

2019 Delta Institute Veterinary Seminar
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Speaker

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Timetable

09:00-09:10	Welcome to the seminar
09:10-10:30	What is behavioural medicine?
10:30-11:00	<i>Morning Tea</i>
11:00-12:15	Emotional Health and Physical Illness - understanding the link and the resulting importance of behavioural medicine.
12:15-13:15	<i>Lunch</i>
13:15-14:00	Optimising the Veterinary Experience – Emotional Responses in Small Animal Patients and the Importance of Stress Audits
14:00-14:30	<i>Afternoon Tea</i>
14:30-16:00	The Role of the Veterinary Profession in Promoting Positive Emotional Health and Educating the Public
16:00-16:30	Summary and wrap up of the day and Q&A session

What is veterinary behavioural medicine?

Behavioural medicine is the discipline that recognises the triad of health in non-human animals. It promotes equal consideration of physical, emotional and cognitive health with the aim of optimising all of them in order to ensure the welfare of non-human animals living in a domestic environment. Understanding the triad of health needs to be considered as a day one skill for the veterinary profession just as much as it is for medical professionals. The interplay between all three aspects of the triad is complex and compromise in one area has consequences in the others. Perhaps the best example of this in the veterinary context is the interplay between physical and emotional health but the importance of optimised cognitive health is also important. An understanding of veterinary behavioural medicine increases awareness of the need for a multi-disciplinary approach to healthcare in companion animals.

Emotional health issues are addressed using a combination of approaches:

1. Identifying underlying emotional motivations and determining if they are justified by the context
2. Optimising the domestic environment in relation to providing for species specific behavioural needs
3. Addressing learning theory issues in terms of the acquisition of unwanted behavioural responses
4. Using medication, pheromones and nutraceuticals

Assessing emotional health involves identifying:

- i. the emotional motivation for the behavioural or physical responses being reported
- ii. the influences on that emotional motivation including those associated with
- iii. the animal's genetics and early life history
- iv. the animal's history in terms of experiences and physical or social environments
- v. the present physical or social environments
- vi. the animal's physical health
- vii. the level of emotional arousal
- viii. the level of emotional resilience

In situations where emotional health may be compromised it is important to determine whether the animal is emotionally stable. Asking questions about whether alterations in its environment, either social or physical, cause it to feel uncomfortable can help us to differentiate between animals for whom emotional motivations are well within normal limits and recovery is rapid and uneventful and those for whom emotional motivations are outside expected normal limits and recovery is compromised.

Behaviour is an outward expression of an underlying emotional motivational balance and successful problem prevention in puppies and treatment of existing behavioural problems relies on:

- Accurately identifying emotional motivations
- Understanding potential behavioural responses to those emotions

Accurately identifying emotional motivations

In order to be able to understand behaviour it is important that we understand the emotional motivations that underpin behavioural responses. Panksepp describes seven different behavioural circuits in the brain.

1. Seeking (Desire)

This is the system that is involved in the seeking out of resources that are necessary for survival e.g. food, right environmental temperature, shelter etc. and also in general exploration and learning. Social interaction is a trigger for seeking motivation in puppies and kittens. For socially obligate species like dogs the seeking motivation for social interaction remains high throughout life. In species like the cat with a solitary survivor social behaviour it can be significantly reduced in adulthood. The seeking system is located from the ventral midbrain to the nucleus accumbens and the medial frontal cortex and the prime activating neuromodulator is dopamine, but other neuromodulators include glutamate, opioids, neurotensin and other neuropeptides.

2. Frustration

This system is activated when an animal is thwarted in achieving an expected outcome. An animal can become frustrated when it is motivated by one of the other emotional systems but cannot fulfil its intended behaviour. It is located in the medial amygdala to the hypothalamus and the dorsal periaqueductal grey matter and the key neuromodulators activating this system are dopamine, glutamate, substance P and acetyl choline. One example of a context in which frustration would be triggered is if a puppy or kitten is hungry but is made to wait for an excessive time before being told it can eat. The frustration is amplified in the kitten due to the fact that it is a solitary feeding species and the ability to access food is something that is naturally under their control. Lack of control leads to frustration. Frustration is also seen if a dog is chasing a squirrel, driven by its seeking system, but the squirrel goes up the tree and out of reach or if a cat can see birds on a bird table outside the window but cannot gain access to them. Some animals have more persistence than others and thus the frustration system is activated at different thresholds for different individuals. Frustration characteristically leads to an increase intensity and speed of behavioural responses and increases the confrontational nature of those responses.

3. Fear (Anxiety)

This system protects animals from personal threat and from threat to resources. It is located in the central and lateral amygdala to the medial hypothalamus and the dorsal periaqueductal grey matter. The key activating neuromodulators are glutamate, diazepam-binding inhibitor, cholecystokinin, alpha melanocyte-stimulating hormone and corticotrophic releasing factor and neuropeptide y acts as an inhibitory neuromodulator.

Some people consider pain as an eighth circuit, which is activated in the presence of actual or potential tissue damage, although it was not described as such by Panksepp and is considered by many to be part of the fear-anxiety system. Certainly the emotional component of pain has a global effect on behaviour and should always be a consideration in any animal with clinical behavioural problems. The potential for pain experienced early in life to affect future behaviour also needs to be considered. Key activating neuromodulators involved in pain are glutamate, substance P and neurokinins A and B. Inhibitory neuromodulators are GABA and opioids.

4. Panic (Grief)

This system is activated in young animals to solicit attention from the primary caregiver in order for the animal to survive. Activation of the panic system often causes intense crying, which alerts the maternal figure or caretaker to the young offspring. This system is located in the dorsal periaqueductal grey matter to the anterior cingulate. The key neuromodulators are glutamate and corticotrophic releasing factor and the panic system is inhibited by opioids, prolactin and oxytocin. The panic/grief system is also activated in domestic animals when they are separated from their primary attachment figure, which can give rise to separation issues in some animals. This is most commonly reported in dogs. Separation related behaviour problems can also be motivated by the fear/anxiety system, as some animals may not have become habituated to periods of being alone, and the frustration system can also be involved in these cases, if the animal has a high expectation of owner interaction. If more than one dog is in the house when the owners are absent social play may be a motivation for behaviour which goes on to cause unintentional damage in the home and the seeking (desire) system may be involved in cases where dogs raid the fridge or the bin when the owner is not at home.

5. Social Play

The play system is activated as puppies and kittens develop physically. During the neonatal period they do not have sufficient physical development, or development of the senses, to be able to play, but this changes during the transitional period. The social play system is located in the dorsomedial diencephalon, parafasicular area and the periaqueductal grey matter and the main activating neuromodulators are opioids, glutamate and acetyl choline, but opioids can also act as inhibitory neuromodulators. Play promotes a positive emotional state. It is used by young animals to learn about social interactions, including threat, in a safe context. For socially obligate species like dogs the motivation for social play remains high throughout life. In species like the cat with a solitary survivor social behaviour the motivation for social play can be significantly reduced in adulthood.

6. Lust

This system is activated in animals as they develop and seek out sexual partners. It is aroused by the male and female sex hormones. In female animals, oxytocin transmission is promoted by oestrogen and in male animals, vasopressin transmission is promoted by testosterone. Oxytocin promotes trust and confidence in females and also promotes sexual readiness. Vasopressin promotes assertiveness. Brain and bodily sexual characteristics develop separately and in some cases it is possible that they may be mismatched. Key activating neuromodulators are steroids, vasopressin, luteinising release hormone and cholecystokinin.

7. Care

The care system is associated with parental care of young and is activated in late pregnancy with the shift of hormones that occurs – declining progesterone and increasing oestrogen, prolactin and oxytocin. These changes enable the development of maternal care, which encompasses maternal bonding with offspring and also the nurturing of the young. In socially obligate species the care motivation is not limited to the parent-offspring relationship and dogs are motivated through care in their interactions with others throughout their lives. Care motivation can also be seen in adult cats but due to their solitary survival behaviour this system is often significantly reduced in adulthood.

Of these seven behavioural circuits the fear- anxiety (including pain), panic (grief) and frustration systems are involved in situations of negative emotional arousal whereas the

seeking, social play, lust and care systems are associated predominantly with positive emotional arousal. From a behavioural point of view, it is important for people to be able to read the body language of their pet in order to be able to identify whether they are positively or negatively aroused and for veterinary practice staff, dog trainers and people working in the field of companion animal behaviour to be able to do the same.

Understanding potential behavioural responses to those emotions

Behavioural responses to negative emotion

Dr Sarah Heath has developed a form of terminology to describe the behavioural responses when an animal is experiencing a negative emotional response to a trigger in terms of the aims of those responses. This terminology has been developed over years of experience in clinical practice and is used to explain the importance of understanding the range of behaviours that can be displayed. It has also been developed with the aim of improving understanding of the equal importance of each of the possible separate categories of behavioural response and reduce the mistaken concept that it is only the intense forms of repulsion behaviours, which need to be a cause for concern. In terms of animal welfare recognition of all of the possible behavioural responses to negative emotion is essential and by giving equal importance to all of them we can improve prevention, management and treatment of clinical behavioural presentations.

One aim of a behavioural response to negative emotion can be to terminate interaction with the trigger completely and this can be achieved either by removing itself from the situation (*avoidance*) or by making the trigger go away from it (*repulsion*). In cats, where survival is a solitary affair it is more likely that they will use an avoidance response. This ensures that they remain in control of the situation whereas repulsion involves some element of delegation as the outcome is dependent on the other individual responding to the behaviour by moving away or reducing interaction. Another aim when motivated by negative emotion may be to find out more about the trigger and the context in which it is being encountered. This approach is more likely to be selected if there is any perception of possible benefit from the situation or a perception that the use of repulsion or avoidance responses could increase the danger to themselves. There are two ways in which the animal can find out more about a potential threat. One is passive and involves the gathering of information from the context or the item or the individual (*inhibition*) and the other is active and involves exchanging information (*appeasement*). Inhibition is more likely to be selected in those contexts where there is perception that avoidance or repulsion are unlikely to be successful, but may also be selected by less confident animals for whom exchanging information is more difficult. For non obligate social species the priority is to ensure the survival of the individual and inhibition is more likely to be selected since there is less potential benefit from exchanging information. In the case of socially obligate animals which have an inherent positive emotional response to the resource of social interaction (desire/seeking) there may be situations in which the other dog or person that they are encountering triggers a mixed emotional response due, for example, to a level of anxiety if they are unfamiliar. In these cases the animal does not want to terminate interaction completely and wants to find out more about the person or dog in order to determine whether the positive potential of the interaction outweighs the negative potential. The presence of a positive emotional response of desire/seeking makes it more likely that this animal will attempt to exchange information (appease) thereby finding out more about the other individual and also offering information about themselves which indicates a desire to avoid conflict. In socially obligate species the offering of information aims to reduce the negative emotional responses of the other individual. This is important in a situation of co-survival.

Method of offering and gathering information

Information is conveyed and received via the sensory systems. Scent is deposited in the environment via urine, faeces and anal sac secretions. In addition, dogs and cats have specialised glands in their skin which secrete scent signals which have an important role in social communication. Dogs will roll over on their backs or lift one of their hind legs to give other dogs access to this information and they may also sniff and lick at other dogs around the face and anogenital regions in order to collect scent-related signals. Cats also use tactile interactions to share scent. They will rub on other cats in their social group as well as on humans and inanimate objects in their environment.

Auditory information exchange takes the form of species-specific vocalisations coupled with listening to the utterances of others. In an inhibited state it is the listening that is predominant while in appeasement the animal will be listening and vocalising as it seeks to exchange rather than simply gather information. Species-specific signals can be used to convey information about positive and negative emotions.

Visual senses are used in inhibition through watching and during appeasement interactions animals offer information via their body postures and facial expressions. These signals are species-specific and a good understanding of communication systems in the domestic species is necessary in order to understand the information that they are seeking to convey.

Tactile interactions can also be used to convey information about the emotional states of an individual and dogs that are anxious will often lean against humans in order to communicate in this way. They can also gather information via the tactile sensory channel as they become aware of the level of muscular tension in the human.

Concepts in emotional health

Emotional stability

All of the emotional systems described by Panksepp are normal emotions and the behavioural responses are also normal. Emotional stability involves normal emotions being triggered by appropriate contexts and resulting in appropriate behavioural responses. It is a feature of good emotional health. Emotional stability is influenced by emotional capacity and the balance between emotional input and drainage. Emotional intelligence defined as the capacity to be aware of, control and express one's emotions and to handle interpersonal relationships judiciously and empathetically. A model of the "emotional sink" was developed in 2010 by Dr Sarah Heath FRCVS to explain these concepts within the context of veterinary behavioural medicine.

Emotional capacity

Emotional stability depends on the individual having adequate emotional capacity.

According to Dr Heath's model, emotional capacity can be thought of in terms of an emotional sink where the size of the sink is influenced by:

- Genetics
- Early rearing
- Life experiences

Emotional resilience

Emotional stability also relies on the individual having good emotional resilience, which results in optimal emotional drainage after a trigger has been encountered. This helps to maintain a low level of residual emotion and maximises the availability of emotional capacity.

The importance of displacement and drainage behaviours

According to Dr Heath's model displacement behaviours can be likened to the passage of water through the overflow hole in the top of the sink. They are normal behaviours, which are being displayed in an abnormal context, and are seen when the emotional arousal level is getting close to the individual's threshold of capacity. The movement of water through the overflow hole in a sink is automatically triggered by the level of water in the sink and can occur whether the water in the sink is hot or cold. Likewise, displacement behaviours occur in association with high levels of both negative and positive emotion and a combination of the two. They occur spontaneously when the level of emotional arousal is reaching the threshold of the individual's emotional capacity (getting close to the top of the emotional sink). Animals also drain out emotion using drainage behaviours, which can be likened to the flow of water out through the plug hole and outflow pipe. Drainage behaviours are consciously controlled and can occur after any emotional inflow has occurred. The sink does not have to be full for drainage behaviours to be seen and when these behaviours are used appropriately they ensure that the residue in the sink is kept at manageable levels.

Emotional overflow is most likely if:

- The sink is small (low emotional capacity)
- The tap(s) is(are) turned on full (high intensity of emotional motivation)
- There was a high level of residual water in the sink at the time (poor emotional resilience - limited opportunities for emotional drainage or imbalance between emotional input and output)
- The people around do not recognise or act on species specific signs of impending overflow (displacement behaviours)

Emotional intelligence

The dictionary definition of emotional intelligence is "the capacity to be aware of, control, and express one's emotions, and to handle interpersonal relationships judiciously and empathetically". For dogs and cats the most important element is the ability to express and control their own emotions

Teaching emotional intelligence involves exposing puppies and kittens to a variety of contexts and establishing suitable emotional associations. It also involves rewarding appropriate decision making in terms of selecting behavioural responses to those emotions. A six module online course entitled Developing Emotional Intelligence for Puppies (DEIP) is available to veterinary practice staff. More details are available from DEIP2@brvp.co.uk

Conclusions

Emotional health is as important as physical and cognitive health and there are a range of normal emotional systems and associated behavioural responses. In order to determine emotional motivation it is important to observe the whole body, face, ears and tail and to remember that all behaviour must also be considered in terms of their aim and interpreted in context. Assessing emotional health is a vital part of the diagnostic process in behavioural cases but it is also relevant in physical health cases and is essential in order to safeguard the welfare of all domestic pets.

Further reading:

Panksepp J Affective Neuroscience: The Foundations of Human and Animal Emotions published by Oxford University Press

Emotional Health and Physical Illness - understanding the link and the resulting importance of behavioural medicine.

Introduction

Chronic physiological stress (hereafter referred to as stress) associated with negative emotional arousal is notoriously more difficult to identify than acute stress and can have profound effects not only on behavioural responses but also on physical health. Active responders to physiological stress are often more readily identified by their caregivers since they show behaviours associated with agitation and increased levels of activity. Cats often display behaviours which are unacceptable to humans, such as indoor urine marking, conflict with humans or other cats and inappropriate or unwanted vocalisation. Canine patients may show signs of hostile behaviour toward people or dogs but they may also appeasement, which can be misinterpreted as affection or boisterous behaviour, or hypervigilance which is misinterpreted as being nosy or enthusiastic. In contrast, passive responders can be more difficult to identify. The activity levels of these individuals decrease and their response to stress involves a combination of social and physical withdrawal. Decreased activity in cats is often misinterpreted as laziness and increased perception of sleep leads to an assumption that the cat is actually contented. Dogs who are exhibiting inhibition responses may be misinterpreted as being settled and even relaxed.

Disease as an indicator of physiological stress

Relying on the identification of stress through behavioural change is likely to lead to a significant level of under diagnosis. The more passive responses to stress, which lead to avoidance or inhibition style strategies, are commonly overlooked by caregivers and appeasement interactions from dogs are frequently misinterpreted. As veterinary surgeons it is therefore important to be aware of the potential for diagnosis of stress within the field of internal medicine and to respond to situations of repeated ill health, particularly with a history of recurrence of clinical signs, with appropriate questions about the patient's social and physical environment. For feline patients questions about the composition of the household and the neighbourhood in terms of other cats is likely to be relevant. Looking for potential sources of stress is as much part of the diagnostic workup as identifying infectious agents or organ compromise.

Common disease related indicators of stress

The potential effect of chronic stress on the functioning of the hypothalamic-pituitary-adrenal axis and on the immune system leads to some specific health concerns. Infectious diseases and conditions involving compromise of mucosal surfaces are most commonly associated with stress related factors and in these cases investigation of potential underlying behavioural components is highly recommended.

1. Dermatological conditions
2. Lower urinary tract disease
3. Gastrointestinal conditions
4. Infectious diseases

While infectious diseases may be a concern in these individuals because of their immunocompromised state the presence of chronic stress may also affect infectious agent transmission by compromising behavioural responses. For example in feline patients where negative emotions increase the risk of physical confrontation this can be linked with increased

risk of infection through salivary transfer. Chronic stress can also compromise wound healing and recovery from disease.

Indirect interaction between chronic stress and physical disease also needs to be considered. Cases of feline renal disease can be associated with limited access to water in multi-cat households due to social tension or limited water intake associated with poor understanding of feline drinking behaviour and a failure to provide water stations which maximise the potential for water intake.

Obesity is another example of the potential for overlap between internal and behavioural medicine and the interplay between misunderstanding of normal species specific feeding behaviours and the onset of obesity is now well documented.

The other way in which chronic stress may be involved in physical disease is through the influence of emotion on pain perception. This can be relevant in cases of inflammatory and neuropathic pain and it is important to consider pain when animals are presented with unwanted behaviours. The relationship between physical and emotional pain is complex and while the influence of acute pain on immediate behavioural responses is often considered the influence of chronic pain is frequently underestimated.

Four components of pain

In addition to being a neurological phenomenon involving sensory and motor components it is important to remember that pain is also an emotional and a cognitive experience. This results in pain being a very individual experience and the important rule is that “pain is always what the patient says it is”.

Acute pain and behavioural change

We need to consider potential behavioural consequences of pain when dealing with medical and surgical patients in general veterinary practice. Patients who are in acute pain can be difficult to handle and overt confrontational behaviour is probably the most obvious consideration. However, not all animals are active responders to pain and in many the subtle nature of pain expression can be a challenge in terms of diagnosis. In a canine context some breeds are renowned for their stoic nature while others are associated with excessive reaction to acute pain. In cats, the subtle nature of pain expression can be a particular challenge in terms of diagnosis and a combination of lack of vocalisation, lack of overt resentment of palpation and lack of overt changes in mobility can help to make pain less obvious in feline patients.

Longer term practical consequences

Negative emotional state has been shown to influence perception of acute pain and may be important in chronic post-surgical pain risk which is very important consideration when deciding on analgesic protocols for surgical patients. It is also important to consider the potential for anticipation to play a part in the maintenance of behavioural symptoms related to episodes of acute pain. The consequence of classical conditioning is that any interaction or event which coincides with the experience of pain, can become associated with that pain. In some cases the link to previous pain may be obvious but in others careful history taking is needed to uncover the association. The main challenge of these cases is that resolution of the pain does not necessarily result in resolution of the behavioural signs and treatment to form new and positive associations with the context or action can be inhibited by the degree of anxiety that exists. While a good understanding of learning theory and a great deal of patience from the owner can work wonders these cases may necessitate strategic use of anxiolytic medication under the direction of a veterinary behaviourist. These cases also highlight the need to consider potential long term behavioural consequences of acute pain when dealing with medical and surgical patients in general veterinary practice.

Chronic pain in canine patients - The osteoarthritis link

The diagnosis and treatment of osteoarthritis is well-established in dogs and there is an expectation of recognisable behavioural changes, such as decreased interest in exercise, vocal manifestation of pain, objection to handling and overt lameness in these patients. Indeed behavioural parameters are often used as an index of improvement when evaluating treatment options for dogs (Mansa et al 2007). However, it can be difficult to detect some of the changes associated with chronic pain especially in a short routine veterinary appointment and if there is any suspicion regarding the influence of arthritic disease on an animal's behaviour it is helpful to do a specific clinical examination, including gait analysis. Changes can be extremely subtle and observation of movement, posture, muscle mass and coat change are all important aspects of the clinical examination. One of the advantages of a behavioural consultation is the duration of the appointment and the possibility to examine the dog in the context of its own home. Both of these factors can significantly increase the detection of subtle consequences of pain, such as a reluctance to move into a sit or down position and difficulty negotiating steps or jumping on or off furniture. However, even in the behavioural consultation changes can be missed and the use of video footage and still photographs of posture can be very useful for more in depth observation. While radiographic examination is important in these cases it is also worth considering the role of trial treatment with analgesic medication, since the correlation between behavioural effects of pain and radiographic change is not always clear. Canine Arthritis Management is a charity in the UK which aims to increase awareness of the effects of chronic pain on quality of life for canine patients and they offer a wealth of useful information for veterinary professionals and for owners on their website www.caninearthritis.co.uk. The effect of canine musculoskeletal pain has been studied in relation to behavioural presentations such as noise sensitivities (Lopes Fagundes et al 2018) and owner reported "aggressive" behaviour (Barcelos A et al 2015).

Behavioural effects of hip dysplasia

One area of interest in a canine context has been the potential relationship between pain from arthritic changes in dogs suffering from hip dysplasia and the onset of dog to dog conflict. Work at Lincoln University (Mills 2007 personal communication) gave some interesting preliminary results suggesting that dogs suffering from hip dysplasia were at risk of developing an anticipation of pain when encountering other dogs, but it was difficult to demonstrate a causal link and this study has so far not been published. Case based evidence from referral practice certainly supports the development of learned associations between pain from arthritic change and the onset of repulsion behavioural responses toward dogs and people, and in many cases the contexts in which the hostile behaviour is displayed can lead to confusion with other potential motivations for the behaviour.

Practical considerations for the dog with chronic pain

- Investigate and treat underlying source of pain
- Use analgesic medication as appropriate and trial periods of medication where there is doubt about the relevance of pain
- Provide indirect means for the owner to move the dog including house lines and food trails
- Avoid handling where possible and provide access to vehicles through the use of ramps
- Encourage exercise through short walks and make the experience inherently rewarding
- Tailor exercise and interaction to the individual situation of the case and where necessary limit intensity and/or duration of play

- Embark on specific counter conditioning programmes to establish positive associations with dilute forms of handling

The challenge of feline pain

The cat's remarkable ability to hide signals of illness makes them a challenge in medical terms and this is particularly relevant in relation to pain. It leads to an increased level of responsibility for the veterinary profession to actively monitor for pain in cats.

Cats are particularly stoical creatures since showing signs of pain could make a solitary survivor vulnerable. They have a number of passive behavioural strategies in place to disguise pain and more overt behavioural changes such as vocalisation on handling or resentment of being handled may not be as prevalent in cats as in dogs or other obligately social species.

Behavioural observation is a vital part of pain monitoring and it is important to remember that owners may be unaware of the cat's pain and therefore unable to report it.

Careful history taking may be needed to identify behavioural changes such as:

- increased resting
- decreased locomotion
- difficulty in moving or grooming
- problems interacting on a social level either with cats or people.

Sources of chronic pain in cats

Orthopaedic changes may be the most common source of chronic pain in the elderly cat, with osteoarthritis being a common finding. Degenerative joint disease is reported to be present in 90% of cats over 12 years old (Hardie et al 2002). A retrospective study of cats (greater than one year of age) radiographed for any reason at a first opinion and referral veterinary practice found that 63 of 292 cats (22 per cent) showed evidence of radiographic OA (Godfrey 2005).

Chronic injuries (for example from road traffic accidents) are particularly relevant in cats.

In addition to orthopaedic pain other sources need to be considered. For example, dental pain is believed to be potentially significant in cases of feline confrontational behaviour but most of the evidence is anecdotal. Lower urinary tract pain is also an important factor to consider in feline behaviour cases.

Chronic pain is particularly easy to overlook and it is important to remember that chronic pain is a disease, which can adversely affect the cat's mobility and therefore its ability to express normal feline behaviours. Limited movement can lead to problems of access to hiding places, resting places and litter trays and make it difficult for cats to get going after rest, which can lead to problems of timing for getting to the litter facilities. Decrease in physical movement can also lead to problems of obesity as the balance between energy intake and expenditure is affected. Chronic pain can also decrease tolerance of handling and social interaction. While chronic pain can be associated with irritability and confrontational behaviour it is important to remember that it may also lead to more inhibited emotional reactions such as depression.

Practical considerations for the cat with chronic pain

- Investigate and treat underlying source of pain
- Use analgesic medication as appropriate and trial periods of medication where there is doubt about the relevance of pain
- Provide more readily accessible elevated resting and hiding places
- Provide more readily accessible latrines and where necessary modify the tray to encourage its use
- Increase the number of trays available and place close to resting places for speed of access

- Be aware of potential pain when handling elderly cats and allow them to take the initiative
- Encourage exercise through very short but frequent episodes of toy directed play
- Tailor the games to the physical fitness of the individual

Developmental links between emotional and physical health

In some cases information about the medical history of the patient in the early weeks or months of life may hold the key to understanding their behaviour in adulthood. Severe illness in the first few weeks of life can have serious implications in terms of behavioural development and puppies or kittens that are ill may be isolated from adequate socialisation and habituation. In addition, they may develop negative associations with certain forms of handling due to the necessity for medication and nursing intervention. The link between development and disease is also a two-way street with adequate and appropriate early learning being essential for successful development of stress control mechanisms. In situations where this development is compromised there is evidence that the resulting difficulties in dealing with environmental and social stressors may predispose individuals to a range of medical conditions. This concept is well established in the field of human medicine and yet it is only recently that the connection has been studied in the context of veterinary medicine and the effects of early behavioural development have been seriously considered in medical cases.

The importance of learning

In addition to developmental connections between behavioural presentations and physical disease there is also the possibility of learned connections, and the potential for learned associations makes chronological history taking essential in behavioural cases. During the association process it is certainly possible that a link between physical and emotional factors may be relatively obvious but due to the process of generalisation and the concept of self-protection this link can become increasingly well disguised with time.

Conclusions

Behavioural conditions can be related to natural species specific behaviours and commonly result from unintentional and inappropriate learning. However, exclusion of physical health factors always needs to be considered in behavioural cases especially when behavioural symptoms are sudden in onset, signs show an unexpected form of progression and there is a poor response to conventionally accepted forms of behavioural modification. Similarly, the potential for an underlying emotional reason for physical change should not be ignored, especially if physical disease is recurrent, patients show concurrent alterations in behavioural responses and there is a poor response to conventionally accepted forms of medical therapy. The interplay between emotional and physical health is an important consideration when making a diagnosis. It is also important to consider emotional health when handling patients in routine consultations and when deciding on treatment options.

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Optimising the Veterinary Experience – Emotional Responses in Small Animal Patients and the Importance of Stress Audits

Introduction

Visits to the veterinary practice can be stressful for both patients and clients as well as for practice staff. Many owners will delay bringing their pet to the practice because of their negative expectations and this can lead to delays in the detection of disease and consequent welfare considerations for their pets. Fearful and frustrated behaviour in cats and dogs can also increase the potential for injury for owners and practice staff. By viewing the veterinary visit from the animal's perspective it is possible to anticipate and prevent problematic behaviours which are the result of negative emotion and enhance the welfare of everyone concerned.

Dealing with behavioural challenge in the consulting room

One situation in which behaviour directly impacts on the first opinion consultation is when the behaviour of the pet makes the clinical examination particularly challenging. When a patient is motivated by fear-anxiety the repulsion behavioural responses, which are designed to make the veterinary staff move away from the animal, are the ones that are most noticeable and certainly pose the biggest risk in terms of staff injuries. However, avoidance behaviours designed to move the animal away from the vet and appeasement and inhibition behaviours, which are used to actively or passively gather information from the situation, are equally important in terms of determining the emotional state of the patient and interacting with it appropriately. It is also important to remember that not all challenging behaviour in the veterinary context is related to fear-anxiety motivation and the potential role of frustration should not be underestimated. Frustration may be seen in addition to fear-anxiety particularly when the animal perceives that it is not able to utilise its preferred behavioural response to remedy the fear-anxiety triggering situation. Frustration may also be seen alongside seeking (desire) motivation, for example in relation to lack of ability to obtain social interaction in canine patients or lack of ability to retain control in feline patients. Frustration is characterised by an increase in intensity and speed of the animal's behavioural responses and also an increase in confrontational nature of those responses. It is therefore important to resist the temptation to assume that all conflict or hostile behaviour from patients is repulsion motivated by fear-anxiety and to consider the possibility of confrontational behaviour as a result of frustration. Taking a few seconds at the start of the consultation to actively observe the patient and look for the body language signals that indicate their emotional state will help make the next nine minutes far more beneficial for all concerned.

Challenges of the veterinary environment

There are a number of aspects of visits to the veterinary practice which make them a particular challenge for dogs.

1. Scent challenges

Olfactory communication is important in dogs but is poorly understood by people. Failure to clean the consulting room between appointments may lead to residual levels of fear related olfactory communication and messages that increase canine anxiety. The use of the synthetic pheromone product, ADAPTIL Calm®, has been advocated in the veterinary waiting room as a means of reducing anxiety and increasing feelings of safety and security and clinical expertise suggests that using ADAPTIL Calm® at home as well will enhance the positive benefits of encountering it within the veterinary context.

2. Perception of confrontation

Many dogs perceive the veterinary environment as a hostile one and this is not surprising since they are either ill when they visit or else they receive prophylactic intervention, such as vaccination, worming or claw clipping, all of which are potentially unpleasant and even painful to endure. Failure to accurately read vocal and visual signals from dogs in the veterinary consulting room can easily lead to unintentional escalation of challenge and to defensive behaviour on the part of the dog, which they believe to be entirely justified.

Unfortunately, in dog to human interactions some of the most appeasing interactions, such as nudging, pawing and licking, are often misinterpreted as the actions of a “demanding” dog and a misbelief in the dominance myth can in turn lead to people “refusing to comply with these demands”. Without the reassurance of interaction these dogs can become more intense in their appeasement which in turn leads to human irritation and the use of physical confrontation in order to “show the dog who’s boss”. The onset of frustration as the dog finds itself unable to remedy the situation can lead to increased confrontation and misinterpretation that the dog’s behaviour confirms the issue of dominance. Alternatively licking and nuzzling at the owners during the consultation may be interpreted as a display of affection or even a sign of unease and this leads to an escalation of restrictive physical interaction on the part of the person, through hugging and cuddling the dog, in order to reassure it. Sadly this increased restriction is unlikely to be interpreted by the dog in this way and instead the increased restriction enhances the perception of intrusion and confrontation and makes increased fear-anxiety and concurrent frustration more likely. In terms of vocal communication the most important signals to pay attention to within a veterinary context are those that indicate a defensive interaction. However many dogs find themselves being punished for displays of appropriate defensive vocalisations, such as growling, and this can unintentionally increase the likelihood of less predictable hostile interactions. Rather than interpreting the growl as an inappropriate behaviour, veterinary staff need to assess the cause of the behaviour and try to reduce the dog’s perception of threat.

3. Poor understanding of learning theory and the application of reward

The use of food rewards in a veterinary context in order to increase positive associations with the environment is great in theory, but in order for it to be successful it is essential that the rewards are delivered at the correct moment. Unfortunately poor timing of delivery of food rewards is common place and offering treats to a dog that is still fearful may not only be limited in its use, since the dog’s emotion suppresses it’s appetite, but may also lead to an unintentional association between the presentation of food and a negative and unpleasant experience. Poor timing can also inadvertently reward unwanted responses by confirming that difficult behaviour will result in reward. For example, if a dog struggles on the table and is then put down onto the floor where it is given a food treat it will be more likely to struggle next time in order to reach the floor and get the reward. Rewards must therefore be accurately delivered in the context of appropriate behavioural responses and a good understanding of learning theory will help to ensure that this is done correctly.

4. Learning from previous experience

The response to a certain forms of handling in the veterinary context will vary considerably from individual to individual based on a combination of previous experience, preferred behavioural response to negative emotion and the individual’s threshold for frustration. It is important to be aware of each individual and its medical history in order to predict responses and to use this information to modify the way in which animals are approached and restrained.

When considering feline patients some of the same considerations will apply. Scent is a significant issue for a species which relies so heavily on this sense when it is perceiving and dealing with potential conflict. Perception of confrontation is also an issue for cats particularly when the people interacting with them fail to remember the distinct differences in their social behaviour from obligate social species such as dogs and people. The non-obligate social identity of the cat raises some specific considerations when dealing with feline patients.

1. Moving away from home

Cats are territorial creatures and they rarely leave their home environment. When they do the process of transportation is often associated with a negative destination such as the veterinary practice or cattery. As a result the cat basket and car become conditioned aversive stimuli and the sight of the cat carrier or the experience of travelling commonly triggers anxiety responses. Indeed the cat carrier is often seen as a fear-inducing stimulus and hostile encounters around the basket add to the tension and fear related to the experience of leaving home. Repeated trips to the veterinary practice lead to a build-up of learned associations, which prepare the cat for conflict. In most cases owners keep the cat carrier in a cupboard and only bring it out when they are transporting the cat to the practice. This favours a rapid association between the carrier and the unpleasant experience and results in the cat arriving at the practice in an agitated and aroused state.

2. Coping with restrictive handling

During a veterinary examination there is a need for intimate handling and a level of physical restraint. Cats are commonly lacking in appropriate habituation for such procedures and since the primary feline behavioural response to negative emotion is avoidance this decreases their inherent tolerance of close physical contact. Handling cats in a way that restricts their perceived level of control over the situation will also exacerbate feelings of confinement and increase the likelihood of frustration and of confrontational behaviours being displayed. It is important to remember that the veterinary practice is often associated with pain or discomfort associated with disease, treatment or even prophylactic procedures such as vaccination or worming. The possibility of negative emotional reactions to the veterinary context are therefore further complicated by the conditioning of a fear response through association with pain or discomfort.

3. Diffusing conflict

One of the major differences between cats and dogs in relation to displays of challenging behaviour relates to their differing capacities to diffuse conflict once it has occurred. Dogs are social group living animals with an inherent need for social interaction and as a result of their social structure they have a range of appeasement behaviours, which enable them to diffuse conflict. In contrast the cat has a social system based on solitary survival and while they can value and appreciate social interaction they have no fundamental need of it. At the end of the day cats are solitary survivors and their communication systems are largely based on a desire to avoid strangers and keep their distance in order to avoid confrontation. However, many of these signals are ineffective in the veterinary context and the likelihood of physical confrontation is therefore increased. In adult cats the lack of an obligate need for social interaction means that the role of appeasement behaviour is minimal and this leads to an inability to diffuse conflict. This has serious implications in a veterinary context where cats find that they are unable to maintain a safe distance and are therefore more inclined to lash out with intense repelling or confrontational responses in order to deal with the perceived threat.

Preparing patients for the specific experience of the veterinary visit

It is important to take time to introduce kittens and puppies to the range of activities associated with the veterinary visit. Habituating kittens to confinement, travel and examination in gradual stages will be the most successful way of decreasing the risk of unwanted behavioural responses during veterinary examination and creating a positive relationship with the veterinary practice. A similar approach is needed for puppies with the aim of establishing a positive but calm expectation of the veterinary environment and ensuring that appeasing interactions are not mistaken for friendliness and inadvertently encouraged

Assessing patients

When patients are showing behavioural indicators of negative emotion it is important to determine whether

- The emotion is justified by the context
- The behavioural response is justified by the emotion
- The behavioural response is proportional in intensity and duration

When the answers to these questions are yes but the behaviour being expressed by the animal is problematic for humans it is important to ask some further questions:

- i. is the environment (physical) meeting the environmental needs of the animal?
- ii. is the environment (social) meeting the species specific needs of the animal?
- iii. is there evidence of frustration – are expectations realistic and able to be fulfilled?
- iv. is there evidence of emotional conflict?
- v. is there evidence of inappropriate learning?

Within the veterinary context neither the physical nor the social environment will be fully meeting the needs of the animal and minimising the negative impact of the veterinary visit is therefore essential in order to decrease unwanted behavioural responses, which are justified by negative emotion which in turn is justified by the veterinary experience. In many cases the intensity and duration of the behavioural response in this context is not proportional, due to the involvement of frustration in addition to the motivation of fear-anxiety. It is therefore important to consider ways in which our patients can be given a perception of some element of control during their veterinary experience and some degree of success from their chosen behavioural response.

When the emotion and behavioural response are not justified by the context and the behavioural responses is out of proportion in intensity and duration the following approach will be necessary:

- i. identify which emotional motivation is involved
- ii. identify the factors that are triggering that emotion
- iii. if the emotional motivation is inappropriate in relation to the triggers, work to alter it using behavioural modification
- iv. in the meantime either prevent exposure to the trigger or ensure that the animal has appropriate and successful means of expressing and responding to the emotion

In the context of the veterinary visit it is unlikely that there will be sufficient time to work in this way and therefore consideration of chemical restraint in order to complete necessary tasks, while minimising the negative emotional impact is important.

The influence of emotional health on clinical decision making

There are numerous examples of when emotional health of the patient needs to be considered in the context of making clinical decisions. Some examples include:

Bitches suffering from false pregnancy

There is a need to consider the underlying emotional motivation of care in these cases and the potentially damaging emotional effect of removing toys in terms of leading to increased frustration of the care system. The influence of prolactin on anxiety also needs to be taken into account when deciding on appropriate medical management of this condition and on the timing of surgical neutering in relation to false pregnancy.

Canine neutering

A common reason for owners to approach the veterinary practice during their puppy's adolescence is to discuss the issue of neutering. There is a culture in the UK and in many other countries for recommending neutering and there is a list of benefits that are usually cited. These include:

- Prevention of unwanted breeding.
- Prevention of breeding with dogs of unsound temperament
- Reduction of road traffic accidents associated with male dogs roaming in search of potential mates.
- Prevention of "dog fights" related to bitches in season
- Prevention of frustration in entire males associated with cycling females in the neighbourhood.
- Removal of the inconvenience factor for owners of bitches
- Reduction in "inter-bitch conflict" in multi dog households
- Removal of the risk of pseudo pregnancy in bitches along with associated behavioural signs.
- Removal of the risk of pyometra
- Removal of the risk of ovarian and uterine neoplasia.
- Reduction in the risk of mammary neoplasia associated with earlier neutering
- Removal of the risk of testicular neoplasia

Whilst these benefits can be significant it is also important to consider potential behavioural consequences of surgical neutering and to make the decision on an individual basis. In some situations, there may be behavioural caveats which make it more appropriate to delay neutering, such as issues of low confidence in male dogs and timing in relation to seasons for bitches.

There is a great deal of debate over the appropriate timing for bitch spays in relation to the first season and very little scientific evidence as to the behavioural consequences of this. There have been some reports associating spaying with increased reactivity in bitches but the numbers studied were relatively small and a number of factors could have been involved. Once a bitch is cycling the timing of spaying needs to be carefully managed in relation to the oestrus cycle. There are surgical reasons for this but particularly in bitches with a history of high levels of prolactin at the end of her seasons there is also a behavioural consideration. Spaying in a phase of high prolactin can risk an ongoing hyperprolactinaemia and increase in anxiety and reactivity as a result. Some of these individuals will have a history of clinical pseudo pregnancy and milk production while others may have had behavioural changes associated with the hyperprolactinaemia but no clinical signs. Ideally a bitch should be neutered in anoestrus but if there is any doubt as to whether there is a residual high level of prolactin then the bitch can be given a course of cabergoline (Galastop) prior to spaying. The data sheet suggests a five-

day course for the treatment of lactation associated with pseudo pregnancy but clinical experience has suggested that a longer course of 10 to 14 days may be more appropriate in cases with significant behavioural signs.

Neutering of male dogs is often requested for behavioural reasons such as to prevent mounting, aid recall and calm boisterous behaviour. Whilst there may be justification for this approach if the behaviours are hormonally driven it is very important to remember that there are a number of emotional reasons for these problematic behaviours. If there is an underlying anxiety problem, then there is a possibility that the removal of testosterone will decrease self-confidence and be detrimental. If there is any doubt as to whether surgical castration may be detrimental to the dog, it is sensible to try reversible chemical castration before going ahead. Delmadinone acetate (Tardak) has traditionally been used to offer this option. It contains progestogens which suppress FSH and LH production but it also has a central calming effect and therefore does not give a true prediction of the effect of surgical castration. Indeed, dogs may improve on the Tardak but deteriorate when surgical castration is performed. To prevent this problem, it is possible to use an implant, which contains deslorelin (Suprelorin), a GnRH agonist, and does not have any central calming properties. This will give a clearer indication as to whether surgical castration is appropriate. There is some published research in relation to the potential detrimental effects of castration in dogs. Hart et al., (2014) found that joint disorders in Golden Retrievers increased from 5% by 4-5 times if animals were neutered under six months of age. Zink et al., (2014) found that gonadectomised Hungarian Vizslas had increased odds of mast cell tumours, lymphoma and other cancers and fear of storms compared with intact dogs. She also found that if they were gonadectomised at six months or younger they had significantly increased odds of developing behavioural problems. Hart et al., (2016) found that in male German Shepherd dogs castrated before one year of age there were a significantly higher number diagnosed with one or more joint diseases. Azkona et al., (2009) and Hart, (2001) both found that neutering male dogs was a risk factor for the subsequent development of canine cognitive impairment and Hart proposed a protective effect of testosterone. Starling et al (2013) found that males were bolder than females and entire dogs were bolder than neutered dogs. McGreevy et al., (2018) looked at age of castration relating it to time exposed to gonadal hormones and found that shyness levels are higher in castrated dogs and that “aggression” which is often associated with fear was positively associated with early castration. There is also evidence in the Human literature to show that testosterone can increase social confidence (Terburg et al. 2016) so if this holds for dogs there is the potential that castrated males may become more fearful in social situations.

The underlying message is that a blanket practice policy for neutering is inappropriate and all clients requesting neutering for their pets should be given a consultation where they can discuss their request with a veterinary surgeon. The pros and cons for the individual dog need to be discussed and the decision tailored to each case. In this way the owner can be made aware of all of the factors that need to be considered and a balanced decision can be made. After all this is the basis of informed consent for surgical procedures.

Treatment of cancer patients

In the field of oncology there are a number of ways in which the emotional health of the patient need to be considered. Firstly, there is the potential for the disease to lead to emotional change in the animal and pain is a very important consideration in this context. Secondly, emotional health needs to be considered within the context of the treatment protocol, both in terms of

potentially radical surgery and in terms of chemotherapy and radiotherapy. Finally, the potential side effects associated with some of the therapeutic protocols used in oncology may have emotional consequences for the patient.

Administration of pre-medication or sedation to fearful and anxious patients

There are two contexts in which consideration of protocols for pre-medication and sedation for fearful or anxious patients is important. Firstly, there is the consideration of the emotional impact of the veterinary experience on the patient and secondly, the consideration of safety for both staff and owner. There is the option to provide medication for the client to administer to the animal at home in preparation for the veterinary visit or to administer medication after arrival at the practice.

The role of the stress audit

It has been shown that increased negative emotion in patients during veterinary visits can be detrimental in a number of ways including reduced frequency of visits, difficulty in interpreting clinical pathology results, reduced efficacy of clinical examination, increased negative perception of the practice for owners and decreased job satisfaction for staff. The purpose of carrying out an annual stress audit is to identify aspects of the practice which are most likely to be associated with negative emotions. These can include structural aspects of the building and their influence on the flow of patients through the practice as well as procedural and personnel issues, which influence the emotional state of patients, clients and staff. It is important to walk through the practice and view the experience from the perspective of the patient, the client and the staff. The audit is usually divided into sections of the practice and will generally include the external environment around the practice, the waiting room, consulting room, prep room and hospitalisation areas as well as office space and staff areas. Each section concludes with action points and timescale for implementation, such as immediate priority, short term aim (within six months), long term aim (within one year), future planning (within next few years). These action points aim to reduce negative emotional impact and where possible increase the positive emotional outcomes for everyone within the practice

Conclusions

Understanding canine and feline behaviour is an essential skill for anyone working in a veterinary practice. This is not just an issue for veterinary surgeons and nurses but also receptionists, office staff, practice managers and cleaning staff. Everyone with any degree of interaction with patients needs to be able to see the veterinary environment from the animal's perspective. Knowledge of how dogs and cats communicate and an ability to read their, sometimes subtle, signals can help to significantly decrease the risk of confrontation and subsequent injury to clients or practice personnel. Ability to communicate effectively also reduces the perception of confrontation for the patient and can help to foster positive perceptions of the practice as well as guard against increasingly negative associations. Finally an understanding of canine and feline language is an additional skill within a veterinary medicine context since it adds valuable information to the history taking process and may be beneficial in the diagnostic process.

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The Role of the Veterinary Profession in Promoting Positive Emotional Health and Educating the Public

Behaviour is medicine

The first step to providing a meaningful behavioural service in practice is seeing the subject of behaviour from a medicine perspective. Veterinary behavioural medicine is not the same as dog training, cat training or indeed behaviour counselling. It is a medicine discipline considering the emotional health of the patient and how that affects both its physical health and its behavioural responses. Vets and nurses are considering behaviour on a daily basis, often without realising it. Questions are asked in most small animal consultations about the behaviour of the patient, whether that is in relation to the animal's feeding behaviour, its tolerance of exercise or its reactions to its surroundings. Owners will often report behavioural change when they bring their pet for veterinary consultation and expressions such as "he is just not himself" or "he is off his food" are common. While fully investigating a specific behavioural presentation takes a long time inclusion of behavioural medicine in a more general sense can and should be part of general veterinary practice.

Optimising patient emotional health

One aspect of behavioural medicine that can be effectively discussed during a ten-minute consultation is prevention. Optimising emotional health involves working toward prevention of emotional flooding. This involves working on factors related to the companion animal concerned but also improving the understanding of humans involved in caring for that animal. Within a general practice the focus of a preventative behavioural medicine service will be working with individual or small groups of animals and their owners, but the veterinary profession can also play a role in increasing understanding of emotional and cognitive aspects of health on a wider scale by ensuring that they inform the public of the importance of optimising all aspects of the health triad.

Animal related approaches

- i. Creating adequate emotional capacity
 - a. appropriate breeding and rearing
 - b. positive life experiences
- ii. Establishing good socialisation and habituation
 - a. reduce salience of everyday stimuli – reduce flow rate
 - b. create positive associations with everyday stimuli – create cold tap inflow
- iii. Creating optimal emotional resilience
 - a. Encouraging drainage behaviours
 - Chewing appropriately
 - Self-directed relaxation

Optimising understanding on the part of those interacting with the animal

- i. understanding emotional systems
- ii. recognising the need for pets to be able to respond appropriately and successfully to emotional responses
 - a. allow appropriate social play with others of the same species
 - b. understand what triggers the desire-seeking motivation and allow for appropriate exposure which allows for appropriate responses

- c. allow avoidance to take place in situations where the animal indicates that it is necessary
 - d. respond appropriately to appeasement interactions
 - e. understand the equal roles of different behavioural responses to negative emotion
- iii. learning to read signs of increasing canine and feline emotional arousal
 - iv. understanding the role of displacement activity

Increasing emotional stability in companion animals

In order for domestic pets to cope well with the pressures of living in a human environment there are certain factors which need to be taken into consideration. Some of these are outside the control of the veterinary practice but it is worthwhile advising people, who are considering taking on a kitten or puppy, to pay attention to the potential influences of genetics and early rearing environment on the behaviour of their pet. Research has specifically identified the influence of the tom cat on the boldness of his offspring and breeding from confident toms and queens will increase the probability of producing confident and emotionally stable kittens. Likewise owners need to look for dams and sires for their puppy who will provide a genetic advantage in terms of emotional stability.

During puppy and kitten vaccination appointments or post-purchase health checks it is important to ask questions about behavioural development. These early consultations are the time to offer practical advice about the importance of emotional health and advise owners to consider appropriate socialisation and habituation for their pet. Exposing kittens and puppies to a wide range of social and environmental experiences during their primary socialisation period helps to decrease the incidence of fear related responses and specific introduction to restrictive handling is essential for a cat that is destined to be a domestic pet. The associative learning processes of socialisation and habituation are extremely important in increasing the animal's perception of people, other animals and physical situations as being non-threatening. It also is involved in priming the individual's stress response mechanism so that they are able to adequately, and appropriately, control their response to stressful situations in adulthood. Socialisation and habituation tick lists can be popular and they certainly give new owners an understanding of the complex variety of things that their puppy needs to encounter. However, there is a risk that simply handing out these lists without appropriate advice can lead to over enthusiastic owners creating problems rather than preventing them. In order to maximise the benefits of exposure to novelty and challenge in the environment it is essential that the puppy or kitten is in a positive emotional state during that exposure. New people, animals and situations must be introduced in a controlled way in order to ensure that the risks of inadvertent sensitisation are minimised. The veterinary practice is the place where owners should be able to access scientifically valid information and by talking to new owners about how to carry out successful socialisation and habituation practices can help to reduce the tragic problems faced by clients who actively expose their new pet when it is anxious or fearful and actually sensitise them as a result. Once the subject of emotional health has been raised in the consultation it is important to follow this up with more in depth advice. This can be delivered through a variety of channels including appropriate literature, emotional intelligence classes for puppies, information evenings for kitten owners and nursing clinics for adolescent patients.

Identifying behavioural problems

During a general practice consultation there are many opportunities to identify behavioural concerns. In some cases, the owner will openly discuss these issues and ask the veterinary

surgeon for advice but it far more common for the owner and the pet to give more subtle information about potential or existing issues. This offers the vet the opportunity to guide the owner into investigating the issue further and thereby improving the emotional health of their patients.

What the owner says

There are many reasons why owners may be reluctant to discuss behavioural concerns with the veterinary practice.

Owners of older animals may be concerned about the potential for the vet to consider euthanasia if they report problems of disorientation or breakdowns in toilet training. Under reporting of cases of cognitive dysfunction is a limiting factor in offering medical assistance for older pets whose quality of life could be significantly improved by the use of nutraceuticals and medications. Incorporating a questionnaire into all consultations for pets over a certain age can help to normalise discussion of cognitive health before it is likely to be compromised and this can encourage owners to bring changes to the attention of the veterinary practice when they do occur.

For owners of younger animals, the barrier to talking to the veterinary practice about behavioural problems is often embarrassment and a belief that veterinary practices are not interested in their pet's behaviour. The media has helped to increase awareness of behavioural issues but it has also highlighted a non-veterinary approach which has furthered a public perception that behaviour is not a veterinary topic. Owners are more likely to ask for help from trainers, breeders, pet shop owners, friends, family or even the man in the pub. The veterinary profession has a very specific role to play through behavioural medicine and an increase in public awareness of the fact that emotional health is a veterinary issue is necessary. Mental health in the human field is often poorly understood and consequently neglected and the same is true of emotional health in the veterinary field.

In the context of a ten-minute consultation it is important to be aware of the subtle ways in which owners may seek to draw attention to a behavioural issue without specifically asking for advice. They will often try to underplay the situation and in many cases the veterinary staff need to be able to interpret what is being said by the client in order to pick up on underlying information that might indicate the need for behavioural advice. Some examples of the phrases used by dog owners and their possible meaning are shown in figure 1. Some of these comments relate to normal behaviour which the owner is finding inconvenient and these are very real concerns for that owner. They need to be addressed and advising the owner to seek help from a local reputable and positive dog trainer may be appropriate in these cases. However, these comments could also be indicative of an underlying emotional health issue and these should be dealt with in house or referred to an appropriate behavioural professional with suitable qualification (see section on referring appropriately).

Clues may also be seen in the products that the client buys from the practice and the requests they make when booking appointments. Owners who buy large quantities of an odour eliminating product or who ask to only see a female vet may be giving subtle indications that behavioural help is required. If these things are noticed they can be flagged up on the computer and veterinary surgeons may be able to ask appropriate questions in the consultation with the aim of directing the owner to sources of information or practical assistance.

What the animal says

It is very common for people to comment on work as a veterinary surgeon or nurse with the statement "it must be so difficult for you when your patients cannot tell you what is wrong". The truth is that they can and while verbal language is not available to our patients they have a range of other communication skills which they use to tell us about their physical and their

emotional health. Sadly, there is relatively little attention paid to this aspect of veterinary work during undergraduate veterinary and veterinary nurse teaching. There tends to be a concentration on the diagnosis and treatment of disease and a focus on obtaining a history from the owner but the information being offered by the patient is often overlooked. Learning to read and accurately interpret canine and feline communication is vital for veterinary practice staff. Subtle postural, facial and tail signals indicate the emotional state of the patient and this information should always be cross-referenced with the information that is being given by the owners. This is not because owners are trying to deliberately mislead the veterinary surgeon but rather because they genuinely do not understand what their pet is indicating and have often misinterpreted the signals.

Phrase used	Possible meaning	Possible underlying emotional significance
“He doesn’t like men”	“He has bitten five men this week”	Fear/Anxiety Frustration
“He doesn’t like to be left”	“He destroys the house when we go out”	Panic (Grief) Fear/anxiety Frustration
He can be a bit nervous of visitors”	“He hides behind the sofa and shakes when anyone calls”	Fear/Anxiety
He’s very pleased to see me”	“He leaps all over me and knocks me for six”	Seeking Frustration Fear/Anxiety
He likes to have company” “	He follows me incessantly and won’t let me out of his sight”	Panic (Grief) Fear/anxiety
“He’s independent”	“He won’t respond to a single command I give him”	Fear/Anxiety Frustration Seeking
“He is a fussy eater”	“He is very reluctant to focus on his food and eat his meal in one go	Fear/Anxiety

Referring appropriately

When behavioural issues have been raised in the first opinion consultation it is possible that further help will be needed. This may be provided in house by a veterinary surgeon with a special interest in behavioural medicine or a veterinary nurse who has done further CPD in behaviour and runs clinics that can offer more time to discuss issues in detail. In some practices this in house assistance may not be available or the issues that have been identified necessitate a level of behavioural knowledge that is not available within the practice. Referral of a behavioural case should be approached in exactly the same way as referral in any other veterinary discipline. If a veterinary behaviourist is available locally this may offer the best route of referral but many practices in the UK will not have this option available to them. In

other countries where there are more veterinary behaviourists available this may be less of an issue. In situations where issues are identified that are the result of justified emotional and behavioural responses and the animal is not suffering from an emotional disorder referral to a non-veterinary behaviourist may be considered. It is important to remember that the veterinary surgeon will retain duty of care for that animal and be responsible for the advice that the client receives. It is therefore vital that practices research their potential sources of behavioural advice thoroughly and only refer to those who have appropriate qualifications. In the UK The Animal Behaviour and Training Council (<http://www.abtcouncil.org.uk/>) publishes a directory of people working in this field who belong to organisations that have admission criteria and codes of practice and conduct with a disciplinary mechanism. Selecting someone from this register is beneficial but investigation of the individual should always be carried out. Members of the Association of Pet Behaviour Counsellors (<http://www.apbc.org.uk/>) must work on veterinary referral, which should ensure that the medical aspect of the case is suitably addressed. In other countries it will be important to investigate the systems of certification that are available to non-veterinarians working in the field of animal behaviour and ensure that anyone that is being considered for referral is a member of a reputable professional organisation. In the context of problem prevention working to optimise cognitive health is also important and working with trainers who understand the interplay between emotional, cognitive and physical health can be an appropriate approach.

Veterinary responsibility

Behavioural medicine is a veterinary discipline and is an integral part of first opinion practice. Rather than considering behaviour as an optional extra, or something that can be left to others outside of the profession, it is important for veterinary staff to embrace it and help to safeguard the emotional, as well as the physical, health of the patients in our care. Welfare encompasses emotional, cognitive and physical aspects of health, and behaviour is a veterinary responsibility.

Conclusions

The general practice consultation does not offer enough time to thoroughly investigate behavioural cases, but it is an ideal starting point. If the time is used wisely a great deal of very important advice can be given during the consultation, both in terms of preventative behavioural advice and guidance as to where to find suitable assistance with existing issues. Coupling this with veterinary nurse clinics, for adolescent pets, fearful and anxious patients, overweight animals and others, emotional intelligence classes for puppies, information evenings for kitten owners and a beneficial relationship with a suitably qualified animal behaviourist, will enable practices to offer a comprehensive and effective behavioural medicine service and to thereby enhance the welfare of their patients.