

Canine Behaviour and Anxiety

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COMPASSION | COMMUNICATION | CO-OPERATION | COHABITATION | CALM

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Canine sensation, perception and basic psychology:

Behind the big brown eyes- What dogs really need and want from us.

Over the last 15000 or so years we have co-evolved with our canine counterparts. During this time they have done a fantastic job of learning how to understand us, read us and co-exist with us. However, it is an uncomfortable reality that many and even most of us humans do not properly understand or know how to de-code or communicate with our dogs. Understanding how our dogs perceive the world, how they think and feel and what matters most to them is fundamental to our ability to provide for their needs and ensure we have a harmonious healthy relationship. So, here is an introductory guide to what goes on inside a dog's brain, behind the big brown eyes.

Dog perception.

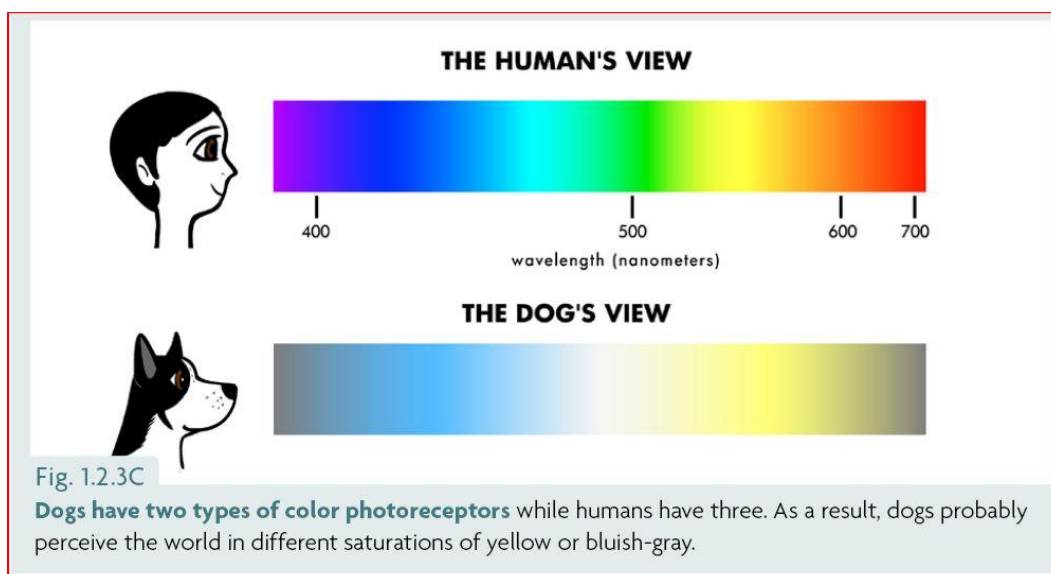
Sight.

Dogs are predators and scavengers. As such they have very good binocular vision facilitated by their eyes being forward facing on their heads to give an area of overlap for good depth perception and distance detection. As a trade-off though, they do not have great peripheral vision and cannot see anything behind them. They are particularly good at attuning to movement in their visual field.

They are better at seeing in low light than us humans and can navigate confidently at dawn, dusk and at night.

They have poor colour vision and compared to us are lacking an entire spectrum. They can only make out blue and yellow hues and cannot see or differentiate anything in the spectrum of green, red or orange.

So, when they can't find that yellow tennis ball or red Kong on the green grass – this is why! It all looks the same to them!



Hearing:

Dogs can hear far better than us people. Generally speaking, it is accepted that they can hear 4 to 5 times more acutely than we can. They can hear a wider frequency of sounds so can detect noises that are inaudible to us at the low and high end of the spectrum. *Of particular importance to remember is that loud sounds can be very confronting, terrifying and even painful to dogs* – such as thunder or fireworks.

Smell:

This is where dogs really excel. We cannot even begin to imagine the extent to which they “see” the world through scent. In fact, they are able to see in the dimension of time with their nose – perceiving things that are no longer present (this is incredible as all other senses detect only what is present in that current moment).

Dogs have a much larger nasal surface area and density of smell receptors than people and a much more advanced brain centre for perceiving and interpreting scent.

One study has shown that dogs could still detect a human fingerprint on a pane of glass 6 weeks after it had been left! Phenomenal!

Taste:

Dogs have all of the same variety of taste receptors on their tongue that we do namely: sweet, salty, sour, bitter and umami (the Japanese word for a savoury meaty taste that is stimulated by MSG and other compounds). Generally dogs have less taste buds than people (approx. 1700 compared to 9000) which has led people to conclude they cannot taste as well. However, it can be argued that dogs may be able to taste as well or even better due to the contribution of their far superior sense of smell – we all appreciate how smell and taste are linked!

Touch:

Dogs are able to perceive tactile inputs the same as we can and are able to experience sensations from extreme pleasure to severe pain. They have receptors for heat, cold, pressure, balance, movement and different kinds of painful stimuli.

Dog cognition and psychology.

Cognition refers to all the conscious and subconscious workings of the brain.

It is inherently very difficult (and sometimes impossible) to accurately observe, measure or appreciate the inner workings of another species’ brain as we can only do so in comparison with ourselves and in ways which are relevant and meaningful to us. There are often huge limitations and flaws to studies which look at dog psychology and intelligence.

This aside, it is generally accepted that dogs have the cognitive and reasoning ability of approximately a young human toddler (but with some species differences). They are self-centric and very much “in the moment”. They are more impulsive and less rational than adult people, more driven by emotion but with less ability to recognise and reflect upon their emotions.

*Dogs, like children are **very “context dependent”***, meaning how they think and feel is mostly dictated by what is happening around them and within them at any one time. Therefore, it is

always very important to consider both the external and internal environment of dogs when trying to understand how they are thinking and feeling. External sensory inputs and things such as presence of stimuli will affect what they think and do.

The 3 D's (distance, duration, distraction) which refer to triggers in the environment need to be considered.

Additionally, internal processes will hugely affect their mood and behaviour (temperature, hunger, hormones, pain, itchiness, discomfort, irritation, illness, disease etc).

As far as we can ascertain, dogs are **not capable of “theory of mind”** which is the ability to project oneself into the mind of another and understand what they are thinking and feeling. Rather, they are only aware of and concerned with how they are thinking and feeling. We do not believe they are capable of metacognition – the ability to recognise one's thoughts and thought processes for what they are, reflect upon them and transcend them (to think about their thoughts).

Of fundamental importance to understanding dog psychology and behaviour is recognising they are not moral. *Dogs have no concept of “right or wrong”, “fair or just”.* These are abstract adult human constructs and it would serve us well to remember they do not apply to other species.

Dogs are concerned only with what is “good or bad” in terms of consequences for themselves. They behave simply to obtain good consequences and avoid bad consequences, separate from any greater morality or meaning which we humans may often overlay on reality.

An important implication of this is that *dogs are actually not capable of doing anything “wrong”* – they do only what works for them and what they deem best in terms of dealing with the situation at hand and getting their needs and wants met.

Therefore, it is NEVER appropriate to punish a dog for what we consider a “wrong-doing”. Instead, we must teach them what to do and how to behave in a way which we deem desirable.

Dog emotionality.

When it comes to understanding and living with dogs, it is necessary to appreciate what they are and are not capable of feeling. It can be equally as harmful to our relationship to either discredit them the amazing abilities they do have or credit them with extra abilities they do not have. Either mistake can lead to misunderstanding and conflict.

Dogs are certainly capable of feeling:

- Anxiety
- Fear
- Stress / distress
- Grief
- Apprehension / anticipation
- Frustration

- Rage
- Suffering
- Joy
- Excitement
- Satisfaction / content
- Disappointment
- Relief

Dogs are NOT capable of experiencing:

- Regret
- Guilt
- Spite
- Vindictiveness
- Stubbornness
- Self-reflection
- Plotting revenge
- Embarrassment

What dogs need and want.

All dogs are individuals and have different preferences and priorities in terms of what matters most to them. Some are more motivated by food, others by play or exercise, others by social contact and company. However, there is one thing above all else that I would argue is of most value and importance to all dogs..... INFORMATION!

In my opinion, this fundamental concept is the most crucial and useful one a dog owner could ever learn. It shapes how we relate to our dogs and provide them with what they need to survive and thrive in our human world.

Information should be considered the most important resource to all dogs – it is in effect, their “currency”.

Think about this scenario for a moment, you are abducted by aliens and find yourself on board an alien spaceship without any other people around. You must learn by observation and trial and error how to behave in order to keep yourself safe and get what you need and want. You may find something to eat on a bench – but get harshly reprimanded when you take it. You may find a suitable place to relieve yourself, but get aggressively confronted when you do so as this is not where the aliens deem it appropriate for you to pee.

This is similar to the situation our dogs are in when they enter our human homes. This can be an intense and endlessly stress-provoking existence for our pups – fumbling their way through as best as they can – all the while with the cognitive and reasoning ability of a toddler and no verbal ability to communicate. What a challenge!

In addition, they have very limited control over their own existence and environment – they are at our mercy.

No wonder so many of them are anxious!

So, when it comes to interacting with our dogs, the most useful, life-saving, stress-relieving and precious commodity we can give them is information.

Dogs need information to work out what is going to happen, whether it is of relevance to them, what to do about it and whether everything is going to be ok.

They need information to navigate through our confusing world and keep themselves safe, ensuring they get their wants and needs met.

Dogs are always trying to get more information.

If we do not provide it or if we provide conflicting, confusing, unhelpful information, they may develop emotional and behavioural problems as a result as they attempt to obsessively monitor the environment to gather information - this manifests as anxiety and hypervigilance.

They may also provoke the environment to try and obtain more information – this can manifest as a dog being reactive or aggressive as they try and act upon their environment to see what happens and thus elicit some information about whether something constitutes a threat and what they may need to do next.

In light of the above, to give our dogs the best chance of being able to relax and behave in a way we find appropriate we need to always try our best to impart upon them information which is:

- Perceivable:
 - The information must be able to be detected as per their sensory abilities discussed above
- Relevant:
 - The info must be of use to them
 - We need to cut the confusion and try to limit the redundant overflow of info we often output – dogs have to filter through a lot of irrelevant stuff from us! Think of all the noises and body language people make when interacting with dogs.
- Clear:
 - We need to be concise, purposeful and direct with what we are saying (verbally or otherwise)
 - Ideally the information should be all the dog needs and only what the dog needs in order to decide what to do or how to feel
 - We must never be ambiguous
- Consistent / reliable:
 - The information needs to always mean the same in the same context and not vary randomly. This way the dog can accurately learn, generalise and make appropriate assumptions based on it. They can then be confident they can obtain a reliable outcome each and every time.

If dogs do not have information which fulfils the above criteria, they are likely to feel very anxious! *Anxiety is all about uncertainty. Dogs and people experience anxiety when they are worried about a potential future outcome which could be bad.*

If dogs know:

- What is going to happen
- That they CAN do something about it (they can behave to influence their environment)
- What to do about it (how to behave to gain control over their environment)
- That the outcome is going to be good (ie everything is going to be ok)

Then they will feel calm, confident and secure.

Remember, knowledge is power! This applies to dogs and people alike.
Having the information you need is a powerful way to combat anxiety!

Putting it into practice:

So, this all makes sense in theory, but how do we help our dogs by giving them good information? Try to implement these simple things:

First arm yourself with information!

- Be educated – know how your dog sees the world, thinks and feels as discussed above. This serves the basis of helping him.

Structure your interactions:

- Consistency and repetition form the basis of learning.
- To help dogs know what to do to get their wants and needs met we need to teach them.
- This is most easily and simply done with a *“sit to speak” protocol*: in practice this is just asking the dog to sit and look at you before any interaction (whether it be before getting a pat, a door opened or food).
- This is NOT about obedience or making the dog sit for the sake of it – rather this a way to *empower dogs by giving them control over their environment*. What they learn is that they can communicate with us to get their wants and needs met just by sitting and making eye contact.

Stick to a routine:

- Following a routine helps dogs know what to expect, they thrive on it!

Cut the confusion:

- Be mindful of all of the information you are giving off. Try not to dump excesses of information upon dogs – they already have a lot to deal with!
- Every movement and noise you make is something your dog has to perceive, process and interpret.
- Try to limit all the extra redundant “nonsense” you may feel it instinctive to partake in when interacting with dogs eg high pitched squealing or erratic movements.
- Endeavour to be calm, clear and minimal when you speak to them.
- Remember they may find non-verbal communication more helpful than verbal

In summary, dogs spend their lives trying to defer to us for information in order to understand their world, know what to do within it and feel safe and calm. It is up to us as responsible pet owners to be mindful of their needs and try our best to always be a clear, reliable, consistent epicentre of this most precious of their resources – information.

Debunking “Dominance”.

It's time to set the record straight and sort the fact from the fiction.

“Dominant” is one of the most common descriptive words thrown around when talking about dogs. It is often quoted to be the reason for almost any dog behaviour in any context, from humping people's legs at home to displaying aggression at the dog park. The concept of “dominance” as motivation for dog behaviour is one that people have proclaimed as gospel and believed wholeheartedly for many decades.

However, it is actually just a myth. A falsehood and a fallacy. It was debunked thoroughly a long time ago but sadly was repopularised in the early 2000's by high profile but very misguided televised trainers such as Cesar Milan “The Dog Whisperer”.

It is fascinating where the whole “dominance” myth came from. It arose from a series of studies conducted during the 1950s-1970s on captive and unrelated wolves. The researchers observed captive wolf behaviour and as you can imagine, what they saw was a lot of conflict, aggression and fighting. Some wolves used overt aggressive behaviour to keep others away and to keep themselves and their valuable resources safe. Some wolves showed fearful body language and withdrew or completely shut down.

The scientists observed the wolves from a human perspective and the conclusion they made was broadly: wolves use physical force and aggression to set up and maintain a linear social hierarchy of dominance in order to control interactions and resource distribution.

The aggressive wolves who displaced other individuals were labelled “dominant”, while the animals who withdrew or fled were labelled “submissive”.

What was actually happening was that the stressed, confused, conflicted and fearful animals were behaving in the best way they knew how to in order to cope and keep safe. When confronted with social conflict, the behaviour they manifested was based on their genetic temperaments, their past experience and learning and the environment.

The wolves had no concept of “dominance”, nor the desire to establish themselves as leaders of the pack or set up a social hierarchy of power and influence. They were simply trying to keep themselves safe in this unnatural setting.

Even wolves in the wild do not have a linear hierarchical social structure with rigid rank as once thought. They function as a close family unit and share resources.

Unfortunately, the social hierarchy interpretation, despite being inaccurate, started the wave of “pack”, “alpha” and “dominance” theory that was soon to flow unscientifically and relentlessly down the evolutionary tree to immerse our domestic dog companions.

The paradigm of pack theory and dominance hierarchies, while false even for wolves, was applied to dogs. There was no justification for this and it was an unfounded leap of assumption which led us further astray from properly understanding dog psychology and behaviour.

Dogs and wolves did descend from the same ancestor BUT dogs have undergone approximately 10000-15000 years of radical domestication and are different from wolves in every conceivable way: physically, psychologically, socially and behaviourally.

Domestic dogs are NOT pack animals. They may have preferred associates and companions with which they like to spend time but they do not work together to form packs.

To put things in perspective, concluding from the research that dogs use aggression to create a dominance hierarchy was akin to placing a group of unfamiliar chimpanzees in a cage, observing their unruly behaviour and then deciding that this is how modern human households and all of human society operates. Completely inaccurate, misleading and inappropriate.

So, why do dogs do what they do, if not to establish dominance??

To understand how and why dogs behave as they do, we have to understand how their brains work. For simplistic and comparative purposes, it helps to recognise that dogs have the cognitive and reasoning power roughly equivalent to a young toddler - an 18-24 month old human child (though there are certainly species differences in regards to several faculties).

Picture two toddlers playing in a sandpit - one toddler pushes the other over and snatches their toy - you would not conclude from this interaction that the toddler who snatched the toy did so in an attempt to establish leadership, exert dominance, gather social influence and climb a ranking system. Rather, we understand that the interaction was based simply on the motivation of the child to obtain the toy. This is because at this developmental stage toddlers are self-serving, emotionally impulsive and lacking inhibition. They have minimal to no understanding of how their actions make the other child feel and no concept of adult human patterns of social structure.

In the same way, behaviour in dogs is the result of their underlying emotion and the motivation to get their wants and needs met in the particular time and context. Their actions are not founded on any pre-meditated attempt to establish leadership, hierarchy or dominance.

Furthermore, scientifically, “dominance” was never meant as an adjective to describe an individual’s personality or drive (as we would if we describe a dog as “dominant”). The definition of dominance is actually just the OUTCOME of a given SINGLE interaction between two or more individuals when they are competing for access to a specific resource in a specific CONTEXT.

For example, if Dog A is eating a bone and Dog B comes over, stares, stiffens, growls and scares Dog A away, then Dog B who ends up with the bone is said to have been “dominant” in this interaction. However, “dominance” is not an inherent trait of the individual (Dog B) who took the bone it is just the OUTCOME for that dog in that moment.

In contrast, in a different setting at a different point in time, Dog A who retreated from the conflict over the bone may win a contest over a different resource such as a toy or his owner’s attention. He may find toys or attention a more valuable resource than a bone and thus may be more willing to risk an aggressive conflict over this resource.

So, the outcome of any conflict depends on the emotion and motivation of the animals involved at the time. This depends on to what extent they value the resource compared to risking aggression or injury. It also depends on their confidence in their ability to win the contest - which is based on prior learning experience interacting with existing temperament (genetics).

It is extremely important to recognise that if a dog is showing aggression towards another dog or a person it is never due to dominance. Rather, in all almost cases there is underlying fear, anxiety and insecurity which is causing the aggression.

In many cases, there may be underlying medical causes contributing such as pain, disease, discomfort, itchiness, hormones, or brain disturbances such as perception, processing or emotional issues. This is why it is always necessary to first investigate a dog's general health when they present with behaviour problems.

In fact, if two dogs are persistently fighting or having aggressive interactions one of the individuals is almost always abnormal and is suffering an anxiety disorder or other underlying problem. Aggression is considered abnormal where it is out of context or excessive in frequency, intensity or duration. Persistent anti-social behaviour between co-habiting dogs means one or more of them has a medical or emotional problem compelling them to be anti-social despite the inherent unpleasantness and risk of harm associated with this coping strategy.

Just like in people, where there is any anti-social behaviour, there is an underlying emotion negative emotion. The aggression is an attempt to control the situation and make oneself feel better. If we feel happy, calm, content, safe and relaxed, we do not feel the need to be anti-social or aggressive. It is the same with dogs!

Now the really important point is that falsely labelling dogs and misunderstanding them as dominant is extremely harmful to our relationship with them. If we believe our dogs are trying to be dominant and that this is the motivation for their behaviour, then naturally we assume that to deal with their behaviour we need to be dominant. We infer that we need to be the "leader of the pack" and "show the dog who's boss" to make them "submit".

This inevitably leads to people being deliberately confrontational and aggressive towards their dogs in a well-intentioned but misguided attempt to be dominant. They may use physical force or punishment to try and ensure the dog "knows its place".

However, dogs have no comprehension of any of this and suffer the fallout.

Sometimes it can look like it works. If a dog may appear to be "submitting" in response to a person's confrontational dominance techniques, but they are simply responding to the threat by showing fearful non-threatening body language in an attempt to communicate they wish to defuse the conflict and avoid a fight. When we believe a dog is being submissive to us this is a false misinterpretation - they are actually showing appeasing body language because they are scared and are trying to calm us down and avoid provoking us further or escalating the aggression.

There is no such thing as "submission" - "appeasement" and "deference" are more appropriate terms.

Dogs who appear "submissive" are either fearful and anxious and lacking confidence or are socially adept individuals who try to make other dogs feel at ease and maintain harmony in interactions. In contrast, dogs who are normally described as "dominant" are those who are socially inept – they try to control social interactions with the "fight" response. They are fearful and anxious but have learned that anti-social displays and aggression are successful in getting their wants and needs met and helping them feel safer.

Sadly, when people use confrontation, aggression and physical force to try and control dog behaviour, it inevitably involves increasing the dog's fear, anxiety and confusion which in

many cases will lead to worsening and escalating aggression as the dog tries to defend itself and gain some control of the scary interaction. The human-animal relationship and bond can then quickly dissolve and our treatment of the dog may become abusive - as they have no understanding of what is going on, why we are being aggressive and frightening and what to do to make us stop. Our misunderstanding of our dogs often leads to a life-time of confusing stressful volatile interactions, punishment or even in some cases relinquishment or euthanasia for the dog. This is why we have a duty to understand our dogs. It is our responsibility and privilege to provide for their needs and cohabitately calmly and compassionately with them, as comrades, not adversaries.

In summary, the term “dominance” is not applicable to dogs as a personality trait, motivation or drive. It is not a reason why dogs behave in certain ways towards each other or towards humans. There is no such thing as a dominant dog. Theories centred around the out-dated and debunked dominance or alpha-dog concepts should never influence our interactions or training techniques for dogs as this is confusing, unhelpful, harmful, dangerous and unethical.

Dominance is now considered a swear word in veterinary behavioural medicine. Let's do away with dominance and live peacefully with our dogs. After all, they are not trying to take over the world.

For further information check out:

<https://www.dogwelfarecampaign.org/why-not-dominance.php>

<https://kb.rspca.org.au/knowledge-base/what-is-the-rspcas-view-on-dominance-dog-training/>

<https://positively.com/dog-training/myths-truths/pack-theory-debunked/>

<https://www.whole-dog-journal.com/behavior/debunking-the-alpha-dog-theory/>

NO PUNISHMENT!

It is super important not to use punishment for interacting with or training our dogs. Especially anxious dogs.

Using punishment is NEVER recommended and never ok from neither a scientific learning perspective nor an ethical perspective. **We now know that punishment makes pets more anxious, confused and fearful and commonly causes or worsens aggression as the pet tries to defend itself. Punishment can be dangerous and damaging.**

Animals are not moral creatures and to them there is no such thing as “right or wrong”. Rather there is only “good and bad” in terms of consequences for themselves. They never mean to do anything “wrong” and are simply not capable of being “naughty”. Even if they behave in a way which is undesirable to us, they are simply doing their best to get their wants and needs met the best or only way they know how. It is never appropriate to punish our dogs – there is always a better way to change their behaviour.

Firstly, a bit of clarification. There are 2 types of punishment.

“Positive punishment” is applying an aversive unpleasant stimulus to reduce the likelihood of a behaviour occurring in the future. I.e the pet does something we don’t like and we do something that is scary or painful to the pet so that their behaviour is paired with a bad consequence and they do not do it again. Eg a dog jumps up at us and we yell at it or hit it.

In contrast, “negative punishment” means taking away something positive / something reinforcing that the pet likes in order to reduce the likelihood of the associated behaviour occurring in the future. I.e the pet does something we don’t like and we take something good away so that their behaviour is paired with a bad consequence and they don’t do it again. Eg a dog jumps up at us and we turn our back, disengage from interacting and remove all attention from it.

Note: the terms “positive” and “negative” do not mean good or bad but rather are mathematical definitions referring to whether something is added or subtracted from the situation to change the animal’s behaviour. In the case of positive punishment – we add something bad in. In the case of negative punishment – we take something good away.

This handout refers to positive punishment.

Please use this handy pneumonic tool set out on the following page below to help remember why we must never use punishment (physical or verbal) on our pets.

NO PUNISHMENT

Negative emotional state created for the pet. Makes the animal feel scared / anxious / confused / conflicted. May worsen aggression.

Only works temporarily, if at all. It may suppress a behaviour in the moment but does nothing to address the underlying motivation or emotional state causing it. In fact, it worsens the emotional state by shutting down the pet's coping strategy.

Perfection is required - timing, consistency, contingency, adversity has to be perfect otherwise punishment becomes abuse. This is almost impossible to implement in practice.

Unnecessary - There is no need or excuse for forceful or fear-based training. Using positive reinforcement techniques is proven to be faster, more effective and more humane as well as create a better relationship between pet and owner. Using force is proven to make animals more aggressive and dangerous!

Negative association set up with owner because they are paired with bad consequences. This erodes the bond between pet and owner and destroys the trust our pets have in us.

Ineffective / Inhumane / Inappropriate - punishment does not work in the long-term (even though it may appear to work in the moment). It does not teach the animal what to do. It is also usually implemented poorly and incorrectly. It is unethical to cause fear and pain in our pets.

Suppresses behaviour. Punishment may stop a behaviour but this leads to animals masking behaviours while not changing their motivation to perform them. This can result in other undesirable behaviours occurring and a generally worsening emotional state.

Human-animal bond is weakened and damaged because we are perceived as scary, volatile and aggressive by our pets.

Motivation to train and perform is reduced. Animals will not be willing to interact with or work for their owner if they are scared of bad outcomes and "walking on egg shells". They become shut down and unwilling to try, guess or offer behaviours. Their creativity is destroyed.

Euthanasia is more likely - pets who are punished are more likely to be euthanased or relinquished due to undesirable behaviours being worsened and a deterioration of emotional state and relationship with owner.

New behaviours are not taught. It may show an animal what not to do but does nothing to show them what they should be doing instead. This leaves them confused and frustrated which may result in other harmful behaviours developing.

Time to move on. Punishment is outdated and must now give way to positive and progressive techniques. Trainers who rely on punishment are not up to date with their education or have refused to evolve with cultural and scientific changes.

Signs of fear and anxiety in dogs: The 5 “Fs”

When a dog is anxious, fearful or experiencing emotional distress, it will exhibit behaviour from one of five different categories. These five potential coping strategies are termed “the five Fs”.

The 5 “fs” are: FIDDLE, FLIRT, FLIGHT, FIGHT, FREEZE

Which one a dog chooses at any given time is dependent on many factors such as genetics, prior learning and the present situation or context.

The 5 Fs are very useful tell-tale behaviours to indicate if a dog is feeling anxious or fearful. It is important to recognise that when a dog is using one of the 5 Fs, this shows that it is in a heightened and negative emotional state. It is not calm and rational and is struggling to deal with the situation.

The 5 Fs are accompanied by an increased state of arousal in the brain and body. “Arousal” is the measure of the activity or firing in the sympathetic nervous system – classically called the “fight-flight” nervous system. When the sympathetic nervous system fires, there are lots of physiological changes in the brain and body throughout the nervous, cardiovascular, gastro-intestinal, hormonal and immune systems. This is why anxiety and fear are so harmful to the brain and body long-term. Anxiety affects health, welfare and quality of life. It also renders animals more reactive, irrational, impulsive and dangerous. It is crucial to be able to read dog body language to know when a dog is suffering abnormal levels of anxiety and fear by becoming familiar with the fundamentals of the 5 Fs.

FIDDLE:

- Correct term is “displacement behaviour” because fiddling displaces emotion and arousal into active behaviour so that the animal can act to feel better.
- When an animal is fiddling it is in a moderately high or “yellow” (on the traffic light system) state of arousal and anxiety
 - Fiddling is often seen first before an animal escalates to a red zone of fear / panic and deploys one of the other strategies of flight, fight or freeze
 - Fiddling can be a warning sign prior to impending aggression
 - If we do not recognise a dog’s distress at the fiddle stage and alter our interaction, it may then switch to aggression
- Fiddling is often completely missed, overlooked or misinterpreted by people if they are not familiar with or trained to read dog body language. But once aware of it, it becomes obvious.
- The purpose of fiddling is to achieve one or more of the following:
 - Self-soothe – reduce arousal state and calm down
 - Deal with an internal conflict
 - Communicate to others a state of anxiety / distress
 - Disengage from the social environment ie appear distracted in order to stop or avoid an interaction
- Common examples in dogs:
 - Looking away – averting gaze or turning head
 - Yawning, often with a high pitched vocalisation at the end

- Lip-licking
- Body shake / shake off
- Pretending to sniff the ground
- Pretending to scratch themselves
- Pacing
- Self-directed behaviour eg licking paws or chasing tail
- Humping
- Human examples include:
 - Nervous laughter
 - Playing with hair or accessories
 - Tapping fingers or moving body parts
 - Checking phone or device

FLIRT:

- This is correctly termed “appeasement” behaviour.
- Appeasement is an attempt to display non-threatening affiliative behaviour to send a clear message that you mean no harm and have no aggressive or anti-social intent.
- In effect it is trying to say “please don’t hurt me, I am no threat and I don’t want any trouble”.
- Appeasement behaviour is often misinterpreted and mislabelled as “submission” due to the previously common but now thoroughly debunked and disproven “dominance” theory of dog behaviour. “Submission” is a misnomer because appeasement behaviour is nothing to do with social hierarchy. It is simply a socially adept way of defusing conflict and protecting oneself pre-emptively.
- Common examples in dogs include:
 - Licking our faces or faces of other dogs
 - Rolling over and showing the belly
 - Blinking slowly or looking away, averting gaze, turning away
 - Moving in slow motion
 - A low tentative tail wag

FLIGHT:

- An attempt to flee and move away from the threat or fearful stimulus
- May include hiding
- Distance increasing behaviour
- This is often the first choice – at least initially
- Flight is not an option when cornered, tethered on a lead or restrained – which means in these situations the dog will need to use one of the other options instead
 - This is why for example dogs may be more reactive and aggressive when on-lead

FIGHT:

- The use of anti-social behaviour / aggression
- Includes entire ladder of aggression from body posturing such as stiffening and staring through growling and snarling to actually lunging, snapping and biting.
- Distance increasing behaviour – attempt to try and get the threat to move away

- Always defensive and always secondary to fear and anxiety (no such thing as offensive or “dominance” aggression)
 - Even when an animal is actively moving aggressively towards the target it is still defensive aggression – the animal is perceiving a threat and following a “I must get you before you get me” philosophy
- Usually a last resort – at least initially
- Reinforced by prior learning of success – when an animal is pushed to using the fight response it usually quickly learns that this is the extent it needs to escalate to in order to deal with the threat and make itself feel safe again – this means aggression is quick to develop and worsen with time as it becomes a reliable coping strategy
- People often make aggression worse by not recognising or responding to the dog’s prior strategies

FREEZE:

- Stop moving in order to appear non-threatening and prevent provoking or escalating any further interaction or conflict
- This is a way of ceasing to act on the environment in the hope that the threat passes
- Shut down and inhibited state
- Often a consequence of learned helplessness
- Must not confuse with being calm
 - some people may think a dog is ok or coping because they are physically still and not overtly panicking however, they are actually in a state of severe internal fear and distress
- Often animals who are frozen are in an even worse emotional state than those using the other strategies because they are not confident enough to do anything to try and help themselves despite being terrified.

Remember, if you see an animal doing one of the above 5 F behaviours then it is clear that it is suffering anxiety and fear and needs help to cope with the situation and calm down. The 5 Fs need to be recognised and respected.

Facial Expressions of STRESS



LOOKING AWAY



WHALE EYE



CLOWN MOUTH



BROW FURROWED



EARS ALERT



EARS BACK/FLATTENED



EARS SIDeways



GRINNING



CHEEK PUFFING,
TEETH CHATTERING



SQUINTING,
BLINKING

FIDDLE: Early Stress Signals in Dogs



LIP LICKING



VELCRO DOG



PAW LIFT



SCRATCHING



YAWNING



MOUNTING



SHAKE OFF



HYPERVIGILANCE



CONSTANTLY LICKING
SELF OR OTHER



SNIFFING
OR SNEEZING

Physiological Signs of STRESS



PANTING



PUPILS DILATED



SHEDDING



URINATION/
DEFECATION



HYPERSALIVATION



NOT TAKING
TREATS



TENSE MUSCLES



LIPSTICK SHOWING



GRIMACE



SWEATY PAWS



VOMITING



RED SCLERA

Severe Stress Signs in Dogs

FIGHT



BARKING



BARE TEETH



HACKLES



LIP LIFT

FREEZE



MOVING IN
SLOW MOTION



FROZEN

FLIGHT



RUNNING AWAY



HIDING



DUCKING
BEHIND LEGS



STARTLES EASILY

Body Language of Fear in Dogs



Slight Cowering



Major Cowering

More Subtle Signs of Fear & Anxiety



Licking Lips
when no food nearby



Panting
when not hot or thirsty



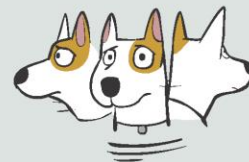
Brows Furrowed, Ears to Side



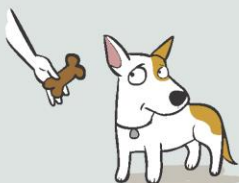
Moving in Slow Motion
walking slow on floor



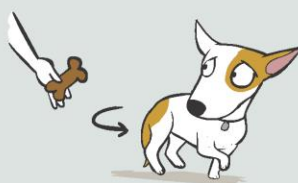
Acting Sleepy or Yawning
when they shouldn't be tired



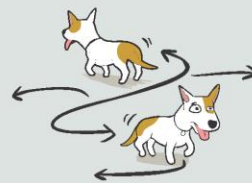
Hypervigilant
looking in many directions



Suddenly Won't Eat
but was hungry earlier



Moving Away



Pacing

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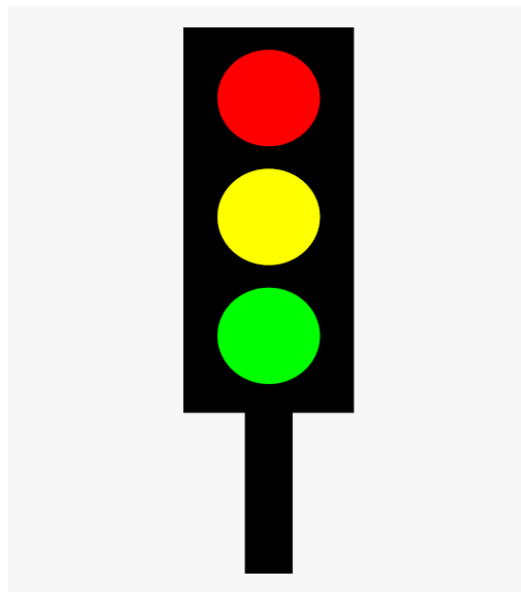


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The Traffic Light System

Assessing the emotional state of pets.



This system aims to gauge the emotional state and physiological arousal levels of your pet. It uses observation of behaviour to determine how much activation of the sympathetic nervous system is happening. It is very important to recognise what traffic light zone your pet is in by reading their body language and behaviour. You can then tell how they are coping and what intervention might be needed. It is also imperative to know what state your pet is in so that you can keep yourself safe by avoiding becoming the target of aggression.

GREEN:

- Normal state
- Relaxed, calm, content, comfortable
- Rational and reasonable
- Can think clearly, process information normally and make good decisions
- Behaviour is appropriate for the context
- Rest and sleep can occur
- Healthy physiology

YELLOW:

- Moderate activation of the fight-flight nervous system
- Emotional and physiological arousal is occurring
- Negative feelings of anxiety, nervousness, apprehension, fear, conflict, agitation
- Rational processing and cognitive function becomes impaired
- Behavioural coping strategies such as displacement, disengagement and fiddling may be observed
- Increased motor-activity
- Impulse control is impaired
- Behaviour becomes more reactive, erratic and unpredictable

- Difficult to concentrate or learn
- Unhealthy state to be in

RED:

- Severe activation of the sympathetic nervous system
- Very high arousal levels
- Emotional state is one of panic and extreme fear
- Complete loss of rational processing and impulse control
- Behaviour is very reactive and automatic
- Priority is self-preservation
- Complete loss of impulse control may occur
- Default to learned defensive coping strategies such as fight or flight
- May become very dangerous!
- No “good” learning can occur
- No training or behaviour modification is possible

HYPERAROUSAL



HYPERACTIVE



DESTRUCTIVE



PANTING



FACIAL GRIMACE



UNABLE TO FOCUS



SNATCHING TREATS



MOUNTING



LIPSTICK SHOWING



**CONSTANTLY JUMPING
AND MOUTHING**

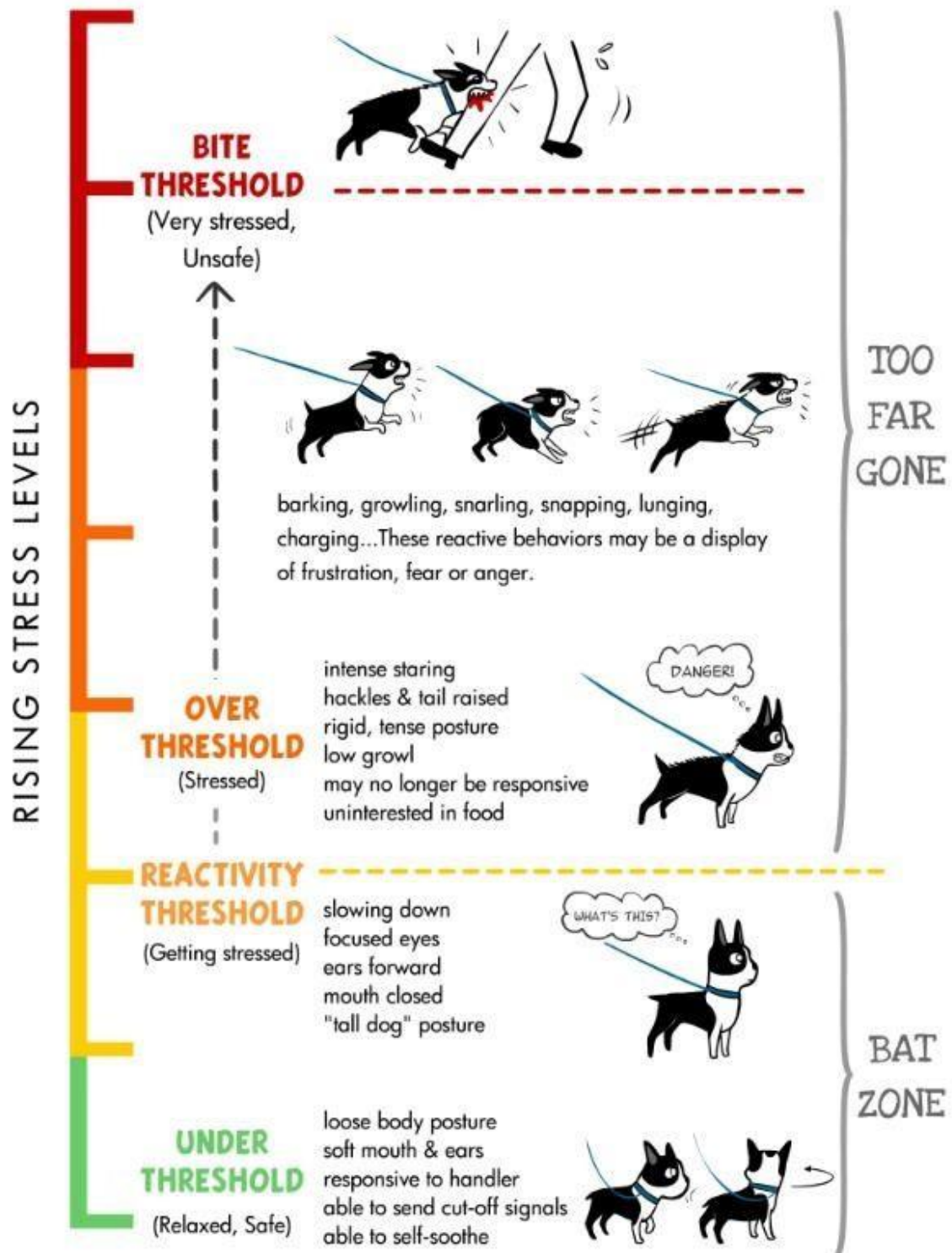


EXCESSIVE FRIENDLINESS

Hyper-arousal refers to the fight-flight nervous system being too turned up and signifies the dog is in yellow zone. It manifests many recognisable body language signs and behaviour traits (as above). Dogs experiencing anxiety and hyper-arousal are often tense, boisterous, over-stimulated, manic, scattered and doing fiddle behaviours. They are not able to listen or learn well because they are too emotionally escalated.

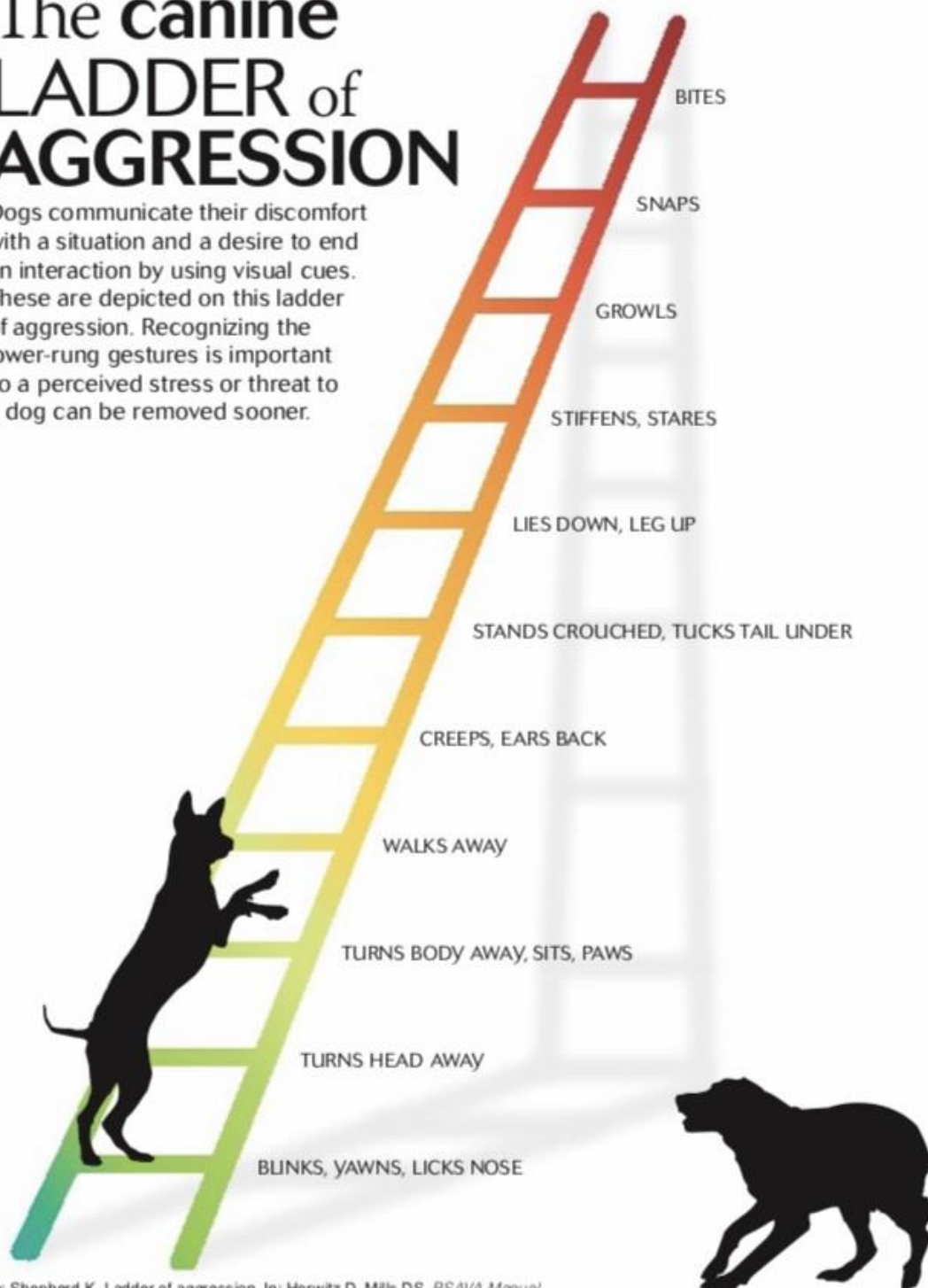
REACTIVITY CHART

WHEN DOG ENCOUNTERS A TRIGGER



The canine LADDER of AGGRESSION

Dogs communicate their discomfort with a situation and a desire to end an interaction by using visual cues. These are depicted on this ladder of aggression. Recognizing the lower-rung gestures is important so a perceived stress or threat to a dog can be removed sooner.



Source: Shepherd K. Ladder of aggression. In: Horwitz D, Mills DS. *BSAVA Manual of Canine and Feline Behavioural Medicine*, 2nd ed. 2009.

Problem Behaviour Vs Behaviour Problem?

Identifying and categorizing behaviour issues in pets

It is of fundamental importance to establish whether your pet is displaying a “problem behaviour” or rather a “behaviour problem”. This enables us to correctly assess and diagnose your pet and address the issue in an appropriate, effective, efficient and relevant way. Having an accurate understanding of what is going on also means that we can ensure no unnecessary suffering or conflict occurs and that we can first do no harm. We can then limit risk and optimize success all while strengthening your bond with your pet. How do we tell the difference?

Problem behaviour:

- Normal for the animal in the given context
- Appropriate behaviour in regards to the species, breed, sex and age / life stage.
- Adaptive ie the animal benefits from it or it serves a purpose
- Undesirable for the owner
- Patient is psychologically, physiologically and emotionally normal
- No mental illness present
- Responsive to training

Examples:

- A dog jumping up as part of normal greeting behavior because it has been reinforced for this in the past and has not been taught an alternative polite greeting
- A 10 week old puppy toileting inside as it has not yet been taught where to preferentially toilet
- A dog pulling on the lead when on walks because it is excited and has not been taught how to walk on a loose lead

Behaviour problem:

- Abnormal in terms of context, frequency, intensity and/or duration
- Usually maladaptive (interferes with normal functioning or occurs in place of other more appropriate behaviours)
- Due to medical / psychological / physiological / emotional disturbances
- Caused by underlying mental illness
- Brain is not able to perceive and process information properly
- May or may not be seen as undesirable by the owner
- Not at all or poorly responsive to training
- Often interferes significantly with family life

Examples:

- A dog spinning, chasing and biting its own tail
- A dog reacting aggressively to other dogs it sees on walks
- A dog frequently attacking another companion dog in the home
- A dog howling and destroying the house when left alone

- A dog growling and lunging at its owner when they walk past it while eating

Why does it matter?

We need to know what's going on and whether a dog is normal or not so that we can then implement the correct treatment. Dogs with problem behaviours can simply be taught new ways to behave using force-free positive methods because they have normal brains and can learn and process normally. They have an excellent prognosis in most cases for resolution of the problem if they are trained appropriately. However, dogs with behavior problems are suffering a disease and cannot learn via the normal mechanisms due to abnormalities in their brain and body. These dogs need to see a veterinarian for work up, diagnosis and treatment. Their prognosis for success varies greatly and depends on many factors.

50 shades of grey:

There is certainly some overlap in the two categories and they are not always mutually exclusive. A simple problem behaviour for example can turn into a serious behaviour problem if it is addressed in an inappropriate way:

Eg if a dog is physically punished for doing something it considers normal or has been previously reinforced for doing, it may develop fear and anxiety associated with the punishment. Dogs can even manifest post-traumatic stress disorder after such experiences. Meanwhile a true behaviour problem which is of serious consequence to the dog may not always be a problem for the owner and so the dog may not get the help it needs.

- Eg a dog spinning and chasing its tail may be seen as funny by the family members.

Education and understanding is key. If you are unsure which category your pet's behaviour falls under then please don't hesitate to ask for clarification.

Anxiety and mental illness in dogs



Behavioural disorders are extremely common in dogs. At least one in five dogs are affected by an anxiety disorder and mental illness. Some research and estimates suggest as many as 80% of dogs may be affected by anxiety.

It is a scary, sad and confronting statistic that behavioural problems are the number 1 terminal illness of dogs in Australia. More pets are euthanized due to behaviour problems than due to many other leading causes of death combined. Behavioural disorders are a major contributing factor to surrender, relinquishment and euthanasia as they degrade the human-animal bond. Such problems pose a welfare concern for pets and their human families by being hugely detrimental to health and quality of life. Behavior problems can also be dangerous when anti-social behaviour such as aggression is manifesting. For these reasons, there are moral, ethical, welfare, health and safety reasons to address behaviour problems and treat anxiety and mental illness in our pets.

It is often very hard to live with an animal with a behavior problem. It can be anything from frustrating to humiliating to heart-breaking to very dangerous. In cases where behavioural issues exist, often there is a lack of understanding of what is going on and why it is occurring. This leads to animals often never getting the help and treatment they need and even worse, receiving unethical, inappropriate, damaging and dangerous treatment and training.

Anxiety is a medical disease.

- Anxiety has many detrimental effects on the body.
- Anxiety is a serious and harmful disease which necessitates prompt medical treatment.
- Chronic stress and anxiety have been proven to shorten life and impair quality of life.
- Animals with anxiety disorders have significant abnormalities of neurochemistry and circuitry in their brains.
- The brains of anxious animals do not function normally – the perception and processing of information is impaired – this is why their behaviour often seems irrational and out of context.
- Anxiety disorders involve abnormal activity in the amygdala in the base of the brain, initiating the body's stress and fight/flight physiology too often, too strongly and for too long.
- Animals with anxiety have hyper-arousal / over-activity of the sympathetic nervous system.
 - This causes elevated levels of stress hormones (cortisol, adrenaline).
 - Excess stress hormone causes far-reaching damage to almost every system in the body.
 - The immune system is compromised.
 - Inflammatory changes happen in the body which makes diseases of the skin, bladder and bowel more likely as well as infections and auto-immune diseases.
 - Inflammation also directly harms the brain.
- Metabolism and organ function is affected.
- The microbiome and gut function can be altered.
- The brain itself is directly harmed by too much stress hormone (cortisol damages cells in the hippocampus, the memory centre of the brain).
 - This makes learning and training very difficult.
- Pain and anxiety are strongly linked via interaction in the central nervous system and perception in the brain:
 - Pain is worsened / heightened by anxiety
 - Anxiety is worsened / heightened by pain

Animals with anxiety may suffer impairments in any or all of the following areas:

- Arousal
- Environmental vigilance / monitoring
- Sensory perception
 - Including increased sensitivity to pain
- Cognition (mental processing)
- Memory
- Learning and training

- Rational decision making
- Social interactions and relationships
- Activity
- Outlook (pessimism > optimism)
- Impulse control
- Reactivity
- Rest / sleep
- Immune status
- Welfare and quality of life
- Longevity

Anxiety manifests abnormal behaviour. Behaviour can be defined as abnormal when it is abnormal in context, frequency, intensity and/or duration. The abnormalities seen are often directly caused by the impairments above or are an attempt by the animal to cope with their emotional discomfort and distress.

What Causes Anxiety and Behaviour Problems?

There is not one single cause or reason for a behaviour problem. They are multi-factorial. Behaviour is influenced by 3 factors:

GENETICS, LEARNING / EXPERIENCE and ENVIRONMENT

Each of these is partly responsible for the problem in a dynamic and overlapping way. At any one time, an animal's behaviour is the result of its genetics, experience and environment – each are as important as the other, just like the way in which each of the length, width and depth are crucial in determining the volume of a cube.

Genetics

Genetics plays a role in the animal's innate instinctive responses. Sometimes it influences certain breed traits which have been selected for over time. Genetics sets the limits of what is possible for an individual. Emotional and behavioural traits in pets fall along genetic spectrums just like in people. For example, a pet's resilience, optimism, pessimism or fear could be anywhere on the genetic spectrum from low to high.

Importantly, genetics is certainly not as fixed or rigid as we once thought. In fact, genes can be quite plastic and malleable and altered in terms of how they are expressed – they can be switched on and off and tuned up or down. This is why genetically identical twins can actually be quite different in terms of their behaviour, preferences etc.

This is called “epi-genetics” and refers to how genes are acted upon and altered by our environment and experiences.

Epi-genetic influences are very important in dogs and begin in the womb, before a pup is even born. For example, stress, pain or poor nutrition in the mother dog will impact on the

developing body and nervous system of the pup in-utero to alter the expression of their genes. This is why puppies from the impoverished and stressful environment of puppy farms are often behaviourally abnormal and may be predisposed to mental health problems.

Learning and experience

This is responsible for shaping the dog's brain (within the confines of its genetic limitations). Learning makes connections and strengthens circuits in the brain. Learning can be beneficial or harmful, acting either to build confidence, resilience and coping or undermine it. It is very detrimental if dogs either miss out on necessary good learning and/or if they encounter negative damaging experiences.

Normal neurological development is interrupted both if "things which should happen, do not and things which should not happen, do". This is why socialisation is so important.

Environment

This is the immediate context the animal is in. We need to consider both internal environment (the outside world such as what is happening around the dog, presence of triggers etc.) and internal environment (what is happening inside the dog such as hormones, physiology, nutrition, pain, disease, discomfort etc.). In an optimal environment an animal can thrive, in an impoverished or overwhelming environment an animal will flounder and suffer distress.

Objectives and goals of treatment for behavioural disorders:

- Improve patient quality of life, health, welfare and longevity
- Reduce emotional disturbances such as anxiety, fear, panic and hyper-arousal
- Improve current undesirable behaviours
- Allow to function as normally and optimally as possible
- Render as calm and safe as possible to reduce potential risk of conflict and anti-social behaviour
- Improve impulse control and coping strategies / choices when fearful / anxious
- Improve rational information processing ie improve ability to perceive and respond appropriately to the environment
 - Improve ability to recognise when something is or is not a threat and when something does or does not warrant attending to
- Reduce response to many benign everyday stimuli
- Ensure normal ability to rest, relax, sleep and "switch off"
- Enable optimal intervention with behaviour modification - improve attention, concentration and learning ability by reducing abnormal anxiety and over-arousal

Prognosis:

Deciding to treat a patient with mental illness needs to involve an understanding of their prognosis. “Prognosis” is an estimate and assessment of how well the patient is likely to respond to treatment and improve overall towards an optimal or normal level of health and functioning despite their diagnosed disease.

An important general rule when it comes to behavioural prognoses is:

Patients will improve to the extent that we meet their needs, they will not to the extent that we do not.

Remember, their needs encompass medical, physiological, physical, nutritional as well as social, emotional, psychological and environmental.

PLEASE NOTE: special needs pets with mental illness will never be completely normal or “cured” as their brain has not developed normally in terms of perception and processing of information and their emotional and behavioural responses to the world – this is the nature of an anxiety disorder.

Brains can undergo repair but existing neural connections can never be completely erased.

Mentally ill pets are “special needs” for life.

They will need to be carefully treated, managed and protected for life within the scope of their specific needs to ensure they are as healthy, optimal and functional as possible and that they cannot cause harm to themselves or others.

Factors which improve or act in favour of a good prognosis:

- Having a strong bond and good relationship with the owner
- Being young – the best outcomes can be achieved when the patient presents before the onset of social maturity (before 12 to 18 months of age). After this time the brain is more “hard-wired” and less “plastic” which makes treatment harder and more limited.
- Early intervention: problem has not been present for very long and therefore has had limited time to consolidate and be practised.
- Being small (smaller dogs generally have a better prognosis as they are easier and often less expensive to treat and manage)
- Absence of aggression or anti-social behaviour
 - Or presence of good impulse control and/or bite inhibition if aggression is present
- Mild or focal problem
- Being physically healthy – no other concurrent, contributing or complicating medical problems

Factors which hinder a good prognosis:

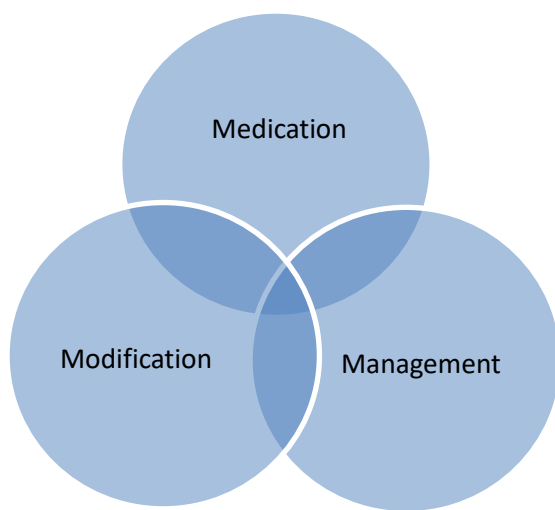
- Damaged or strained relationship / bond with owner
- Longevity of the problem (problem present for a long time)
- Progression / worsening of the problem – if it has been getting worse over time
- Aged patient (especially after social maturity >12-18 months of age)
- Large dog – potentially more dangerous, difficult and expensive to manage
- Aggression or anti-social behaviour present
- Has caused harm to themselves or others
- Generality – global rather than focal issues
- Severe manifestation
- Concurrent issues or illnesses such as medical conditions, pain, discomfort, disease etc.

Treatment of Anxiety

Treatment needs to be multi-angled to address all of the factors contributing to the psychological and behavioural problems of each patient, as discussed above.

Treatment involves “THE 3 Ms” approach:

MEDICATION
MODIFICATION
MANAGEMENT



Medication addresses the genetic neurological and internal environmental abnormalities. It aims to correct disturbances in the brain and body.

Modification addresses learning – especially in relation to learning emotional associations. It helps build new brain connections and new behaviours.

Management addresses the environment of the patient to control external factors affecting behaviour.

***A 4th M: Monitoring** is also super important and ensures we objectively assess and record response to treatment so that all of the above parameters can be measured and adjusted as required.

Medication:

Medication is prescribed when a medical mental health diagnosis has been made. It aims to correct the disease present via addressing the genetic and epi-genetic abnormalities present in the patient, altering the internal environment of the brain and body for the better. The aim of using medication in animals is to normalise their brain chemistry and stress response to relieve harmful anxiety and improve their health, welfare, emotional state, functioning and behaviour.

Broadly there are 2 categories or phases of medical treatment:

One: involves using a quick-acting medication to help the patient promptly or in acute short-term situations. Often these medications can be weaned down or withdrawn several months into treatment if no longer required.

Two: involves using a long-acting baseline medication. These long-acting medications form the foundation of treatment in the mid to long term but are not quick to work – they may take up to 3 months for effect in some patients. This is why we often need to first rely on a short/quick acting medication in the meantime or in certain situations where the baseline alone is not enough to stabilise the patient initially.

- Some patients may require more than one single medication long-term to keep them stable and functioning optimally – depending on the severity of their disease and how they respond to treatment.

Management:

Management is fundamentally important to manipulate the patient's environment to set up for success, protect the patient from further harm and unhelpful "backwards" learning and provide for all of the patient's needs. Management involves ensuring the pet is safe, protected and free from fear/anxiety at all times as much as possible within the confines of our control.

General recommendations: helpful and encouraged for all anxious dogs

1. CEASE ANY AND ALL PUNISHMENT OR NEGATIVE INTERACTIONS.
 - Punishment makes animals more fearful and anxious which worsens their stress and can cause or worsen aggression.
 - Your pet needs to have complete faith that you will always help them make their way in this world and be the source of positive experiences, not scary, confusing, unpredictable ones.
 - Punishment includes physical and verbal reprimands – we must not even raise our voice at our dogs
 - See handout called No Punishment for further details
2. SET UP FOR SUCCESS!
 - Identify all potential triggers.
 - Anticipation and reading body language / arousal zone is paramount.
 - Pre-empt and intervene before undesirable emotion and behaviour occurs.
 - Do not put your pet in situations which they can't cope with or in which they are likely to make bad choices or likely fail
3. "BUBBLE WRAP" THE PATIENT:
 - Avoid all triggers and keep your dog under threshold for reacting or becoming stressed
 - Every time they become fearful and stressed and repeat an undesirable behaviour, this causes harmful learning which can never be erased and sets them backwards.
 - The aim is to ensure they stay in GREEN ZONE. Avoid any situations which cause their arousal and anxiety to go into yellow or red zone
 - This may require strict and diligent management initially eg not going for walks if your pet can't remain relaxed out and about
 - Often less is more for special needs patients – they need time during the initial phases of treatment to relax, stabilise and have less to worry about
4. CREATE AND ADHERE TO A SET ROUTINE:
 - This helps animals feel calm and in control as they know what to expect and what to do

- Anxiety is all about uncertainty – knowing what is going to happen and that everything is going to be ok will alleviate anxiety
 - Anxious dogs need routine and predictability to be better able to cope with the world
5. CREATE A SAFE SPOT or SANTUARY (“ZEN DEN”):
- Ensure a safe retreat for your pet where they can seclude themselves to help shut out the world and control their own anxiety
 - A covered crate or other confined area is ideal
 - They must never be bothered when in there and must never be forced or locked in. They must be free to come and go as they please
 - They will likely need to be first trained to use this area and to associate positive emotions and feeling calm with this spot
 - Using Adaptil pheromone in this area is recommended
 - A behavioural trainer can assist with this training process
6. MAT / PLACE TRAINING:
- Being able to ask your pet to go to a mat / bed on cue and relax there is a fundamentally helpful tool in controlling their behaviour
 - It allows you to direct their movement and helps them know what to do as a default pattern when things are going on around them or they are getting worried
7. ENRICHMENT:
- The aim is to meet and exceed the physical, psychological and behavioural needs of the pet
 - Increase the time budget spent in positive, productive, focused, engaging activities which are enjoyable and incompatible with feeling anxious
 - Such activities are a natural boost for helpful positive neurochemicals which compliment medical treatment
 - Examples include:
 - Creative feeding: Food dispensing toys, stuffed Kongs, stuffed and frozen toilet rolls, long-lasting chews, lick plates etc
 - Scent work: scatter searches over large areas with small bits of food encourage your pet to use their instincts and nose to find the treats
 - Aerobic exercise: boosts serotonin and is inherently enjoyable. Be sure the exercise is appropriate for your pet physically and psychologically i.e. not free play with other dogs if your dog is scared of other dogs – instead a game of chasey around the yard might suffice.
 - Play: toys, tug or just running around! Whatever your pet loves. Anxious pets often struggle to play as it is a luxury that is engaged in when they feel calm and happy. It might take time at first but is worth it
 - Training: Aids communication and is very stimulating for dogs. Keep sessions short and super positive. Use really high value rewards to boost motivation. NOTE training will need to be kept very simple and easy for anxious special needs dogs

- Relaxation exercises e.g. Sit/Calm/Look as described above
- Physical contact e.g. massage, petting, grooming – provided your pet is comfortable with these activities

Other recommendations which may be helpful for certain patients:

1. MUZZLE TRAINING:

- This is a consideration for some pets who display anti-social behaviour and aggression as part of the way they cope with their anxiety.
- A muzzle ensures a fail-safe barrier to reduce a bite being inflicted if they do find themselves in a situation where they are over-aroused, reactive and at risk of being aggressive.
- It also serves as a really helpful visual signal to keep people and their dogs away! This will really help ensure your pet gets the space they need out and about and is not approached by people and their dogs.
- The aim is to ensure the pet is happy, comfortable and content wearing a muzzle.
- A plastic basket muzzle must be used – NOT a fabric muzzle. A basket muzzle allows the animal to pant, drink, eat etc as they can still open their mouths. A fabric muzzle causes dogs to be stressed and overheat as it holds their mouth shut.
- The muzzle should be considered a “treat basket” or “party hat”.
- This has to be done gradually and carefully as we must set up positive emotional associations with the muzzle.
- Your pet must be rewarded for successive approximations of interacting with and wearing the muzzle.
- Slow and steady is the ticket!
- The muzzle must not cause extra stress to the animal or serve as a trigger.
- It is recommended to do this under the guidance of your behavioural trainer.

2. VISUAL AIDS:

- There are many bright coloured clothing and equipment items on the market which serve as clear visual aids to warn people of dogs who are fearful / anxious / aggressive.
- Such things can be purchased online or from major pet stores.
- Pets could wear a special collar, lead and vest when out and about to signify to others that they need space and should not be approached.
- This helps us provide for the patient’s needs as well as ensuring safety for members of the public and their pets.

3. CALMING CAP: available online or at large pet stores

- Reduces visual stimuli in situations where they may get over-aroused or anxious
- Helps calm the dog down by ensuring they cannot see triggers

- Must be introduced gently, slowly and with positive counter-conditioning to ensure the dog tolerates and enjoys wearing it.
- We **MUST** avoid making the dog fearful of it.
- Often helpful for triggers or stressors such as going to the vet
- NOTE: these are great for some dogs but not others – some dogs benefit from the reduced visual input but others get more anxious as their ability to see and gather information is compromised.



Modification:

Behaviour modification is an important part of the treatment for anxiety in dogs.

It forms one third of the 3-pronged multi-modal treatment approach called “the 3 M’s”.

Behaviour modification is not the same thing as “training”.

It is not about obedience and is not focussed on making the pet do certain behaviours.

There is never any force or confrontation used. Rather, the pet is reassured, assisted and guided to develop ways of feeling better and behaving better. Every step of the way it is focussed on how the pet feels. It is more appropriately termed “emotional modification”.

Behaviour modification is all about learning and re-learning.

We want the pet to learn to feel differently and therefore learn to behave differently.

Importantly, in many cases, patients may not be able to engage successfully with behaviour modification until they are medicated. This is because until treated and stabilised, they are not capable of normal learning and information processing due to abnormal levels of stress and anxiety and decreased functioning of the rational centres of their brain.

Behaviour modification involves changing emotion.

Behaviour modification addresses specific emotional experiences and responses as well as more broadly affecting underlying emotional state. Aiming to improve how pets feel in certain moments and situations as well as improving their general mood and demeanour.

All behaviour is secondary to an underlying emotion and motivation. Pets do what they do in order to feel better – avoiding bad emotional experiences and seeking positive emotional experiences. Expression of behaviour is an attempt to cope with the world and get their wants and needs met.

Behaviour modification aims to change negative emotions to positive ones and therefore transform the associated behaviour from undesirable to desirable. Behaviour modification is used to teach the patient how to calmly interact with the world around them to get their wants and needs met, which helps them to relax. The idea is to help the patient learn how to cope and behave more appropriately.

This is achieved using structured systematic re-learning and training.

Over time, behaviour modification works synergistically with medication and management (the other 2 M’s) to build new adaptive connections and nerve pathways in the brain.

Objectives, goals and benefits of using behaviour modification in pets:

- Reduce or resolve undesirable behaviours
- Strengthen the relationship between pet and family members
- Improve patient quality of life, health, welfare and longevity
- Reduce emotional disturbances such as anxiety, fear, panic and hyper-arousal
 - Teach the pet how to relax
- Allow the pet to function as normally and optimally as possible
- Render the pet as calm as possible
- Render the pet as safe as possible

- Improve resilience
- Improve optimism
- Improve confidence
- Reduce stress, confusion and conflict
- Give the pet tools to appropriately navigate the world around them safely, reliably and consistently
- Teach the pet how to calmly interact with the world around them to get their wants and needs met
 - Empower the pet
- Improve impulse control and ability to moderate emotion and arousal
- Improve / develop coping strategies and choices when anxious
- Improve information processing
 - improve ability to perceive and respond appropriately to the environment
 - Improve ability to recognise when something is or is not a threat and when something does or does not warrant attending to
 - facilitate learning
- Improve and speed up response to medication by strengthening development of neural circuits and assisting rebalancing of neurochemistry.

So, how do we do it?

Behaviour modification programs are patient-specific and need to be tailored to the patient's individual needs. However, there are some core pillars and exercises that all dogs will benefit from and which should be implemented as the initial foundation of treatment. These exercises are designed to help you interact with your dog in a way which alleviates stress and anxiety and to teach them how to relax and better navigate the world.

Note: These exercises should be initially demonstrated and guided by a competent qualified force-free behavioural trainer.

Behaviour Modification Primary Protocol

1. Relationship building

Name Game	You need to build a strong reliable default positive association with your pet's name so that they willingly respond to it in any context without even thinking. We want the response to be hard wired and subconscious – so it can be performed even in times of high arousal / stress. Say your pet's name excitedly at random times and reward them immediately when they alert to you (come or even just make eye contact). This will condition your pet to enjoy a dopamine release and positive emotions when they hear their name and ensure they are likely to respond to it in times when they need to. This exercise is just like how you would teach a new puppy to respond to its name. Many adult dogs have mixed associations with their names because owners often use their name harshly when interrupting or reprimanding them. Often we need to work on rebuilding a good association to their name. KEY POINT: Never say your pet's name in a harsh or punitive way! It should only mean good things to your pet!
Catching Calm – “whisper therapy”	Do not ignore your dog when it is being quiet and good – praise it! Be vigilant in watching for any spontaneous calm or desirable behaviour and be sure to gently acknowledge and reinforce it with a gentle whisper of “Good dog”. Speak calmly and softly. The aim is for your pet to just hear the praise and know everything is ok so they can relax further – we don't want to arouse them. Eventually the “good dog” cue will become conditioned to elicit a calm / relaxation response after having been paired with this state repeatedly. Then just saying the words will help your pet relax in many different situations. Dogs can hear far better than we can so you only ever need to whisper to your dog.

2. Teaching relaxation

“Sit/calm/look”	This is for relaxation and mindfulness. It can be thought of as meditation for dogs. This exercise is also useful for impulse control. Do this for 1-2 minutes at a time, several times per day. Don't do it for too long per session or your pet will get bored and possibly frustrated. Gently and quietly reward your pet with food treats for sitting, staying and looking at you. Use clear hand or verbal signals. It encourages entering a state of relaxation where your pet doesn't have to worry about what's going on in their world. This exercise relieves anxiety by relieving uncertainty because your pet knows: what is going to happen, what to do about it and that the consequence will be positive. The aim is to get your pet to switch off and slip into a relaxed state. This is NOT about obedience. If the pet cannot engage in the exercise then simply stop and try again later. A behavioural trainer can demonstrate this exercise for you at a consultation as it is of fundamental importance to get it right. This exercise forms the solid foundation on which we later build. We need the pet to be able to relax on cue and to learn that they can in fact relax in order to then ask them to relax in the face of their triggers.
Deep breath training	Taking a deep breath stimulates the parasympathetic (calming) nervous system. It is paired with physiological relaxation. Wave a high value treat close in front of your dog's nose – as they follow the odour stream watch for the moment when they flare their nostrils and sniff the treat – immediately mark and reward this inhaling behaviour. Repeat this multiple times until the breathing in behaviour is paired reliably with the cue. Then shape for deeper and longer breaths by rewarding these differentially. Please get help from your behavioural trainer if you are finding this difficult to achieve. Timing is critical and you have to be on the ball to get it right.

3. Empowering your pet

"Sit to speak"	This is all about structuring interactions to give your dog a reliable, effective, consistent, calm means of communicating with people to get their wants and needs met. This gives them control over their environment and will relieve uncertainty and anxiety. This is very empowering for dogs! To do this: simply encourage your pet to sit and make eye contact with you before ANY interaction with them e.g. for any attention, petting, brushing, feeding, going through a door etc. Once your pet learns all they need to do is calmly sit and defer to you by making eye contact in order to get more information about what is happening and what to do then they will be able to relax and feel in control.
Protocol for deference.	"Deference" means that your dog defers to you to get information and to get help and reassurance when required. We need your dog to be able to reliably and calmly look to you for information about the world so that they can know what is happening and get direction about how they should feel and what they should do. The aim is that when your dog is feeling anxious, worried or unsettled that they learn to cope by coming to you and calmly awaiting more information, direction or reassurance so they have a strategy to cope and navigate the situation. The dog needs to know they can ALWAYS rely on you to offer support and assistance and help them calmly get their wants and needs met. You need to be their advocate, advisor and protector. Another way to think of this is that we are trying to teach your dog to tell you when they are feeling anxious and struggling. We are teaching them to come and ask you <i>"Is everything ok? Can you help me? What should I do?"</i> When your pet checks in with you for help be sure to always acknowledge them and provide them with what they need to feel better. It may be a word of reassurance, some petting or massage, some redirection or distraction. Never ignore your pet or send them away – this will make your pet feel frustrated, confused and anxious.

4. Distraction and redirection

Go Find	Teaching your pet to search for treats tossed on the ground on cue can be a useful distraction and redirection technique to prevent or stop reactivity when triggers arise. Say “go find” and toss a handful of high value treats on the floor near your pet so that they can snuffle about to locate and eat them all. This can be taught at home initially, then practised when out and about in more distracting contexts.
Follow the mantra: “Don’t do that, do this instead!”	Redirect any undesirable behaviour into an appropriate alternative response. Never punish a behavior – this may suppress it but will make your pet more anxious and may worsen any aggression. Dogs need to know what to do rather than what not to do. If they are doing a behaviour, there is a physical or emotional need to do it and it requires an outlet, it is a coping strategy – it’s up to us to teach a desirable outlet and better response. If you need to say “NO”, then back it up with a “YES”. EG if your dog is barking at something, lure them to come to you and sit, then tell them how brilliant they are and give them a reward.
Target touching or “stationing”	Teach your pet via luring and rewarding, to rest their chin on your hand or touch your hand with their nose. This is really handy to use as a distraction and re-focusing exercise when out and about if your pet starts to get aroused / anxious / distracted / reactive

5. Emotional evolution

Desensitisation	This involves exposing your pet to their triggers at a level of intensity which is under their threshold for reacting i.e. at a level they can cope with – without getting anxious / stressed / overly aroused. We gradually increase the intensity of the stimulus as the pet learns they are able to cope. This needs to be done under the guidance of a behavioural trainer. It needs to be done very carefully to ensure the pet is becoming desensitized – not sensitized. If this is done incorrectly then it can worsen the patient. NOTE: this is paired with “counter-conditioning” – see below.
Counter-conditioning	This is the process of using classical conditioning to teach your pet to actually feel good in the presence of their triggers. We pair a primary reinforcer (usually high value food) with exposure to the stimulus (at a low level the animal can cope with) so that the positive emotional response to the food eventually becomes generalised to include the trigger. E.g. giving roast chicken to a dog whenever another dog is nearby – so that it learns that good consequences are associated with the presence of other dogs and thus becomes less fearful and more optimistic around other dogs. This needs to be done under the guidance of a behavioural trainer.

6. Tinkering with time budgets:

Environmental enrichment	The aim is to meet and exceed the physical, psychological and behavioural needs of the pet. Increase the time budget spent in positive, productive, focused, engaging activities which are enjoyable and incompatible with feeling anxious. Such activities are a natural boost for helpful positive neurochemicals and help pets relax by turning down their fight-flight nervous system. Examples include: - Creative feeding: Food dispensing toys, stuffed Kongs, stuffed and frozen toilet rolls, long-lasting chews, lick plates etc. Licking and chewing stimulates the rest-digest nervous system which counter-acts the fight-flight nervous system and helps dogs calm down. Dogs should spend as much time as possible ingesting their daily ration. It has been proven that dogs prefer to work for their food – they find it engaging and stimulating. Feeding directly from a bowl is considered a wasted opportunity. - Scent work: scatter searches over large areas with small bits of food encourage your pet to use their instincts and nose to find the treats. Dogs love using their nose! It helps them gain confidence. This can be made more advanced by teaching them to scent for certain missing objects as they get better. - Aerobic exercise: boosts serotonin and is inherently enjoyable. Be sure the exercise is appropriate for your pet physically and psychologically i.e. not free play with other dogs if your dog is scared of other dogs – instead a game of chasey around the yard might suffice. Be careful not to over-exercise or over-stimulate anxious pets. The aim is for them to be calm – not completely exhausted. - Play: toys, tug, chasey! Whatever your pet loves. Anxious pets often struggle to play as it is a luxury that is engaged in when they feel calm and happy. It might take time at first but is worth it - Training: Aids communication and is very stimulating for dogs. Keep sessions short and super positive. Use really high value rewards to boost motivation. NOTE training will need to be kept very simple and easy for anxious special needs dogs
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Monitoring:

How do we know if the patient is improving? What do we look for?

Monitoring is extremely important. Behaviour patients need to be closely and diligently observed and objectively assessed so that any subtle changes can be noted and acted upon. Without proper and accurate monitoring, we cannot gauge if treatment is working and to what extent. Without the right information, treatment is often delayed, interrupted and sub-optimal.

Often when we see our pet every day we find it difficult to notice them changing and we may forget what they were once like. This is why it is so important to make recordings. Don't forget: behavioural treatment is all about trying to rebuild and redesign a brain! This is often a slow process and we need to be sure to note any subtle or mild changes to know if we are making progress.

Please keep a diary relating to your pet's behaviour.

Be sure to note the FID (frequency, intensity, duration) for EACH of your pet's problem behaviours:

1. **FREQUENCY:** How often does the behaviour occur?
2. **INTENSITY:** When it does occur, how severe is it? What level of arousal/distress is the pet in? How readily can they be interrupted / distracted?
3. **DURATION:** How long does the behaviour occur for and last? How easily does the patient recover, settle and return to baseline? What level of resilience do they show?

It is ideal to rank the FID out of 10 for each problem behaviour with 10 being the worst the behaviour ever was (i.e. before any treatment) and 0 being the problem has completely resolved and disappeared.

See monitoring table below as an example of how to record:

DATE:	PROBLEM BEHAVIOUR	SCORE / 10 (10 = worst, 0 = best)			
		FREQUENCY	INTENSITY/ SEVERITY	DURATION	AVERAGE

You can also keep an "emotional traffic light calendar" for your pet. You record when and why your pet enters the different traffic light zones of arousal (green, yellow, red).

Date	Time	Zone (blue, green, yellow, red)	Reason / trigger

Using medication for treating behavioural problems in pets.

Guide to getting comfortable.

There exists a level of stigma and controversy around the treatment of mental illness in both people and pets. There is unfortunately some misguided information in the media and among popular opinion regarding using medications to address behavioural issues. Many people inherently feel uncomfortable about medicating animals for behaviour and psychiatric problems. This discomfort is born from lack of understanding of the issue. Let's do some important myth busting.

Myth #1:

“Behavioural medications are used to sedate or pacify animals for our benefit.”

- This is false
- Sedation refers to an altered state of consciousness whereby sensory processing and reactions to the environment are altered
- Sedation is inappropriate in most cases of behavioural medicine and is considered an unacceptable side effect
- Sedating an animal who is fearful / anxious may actually make them feel worse as it scrambles their ability to accurately process the information they need to decide what to do and hinders their ability to deploy behavioural strategies to cope with how they feel.
- However, sedating an animal may sometimes be needed in acute situations when there is risk of harm to the animal or others around it BUT is a temporary and situational measure – not a general or ongoing aim of treatment.
- Yes, some animals prescribed anti-anxiety medication may suddenly sleep more and this can be concerning to some pet owners. BUT this is not sedation! This is actually normal and what they need (most anxious animals are sleep deprived or have poor sleep quality and may show rebound excessive sleep when their anxiety is finally treated). It may seem dramatic as the owner is not used to seeing their animal sleep a normal amount and sees their level of hyperactivity and hyper-reactivity as their “normal” when they are in fact abnormal and unwell.
 - The way you can tell the difference is in whether the animal is capable of responding to stimuli normally and engaging in activities normally
 - ie a sedated dog may not want to eat, may be wobbly and weak, may not want to go for a walk, may not come when called nor be interested in playing. A dog who is non-anxious but normal will sleep often and deeply but should respond normally and enthusiastically to things happening.

Myth #2:

“Using medication to treat behavioural problems should be a last resort when non-medical approaches fail”

- This is false
- In many and most cases, medication is needed as a first resort.
- Medication is used specifically where a disease / disorder has been medically diagnosed.
- Behavioural medication is prescribed to address brain disease, just like insulin is prescribed for diabetic disease or antibiotics for bacterial disease. We do not wait for infection to become septic before we reach for a medical antidote, rather we treat the problem as soon as it becomes apparent – this is how we should treat mental illness in animals, we need to intervene before the problem progresses and they become worse.
- Delaying or with-holding medicine can certainly cause more harm and is not ethical.
- Using medicine to provide necessary treatment and intervention is important in alleviating chronic stress and normalising the brain and body of patients with medically diagnosed mental illness.
- Medications are prescribed because we deem them necessary to help your pet overcome their mental illness and achieve optimal normal functioning, health, behaviour and quality of life.
- Most patients will not improve or show very little progress with behaviour modification without medication due to the learning impairments caused by their anxiety disease.

Myth #3:

“Medications should not be used because they have side-effects, put stress on the body and may shorten my pet’s life.”

- It is true that any and all medications can have side-effects but we need to put things in perspective.
- We need to balance any negative effects of medication against the already existing negative effects of the disease itself.
- Anxiety and chronic stress have severe side effects.
- Chronic stress and anxiety is known to compromise the immune system, cause inflammation, lower pain threshold, make infections and cancers more likely to develop, cause metabolic and hormone changes, interfere with learning and memory, reduce quality of life and shorten life span.
- There is NO evidence that long-term use of behavioural medications shortens life-span – on the contrary it likely increases longevity by treating the harmful effects of anxiety.
- We would always aim to avoid and minimise any potential adverse effects by choosing appropriate drugs at appropriate doses for each patient.

- We are conservative with use of medication, often starting at a very low dose and weaning up to ensure the patient tolerates it and has time to get used to metabolising it.
- Medical regimens will be adjusted as needed pending clinical response.
- Medication will always be used at the lowest dose necessary for response.
- Medication is not used on its own – it is used as part of a holistic multi-angled treatment plan in combination with other therapies (in this way less medication is needed).
- Baseline blood testing prior to starting medications is always gold-standard so that we can assess health and organ function and identify any risks or complications.

Myth #4:

“Medication will change an animal’s personality.”

- This is false
- Medicine is used to relieve anxiety and correct abnormalities in the brain and behaviour which are harmful.
- When animals are anxious they are not able to relax due to constant worry. They are always hypervigilant and monitoring because they are wired to perceive threats and are always trying to ready themselves to deal with them.
- Relieving anxiety actually allows the patient to be calm and rational and will actually better show their personality (ie they can relax and engage normally instead of behaving out of fear).
- When we use medication to address anxiety and emotional disturbances we help reveal a patient’s true underlying personality which they have been unable to display due to their disease.
- Their behaviour will be different but we need to remember that we are used to a skewed perception of normal and that many anxious patients are hyper-active and overly busy – when they are more settled this is the real them (without the burden of anxiety driving their behaviour).
- Often using medications to help anxiety will better enable animals to be affectionate, to play and to socialise.
- Medication may improve a patient’s emotional resilience and stability. It may enable them to be more confident and optimistic and recover better after stressors.

Myth #5:

“Medication will make my pet confused, drowsy, lethargic or apathetic and interfere with their ability to learn or train.”

- This is false
- When medication is prescribed appropriately and is effective it will actually dramatically IMPROVE your pet’s ability to focus, engage, maintain attention, learn and remember.
- Medication is proven to improve speed and efficacy of behavioural training.

- Many animals with anxiety cannot learn properly until they receive medical treatment.
- Medications address anxiety by calming centres of the brain involved in panic and worry which are too active in anxious animals.
- Anxious patients cannot concentrate, learn or remember well and often perform very poorly at training. This is because the parts of their brain needed for such tasks are being high-jacked by primitive stress circuits. When these centres are normalised then rational processing by higher centres of the brain can finally function normally and these patients can think clearly and rationally.
- This is similar to how we cannot learn or recall information properly when we are stressed – we are too distracted and our brains are taken over with self-preservation making us unable to do any complex thinking.
- During anxiety / stress / panic, behaviour is reactive, impulsive and irrational. It is when we are calm we can process information, think and behave appropriately.

Myth #6:

“Medication is a “band-aid solution” and doesn’t address the problem.”

- This is false
- Medication addresses the core of the problem by correcting physiological disturbances that are the cause of true behavioural problems.
- Most mental illness is due to abnormal levels of certain neurochemicals and subsequent misfiring / abnormal activity in certain brain circuits. Medication is used to address these abnormalities and rebalance the system back towards as normal as possible.
- Management strategies and some outdated behaviour modification techniques (such as punishment) can be band-aid solutions – while medication actually treats the problem in a targeted way.

Using Behaviour Medication in Pets: Disclaimers and disclosures:

Medication is prescribed when a medical diagnosis has been made. In the case of behavioural disorders, medication is prescribed when it is deemed necessary to address and alleviate the underlying disturbance and disease which is causing the abnormal behaviour. The aim of using medication is to improve the patient's health, functioning, quality of life and longevity to the most optimal level possible.

We will always endeavour to choose the most appropriate medication for your pet. There are many factors (both patient and drug factors) which influence the choice of a particular medication such as:

- Indications
 - Eg diagnosis, severity
- Contra-indications
 - Eg existing disease, breed differences, compromised organ function, drug sensitivities or allergies
- Interactions with other medications
- Mechanism of action
- Speed of onset
- Length of action / half-life
- Available formulations
- Ease and route of administration
- Palatability
- Cost

Behaviour medications used in pets are generally considered very safe and effective. However, there are some considerations that owners must be aware of before consenting to the use of these medications for their pets. These are outlined below. Please contact us if you are ever worried about your pet's medication.

- In the event of an emergency – contact your regular vet (or the nearest veterinary emergency hospital if after-hours)

“Off-label” prescription:

- These medications are often human medications and are prescribed “off-label” for pets.
- This means that they are not actually licensed for use in dogs and are not a registered veterinary product.
- There are very few registered options for psychiatric medications in pets mostly due to lack of interest by pharmaceutical companies to develop these products.
 - Therefore treatment would be extremely limited and sub-optimal if only licensed products were prescribed.
- This does NOT mean that the medications are unsafe or unreliable.
 - It simply means that there has been no formal process of testing and developing the drugs for the purpose of clinical use in dogs and cats

- The drugs have almost always been tested extensively in animals during the process of being developed for human use – therefore there is existing scientific data on their effects and safety.
- In the case of most behaviour medicines, there is a large body of data and evidence on their use, despite the lack of formal licensing.
- The medications have been used commonly, widely, extensively, effectively and safely for pets.

Side effects:

- Any medication can have potential side effects.
- Serious side effects are very rare.
- When deciding when and how to use medications, the potential side effects of the medication need to be considered against the side effects of the already existing disease state
 - I.e. the use of the medication can only be justified if the health, functioning and quality of life of the patient is better with the medication than without.
- We will always aim to be conservative with medications to avoid and minimise side effects.
- Most side effects are called “transient induction side effects” which means they only occur briefly as we first introduce the medication – as the brain and body are first getting used to the medication and acclimating. Usually after a period of a few doses or a few days these side effects disappear and the patient stabilises without any ill-effects. It is often necessary to persist with the medication through this phase to ride out any initial side effects. If the side effects are severe or persistent then we will adjust the medication.
- The most common side effects may include:
 - drowsiness
 - reduced or increased appetite
 - vomiting
 - diarrhoea
 - constipation
 - flatulence
- Less common side effects may include:
 - mild tremors
 - weakness or incoordination
 - paradoxical agitation (worsening of anxiety)
 - usually only brief / transient effect and settles as the patient gets used to the medication.
- Rare and potentially serious side effects may include:
 - disinhibition of aggression (manifestation or worsening of aggression)
 - Severe gastro-intestinal disturbance such as haemorrhagic diarrhoea (bloody stools)
 - urinary retention (reduced urination or complete inability to urinate)

- serotonin toxicity (neurological signs, hyperthermia, coma and potentially death if not treated).

Individual variation:

- Just like humans, each and every pet patient responds differently to any given medication due to their individual difference
 - variations in anatomy, physiology, neurochemistry and metabolism
- Trial and error is required to gauge which medication, which dose and which dosing regimen a patient best responds to.
 - There is no way of knowing without trying whether or not a particular drug will work for a particular patient, how well it will work, how long it may work for or what the side effects may be.
- A patient may respond poorly or have side effects to one medication while they may respond very well to a different medication.
 - Just because a patient has a bad experience or unsatisfactory response to a medicine does not mean this will be the case if they try another different medicine
- The majority of veterinary patients usually respond favourably to behaviour medications but there is a minority of patients who will be non-responders or only partial responders
 - A very small percentage of patients may not tolerate a given medication which means they experience unacceptable side-effects and cannot continue taking the medication
- If a medication proves unsuccessful or there is evidence of unacceptable side effects then we will elect to adjust it, stop it or swap it.

Complimentary, holistic and “natural” treatment options for anxiety

There are many products on the market which are advertised for anxiety in pets. Unfortunately, many of these products have not been clinically tested, are not effective and have limited or no evidence behind them. They are not recommended because we cannot be sure they are safe and they are wasteful of resources.

However, there are some really helpful things that ARE highly recommended. They have been proven to have clinical anti-anxiety effect. They are extremely safe and will not do any harm. They can be used in addition to any other prescribed medical treatment. Most patients will benefit to some extent from the use of these products. See recommendations below:

Pheromone therapy

Adaptil (Dog Appeasing Pheromone - DAP).

This special pheromone is a synthetic version of the substance produced by the bitch when she is nursing her puppies. The pheromone molecules enter the nose when breathed in and attach to the vomeronasal organ towards the back of the throat near the base of the brain. This sends signals to the brain and subconsciously makes most dogs feel calm, secure and less anxious.

Response is variable, on a spectrum – some dogs respond miraculously while some respond only minimally. Rarely, dogs don't seem to respond at all.

It is very safe, has no side effects and is worth trialling in all cases of anxiety in dogs.

It is especially useful during acute triggers and during destabilising and challenging times.

I consider this pheromone as "icing" on the treatment "cake". It often adds a beneficial layer to therapy and in some cases can be sparing on the amount of medication needed.

It is available in 3 forms:

Collar

- plastic collar which sits snugly on the patient's neck allowing body heat to warm it up which starts diffusing the pheromone molecules in to the surrounding air. The collar lasts for approx 4 weeks, then has to be changed.
- This is a great option for dogs who are anxious all or most of the time or who are going through an anxiety-provoking period.

Diffuser

- plugs in to the wall (just like a scent diffuser device).
- Refills can be purchased. Heats up and emits pheromone molecules constantly.
- Can last weeks or months.
- This only services a small area. It can be effective in a small room or right near a bed / crate but it not as effective in larger or more open spaces in which the molecules become too dilute.

Spray

- the pheromone molecules are dissolved in a liquid alcohol based solution. Can be sprayed on a bandanna around the patient's neck or on bedding or other places the patient goes e.g. in car or crate etc.

In my opinion, the most effective way to deliver it is to generously spray a fabric surface such as a snuffle mat, blanket or towel, then fold it up and hide treats in the crevices so that the dog has to actively sniff among the pheromone and receives a high dose. This usually produces significant relaxation effects within a few minutes.

The relaxation effect can last up to several hours in some patients

The spray is active for about 2 hours after being sprayed on a surface.

Note: always wait several minutes after spraying before exposing the dog to the spray as it is in an alcohol vector and the alcohol needs time to evaporate, leaving only the pheromone molecules behind. If exposed to the spray immediately, it will smell off-putting to the dog and will irritate their nasal passages.

*Never spray the dog directly! The spray is to be used on surfaces and fabrics.

You can spray it on to your hands, wait for the alcohol smell to disappear, then rub the pheromone molecules on to the dog's fur (on their chest or under their muzzle).

The Pheromone has no effect on humans - we cannot detect the molecule as pheromones are for intra-species communication only.

For more info:

<https://www.ceva.com.au/Products/Companion-animals/Behaviour>

<https://www.adaptil.com/au>

Zylkene (alpha-casozepine)

This is a calming nutritional supplement or "nutraceutical". This is not a medicine or drug - it is a "foodstuff" by definition. It can have impressive and powerful anti-anxiety effect in some patients.

It contains "alpha-casozepine" which is derived from a bovine milk protein.

It facilitates relaxation by attaching to the GABA receptors of the brain. These receptors communicate with other cells and circuits in the central nervous system to exert a calming effect.

*The GABA receptors are what alcohol acts on in humans - but don't worry, Zylkene certainly will not make your pet intoxicated!

It can be used in 2 ways:

- o It can be given every day as a background supportive agent.
- o It can be given at high doses as needed just before a trigger or stressful event.

The manufacturer often recommends commencing it several days prior to a stressful time as it appears to build up some accumulative effect over a few days.

It is available in bottles of 30 capsules and is available over-the-counter (no script needed).

- It can be purchased online and at some vets and pet stores.
- There are 3 sizes (75mg, 225mg, 450mg).

I recommend being very generous with dosing because this supplement is very safe and appears to work better at doses in excess to those often recommended on the bottle. Buying the largest 450mg capsules (even if you then open and use only a portion of the powder per dose) is the most economical way of using Zylkene.

It is very palatable and will readily be eaten by most animals when mixed with their food or in water / milk.

Zylkene can be combined safely with behavioural medications. Adding in Zylkene can sometimes be sparing on the amount of medication a pet may need.

Just like Adaptil, I consider Zylkene an "icing" on the treatment "cake" type of intervention.



For more information:

<https://www.vetoquinol.com.au/products/companion-animals/zylkene>

https://www.vetoquinol.com.au/sites/auscountry/files/zylkene_vet_brochure.pdf

Nutrition for the support of anxiety and mental health in dogs.

- Nutritional support for anxiety and mental health can be very helpful and very important.
- Nutrition can be a powerful therapeutic tool for anxiety and mental health in dogs and is an important piece in the puzzle for holistically managing patients.
- Nutritional support can complement medical treatment and boost clinical response in many cases. Nutrition can be used along-side medical treatment under the guidance of a veterinarian.
- Implementing specific nutritional supplementation may mean we can use less medication to keep a patient in a stable and optimal state of health.
- There are many different supplements and compounds which may be useful but they need to be implemented purposefully, in an evidence-based way and taking in to account your pet's current diet.
 - There are also many products on the market which claim to help but which have no scientific evidence behind them. It can be wasteful to invest money on such products.
- I highly recommend that nutrition is considered in your pet's treatment plan.
- A therapeutic nutrition plan can be designed for your pet at your request and if clinically recommended by your veterinarian.
 - Any therapeutic nutrition plan needs to take in to account your dog's current diet and be adjusted accordingly.
 - It should be part of the multi-modal holistic plan in addressing behavioural problems in pets.
- Inappropriate nutrition (deficiencies or excesses of certain nutrients or compounds) can be seriously harmful.

The following are general nutritional recommendations which may be considered – under the guidance of your veterinarian.

Note: We recommend you seek specific veterinary advice for your pet before trying any of these nutritional supplements.

1. SAME (S-adenosylmethionine):

This supplement is good for mental health as it helps to boost levels of beneficial neurochemicals. It is neuroprotective and helps nerve cell metabolism. It also assists liver support which is great for patients having to metabolise medications. This supplement also has beneficial effects on inflammation and pain.

It has been shown to be as or more effective as anti-depressants for some conditions in people.

A script for this medication is required to source it from an online veterinary pharmacy or a compounding supplier. Human version can be purchased online but are of variable and uncertain quality.

DOSE RATE:

- Small dogs < 20kgs: 200mg orally once daily
- Large dogs > 20kgs: 400mg orally once daily.

2. Alpha-casozepine ("Zylkene" as discussed above)

Has a calming effect on the central nervous system and has been shown to be very helpful for acute and ongoing anxiety in dogs. See information above on ZYLKENE.

Available commercially in a veterinary formulation as "**Zylkene**" capsules.

Sold over the counter at your vet or can be purchased online.

DOSE RATE:

- Small dogs: at least 75mg orally once.
- Medium dogs: at least 225mg orally once daily
- Large dogs: 20kgs: at least 450mg orally once daily

3. Tryptophan:

Tryptophan is the amino-acid pre-cursor or building block for serotonin (which is usually lacking in anxious patients) and may help to boost this helpful brain chemical to reduce anxiety. However, there is limited evidence for its effect in dogs and it needs to be given as part of a lower protein diet in order to be at more useful ratios compared to other amino acids.

Available in the form of **PAW Complete Calm** chews from most large pet stores or online suppliers.

DOSE RATE: orally once daily as per directions on bottle for dog's individual weight.

4. Folate (Vitamin B9):

Supports neuronal health and function and growth of new nerve cells.

Available over the counter from human chemists: **MEGAFOL 0.5 (500 micrograms)**.

DOSE RATE:

- Small dogs <20kgs: approx 200 micrograms(ugs) orally once daily (half Megafol tablet)
- Large dogs >20kgs: approx 400 micrograms(ugs) orally once daily (whole Megafol tablet)

5. Omega 3 fatty acid supplementation :

Supports mental health via having protective and anti-inflammatory effects in the central nervous system.

Can offset the oxidative damage caused by stress and anxiety.

Has been shown to be as effective as anti-depressant medication for some forms of anxiety in humans.

Available in liquid veterinary preparations or you can use human fish oil capsules available from chemists and supermarkets.

DOSE RATE = 150mg/kg of DHA/EPA daily.

Note this is a substantially high dose needed for clinical effects and may involve giving a high number of human capsules or large volume of liquid.

EG a 20kg dog needs a total of 3000mg daily.

Do not exceed this dose.

6. Magnesium:

Supports neurological function, mental health and muscle relaxation.

Available from chemists.

May cause diarrhoea in some patients so introduce at a low dose for patients with sensitive bowels.

DOSE RATE:

- Small dogs < 20kgs: 50mg total orally once daily
- Large dogs >20kgs: 100mg total orally once daily

7. L-theanine:

This is a calming amino acid. It has been proven in dogs to alleviate anxiety generally and in certain situations.

Often available from chemists or sports nutrition stores.

DOSE RATE:

- Small dogs <20kgs: 50mg total orally once daily
- Large dogs >20kgs: 100mg total orally once daily.

8. Phosphatidylserine:

This helps the structure and function of nerve cells. It is particularly useful in older or elderly patients as it helps prevent cognitive decline and brain degeneration and helps keep levels of neurochemicals at optimal levels. It has been proven in several studies to cause clinical improvements in canine patients.

Available via prescription through my compounding supplier HPS.

DOSE RATE:

- Small dogs < 15kgs: 25mg orally once daily 100mg
- Medium dogs <30kgs: 50mg orally once daily 100mg
- Large dogs >30kgs: 75mg orally ONCE daily

9. Pre and Probiotics:

Help the brain-gut connection and promote a healthy microbiome which contributes to robust mental health. The metabolic activity of bacteria in the gut produces bi-products which affect neurochemistry and mood. The gut also directly communicates with the brain via the vagus nerve.

PAW Digesticare powder by Blackmores is a recommended product.

BIOME diet by Hills can also be clinically helpful – especially where anxiety is manifesting gut disturbances.

10. Anti-oxidants (Vitamins A, C and E, Selenium)

Help offset the oxidative damage caused by age, inflammation and stress to protect the function of the brain and body.

Anxious patients under chronic stress endure more severe and rapid oxidative damage to their central nervous systems and this worsens their disease.

Available together in the form of **PAW Senior Vitality**. The commercial diet **B/D (brain diet)** by Hills also provides anti-anxiety and anti-oxidant support.

11. Commercially available diets / foods that may help stress and anxiety:

- Royal Canine Calm diet
- Hill's b/d