and behavior modification were employed. With the underlying fearful emotion motivating Lemon's behavior, a conditioning plan aimed to use management strategies to prevent worsening while her medications took effect, keep her below her response threshold during modification sessions, coach her owners how to develop a desensitization protocol and support them through implementation, actively build a new pleasurable emotional response to the sight of other dogs. Given the history of Lemon's behavior serving a function of distance increasing, an additional goal was to introduce a new operantly conditioned behavior (look at the client) in response to the sight of another dog.

Each recommendations (management, counter conditioning, skills training) were consistently updated and supervised by the veterinary technician. Direct support throughout the treatment period is crucial for protocols where a complex progression is needed. The veterinary technician was able to help clients observe body language, respond appropriately when it was acceptable to increase the difficulty of an exposure, identify when Lemon was approaching her threshold, and provide a precise set of instructions for the client to follow in each of these circumstances. Coaching the clients while they implemented the plan helped keep them on-track and supported through the process.

Managing these fearfully aggressive behaviors can be difficult for both clients and for the dog experiencing these emotions. The outside environment is unpredictable and the behavior of unfamiliar dogs is hard to manage. The Kellys were well-versed in reading Lemon's body language and responded quickly and positively as needed which contributed greatly to the success of her treatment protocol. After the primary coaching sessions, they worked to follow the guidelines of using a combination of controlled exposures and incorporating trained skills to build a more comfortable and appropriate response to the sight of other dogs out in the world. The veterinarian's choice to change medications when the clients reported a change in Lemon's behavior also improved her ability to learn new skills and form new associations in a previously stressful situation.

Muzzle training for this case gave the clients more confidence with Lemon and their hard work generalizing her training helped her continue to have a strong positive emotional response to the muzzle. Had her muzzle only ever been used on walks or in fear provoking scenarios as can often happen with muzzles it could have become aversive.

Group classes are not always appropriate for dogs with fear related aggression toward unfamiliar dogs. Because the class could be carefully curated with respect to both the dogs in the class and the handler

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skill levels for each of the dogs, group class was integrated into Lemon's treatment protocol. The group class allowed Lemon and the clients to practice their skills in a more challenging but still well-controlled environment and prepare them for continuing their real-world walks and experiences.

The clients had been given the option to begin walking both their dogs together, however they were more comfortable walking them separately. Most multi-dog households are more successful walking dogs separately as this can prevent the dogs re-directing onto one another, as well escalating due to the strong emotions of their housemate dog.

It is so important to ensure appropriate behavior assessments are done on animals in rescue organizations and shelter environments. Appropriate assessments allow the clients to be better equipped and prepared for the full range of behavioral concerns upon adoption. Lemon's clients were dedicated, hard-working and compassionate clients giving Lemon an even better foundation to succeed.

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