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Dr. Gabrielle Carter Gabrielle is an Australian Veterinary Specialist in Animal Behaviour. After many years in general veterinary practice, Gabrielle completed a 3 year Residency at the Behaviour Referral Service in the Veterinary School at Purdue University, USA. For the last 7 years she has worked at 'Good Pet Behaviour' in Melbourne, helping owners solve their pet's behaviour problems. Additionally she provides educational opportunities in animal behaviour for a range of audiences from the veterinary, welfare and public arenas. She loves the hands on time she spends working with owners, addressing behavioural and mental health issues, and is continually inspired by the many ways in which pets and owners can share and enrich each others lives.

Abstract

Low Stress Handling: improving outcomes for animals and handlers

Stress, anxiety and fear are common emotional states experienced by animals in shelters, veterinary clinics and when fostered. Stress, anxiety and fear underlie many behavioural problems in animals, some of which pose a risk of injury to staff, and may reduce the animal's success in finding a new home. Additionally, these emotional states may represent poor welfare. How we interact and communicate with animals in our care, can impact significantly on how they respond to these challenging environments. This presentation will highlight the main features of customised educational programs on low stress handling that have been presented to shelters, vet clinics and foster groups. Topics overviewed include communicating with cats and dogs, understanding causes of anxiety, fear and aggression, how to change behaviour, specific techniques for handling difficult dogs and cats, managing environmental stressors and appropriate use of equipment and medications.

Full Presentation

Stress, anxiety and fear are common emotional states experienced by animals in shelters, veterinary clinics and when fostered. Stress, anxiety and fear underlie many behavioural problems in animals, some of which pose a risk of injury to handlers, and may reduce the animal's success in finding a new home. Additionally, these emotional states may represent poor welfare. How we interact and communicate with animals in our care, can impact significantly on how they respond to these challenging environments.

Remember fear learning is very strong. When we are scared there is lots of adrenalin racing around and this has the effect of cementing some memories. Additionally, in this state associative learning is very strong. If the animal has a strong, fearful emotional response to a new and novel event (e.g. handled by a new person, in a new environment) this event can in the future trigger the same negative and unpleasant association.

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Additionally, learning using aversive experiences can result in one time learning, which is enduring. This is an important form of learning. You don't want to have to put your hand in a fire over and over again, or jump off a cliff time after time, to learn that these activities have bad outcomes. One time, and enduring learning is valuable, especially in relation to things that are 'bad' for you. However, in working with frightened animals it can work to our detriment. Even though we can change associations through behaviour modification techniques, the animal never forgets that once there was a different (bad) association. So, you could over time build a positive association with new person or environment. That is, you could change the association from a negative one to a positive one. However, this doesn't mean that the animal forgets that once that person/environment predicted 'bad' things. And if at any time the animal again experiences something threatening or frightening in association with that person/environment that old memory can resurface and reignite the animal's fear. So, the best strategy is to build a positive association with people and environments from the start, trying hard to avoid any negative associations, if possible.

Our aim is to provide as many positive associations we can with handling and interactions – both with people and other animals, and provide environments that aim to reduce anxiety and fear. Educating carers in the best ways to handle and interact with animals and how to provide low stress environments is one step in this direction. Below are some important concepts and topics that could be covered in this endeavour.

Understanding canine and feline body language is essential to not only recognise when animals are feeling threatened, unsure, anxious, or likely to become aggressive, but also to enable us to reflect on our own body language and the ambiguous or threatening messages we might inadvertently be giving to animals. For example, leaning over, reaching towards a dog, whilst you stare at it, are all gestures that can be perceived as threat. Most people find it easy to grasp the basics of canine and feline body language and to apply this knowledge in their future interactions. For example, once a handler learns that yawning, lip licking, looking away, turning the head to the side, tucked tail and dropped ears, all indicate that a dog is feeling worried, anxious, or unsure, then it is easy for them to back off, and in this way prevent a potential escalation to aggression. Learning that when a cats tail is held up, the cat is willing and wanting to interact. When it is down it is not so happy. As the cats ears move to the side this indicates aggressive arousal, and when the ears are flat and backwards the cat is really fearful. Dilated pupils indicates a scared cat and when the whiskers are forward the cat is likely to physically interact with whatever is in front of it – this could indicate aggressive, play, investigative behaviour.

A big mistake that many people make when they see an animal shrink back, look away or appear uncertain is to continue to reach and move towards them, wanting to assure the animal that they do not intend harm. They, in fact, achieve the opposite. The animal is communicating that it is not comfortable with the interaction, and if you continue to push the interaction on the animal, it learns that it can't trust you to respond appropriately to its fear, and it may feel that it needs to escalate to using stronger 'language', like growling, snapping or biting/scratching. If you approached a person and they shied away from you, a normal response by a friendly person would be to pull back, and say 'sorry, I didn't mean to get in your space so rudely'. We should try to communicate the same to our animals. In this way we can build their trust, that we will respect their need for safety.

Understanding the causes of anxiety, fear and aggression is vitally important not only to prevent unnecessary fear and anxiety but also to develop effective treatment plans and realistic expectations of what can be achieved.

Nearly all behaviours are a product of genetics, learning and environment. So to understand fear and anxiety based behaviours, including aggression we need to consider the relative contributions of these factors. Many studies have highlighted the strong effect of genetics on how fearful, anxious and aggressive animals can be. Learning obviously plays an important role, but so to does environment. Here we can consider both the internal and external environments.

The external environment will encompass noise, movements, smells, amount of restraint/confinement etc, and internal environment will consider things like disease status, hormones, drives, needs, pain and discomfort etc.

Fear is experienced when an animal is feeling threatening or concerned that it may be harmed. Anxiety occurs when the animal anticipates that something threatening or harmful may happen. Key features of anxiety are a lack of predictability and a sense of control over what happens to the individual. It is of key importance to address these factors when trying to reduce anxiety. Low stress handling therefore aims to make our interactions predictable and increase the animal's sense of control over what happens to it. Minimising restraint for example, can help reduce anxiety by allowing the animal to maintain some control over what happens to it. Moving in a slow, smooth manner, and taking the time to interact only when the animal is willing, can build trust and reduce anxiety. Interactions based on reward based training, such as asking the animal to sit or come for rewards, is a highly predictable way to interact (in training we do the same thing the same way, over and over again) and gives the animal a sense of control – they know what to do to ensure a good outcome for themselves.

In order to change behaviour the handler needs a good knowledge of learning theory. Understanding the basic principles of operant conditioning (reward and punishment based training), classical conditioning (think Pavlov's dog, where one event predicts another), and habituation and sensitization (the basis of systematic desensitization) as well as practice in implementation, are valuable skills. Good reference texts in this area are: Excel-erated Learning[1], How dogs learn[2], and Low Stress Handling, Restraint and Behavior Modification of Dogs and Cats[3]. See references below. Useful free training videos can be found at www.dogmantics.com.

Avoiding the use of aversive training techniques is recommended. Positive punishment works because the animal fears what will happen if it performs a behaviour. In animals that are already fearful this technique is likely to increase their general fearfulness. Use of confrontational training will also increase the likelihood of dogs showing aggression[4]

Techniques for handling difficult dogs and cats. The bigger your toolkit in this area the more flexibility you will have in handling a range of different individuals. Sophia Yin's resources are an excellent starting point (see references 3, 5,6 below).

Appropriate use of equipment and medications will be beneficial for some individuals. Stressed and anxious animals will find it difficult to learn and continued exposure to stressful situations will perpetuate their fear learning. Where anxiety is impeding progress then anti anxiety medications can be helpful in the short term, or for genetically based or chronic anxiety, longer term medication may be required. Working with a qualified and experienced veterinary behaviourists will ensure the best outcomes here. Check out the Australian and New Zealand College of Veterinary Scientists, Behaviour Chapter, http://www.anzcvs.org.au/members/memberSearch.asp

Equipment use needs to be tailored to the individual. For example, some dogs will benefit from the use of headcollars (e.g. Halti®, Gentle Leader®, Black Dog training collar®) enabling the handler to give clear direction and maintain better control and management of the dog's behaviour. Other dogs however, may 'shut down' or become more stressed as we take some control away from them. In these cases other equipment may prove more useful, such as a front attach harness (Balance Harness®, Easy Walk Harness®) which will still give added control to the handler, and a means of communication.

All equipment must be fitted properly and the animal conditioned to feel comfortable wearing it, otherwise we are simply adding stress to the animal's experience. Counter conditioning and systematic desensitization techniques should be employed when fitting all new equipment. Additionally, handlers need to be trained in effectively and humanely using the equipment. This is especially important when using head collars, where the leash should remain loose, unless the dog pulls and thus applies pressure to the nose by *their* action (that is, the handler does not apply the pressure). Release of pressure is also very important in order for the dog to learn how to effectively manage or control the action of the head collar. Refer to the following videos.

Fitting a Gentle Leader® www.**youtube**.com/watch?v=1wakterNyUg

Using a Gentle Leader® https://www.youtube.com/watch?v=Y7xkfNEStxk

Managing environmental stressors is an often forgotten, but powerful, way to help reduce fear and anxiety. Managing noise, especially sudden, loud and unfamiliar noises, minimizing distractions and visual access to potentially scary or threatening situations, avoiding contact with predator species (e.g. having separate handling and housing areas for cats and dogs), and providing safe and secure species specific escape and hiding areas (e.g. elevated areas for cats, dens for dogs) can be invaluable in keeping anxiety and fear at a minimum. The use of calming pheromones, such as Dog Appeasement Pheromone (Adaptil®) or Feline Facial Pheromones (Feliway®) is also of significant value in minimizing stress. Housing areas should provide adequate complexity to enable a range of behavioural responses/choices, have separate functional areas (e.g. sleeping, feeding, toileting, playing etc.), enable choice and agency, along with appropriate social interaction, strategies to cope with stressors, and appropriate sensory stimulation. For example, simply adding a paper bag to a cat cage, can provide a hiding place, something to play with, and some choice about where they rest – behind the bag, on top of the bag, underneath or inside the bag.

A word on Dominance theory. Dominance theory as a way of understanding dog behaviour and the relationship between dogs and humans is out-dated and inaccurate, and in my opinion application of this theory may have caused a significant number of behavioural problems in our dogs. Dominance theory suggests that dog behaviour can be explained in terms of wolf behaviour – wolves being the distant ancestor of the dog, but in fact dogs are not wolves and there are some significant behavioural differences between dogs and wolves. Secondly, dominance theory suggests that wolves naturally form dominance hierarchies. Again this is inaccurate. In the last few decades prominent wolf researchers have no longer been using 'alpha' dog and dominance to describe the social structure of wild wolf packs and instead are documenting that wild wolves live in family groups. Thirdly, the aggression we see in domestic dogs does not fit the picture we would expect to see if were we witnessing dominance aggression. Most aggression is based in fear and anxiety – and we know this because of the dogs body language. A dominantly aggressive dog would show a very confident and assertive style of aggression. Commonly the presentation of aggression, along with the history and behavior of the dog is inconsistent with defensive aggression. Aggression is often preceded by signs of fear, or ambivalence, and many dogs show appeasement, and submissive behaviors after aggressive incidents – behaviors that the owners often describe as showing remorse, or guilt. These body language pictures are not consistent with an offensive aggression such as dominance aggression. Studies have also indicated that fearful and excitable, rather than dominant, or confident personalities are often more often associated with aggression in dogs.

Dogs have been domesticated for 1000's of years , making direct comparisons with wolves somewhat questionable. The domestic dog is believed to be a highly neotenized form of the wolf. By this we mean that the domestic dog has retained juvenile characteristics – both in morphology and behavior. Essentially the developmental process has been halted in the juvenile stages of development. A paper by Goodwin et al7, looked at the number of ancestral or wolf-like signaling behaviors of different breeds in relation to their physical similarity to wolves. They found that breeds displaying more ancestral behaviors positively correlated with the degree of physical similarity to the wolf (e.g. Huskies and Malamutes showed more adult wolf behaviours).

Further, the signals used by breeds with the smallest repertoire, such as the Cavalier King Charles Spaniel, were similar to those used by wolf pups under 20 days of age. The social behavior of dogs is therefore much more like the social behavior of wolf puppies. Even feral dogs do not show characteristic social behaviors of the wolf, like cooperative care of young and cooperative hunting – they are largely scavengers.

How did we get it so wrong? A seminal book on wolf behaviour was published in the 1960's, which has informed most of the subsequent literature on wolves and spread this misinformation far and wide. This book reports on original studies that placed wolves together (from zoos) in an artificial captive colony. That is, the wolves were in an artificially constructed group. So these animals were forced to remain together, and did not have the opportunity to disperse. Most species that are thrown together in this way will compete for resources and form dominance hierarchies (think of people in prisons or refugee camps).

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