



Fear, Anxiety, Stress, and Cognitive Dysfunction

By Amy Learn, DVM

No one likes getting old. In fact, people spend millions of dollars each year on things to make them look and feel younger; wrinkle creams, memory enhancing supplements, plastic surgery! Let's now consider our aging pets and how they feel.

Fear Free courses place a lot of emphasis on how we handle our pediatric patients, including making sure that we start our new puppy and kitten patients with a positive experience; training them right; and helping them to enjoy each visit. It is equally as -- and arguably more -- important to consider the emotional health of our senior pets. These golden oldies have spent a significant time giving love to our families. During this life stage it is time for us to give back to them; to sustain their happiness and dignity. Studies have shown that 28% of dogs 11-12 years old and 68% of dogs over 15-16 years have signs of Cognitive Dysfunction. Similarly, 33% of cats aged 11-21 have been shown to have cognitive aging changes (Landsberg 2012).

Cognitive Dysfunction is an age-related neurodegenerative disease that includes pathologic changes to the brain that are ongoing and progressive. Many researchers compare this to Alzheimer's disease in humans. Physical changes in the brain include cortical atrophy, dilation of the lateral ventricles, Beta-amyloid plaques, meningeal calcification, demyelination, neuroaxonal degeneration, and an overall reduction in neurons (Landsberg 2019).

The diagnosis has been classified by several symptoms which can affect fear, anxiety, and stress (FAS). These include disorientation, changes in social interaction, alteration of the sleep-wake cycle, house-soiling, changes in activity level, and anxiety; and have been grouped into the acronym DISHAA (Overall 2013, Landsberg 2019).

The adage "you can't teach an old dog new tricks" may be correct to some degree. Older dogs have a more difficult time accessing their stored memories and storing new ones. With over 30 million dogs in the United States over the age of seven, this could be a significant problem for many households. However, it does not mean that we are unable to help these pets. In addition to medication, supplements, or diet changes, we can provide a more stimulating atmosphere and alter our interactions to maintain a sense of normalcy for these pets.

Symptoms of Cognitive Dysfunction

DISORIENTATION

Being confused about where they are or feeling lost in their own home is scary.

CHANGE IN SOCIAL INTERACTIONS

Some pets no longer want to engage with their pet parents, which strains the human-animal bond, may make owners feel sad, and ultimately removes an interaction that used to be pleasurable for both parties.

ALTERATION OF THE SLEEP-WAKE CYCLE

Many dogs will pace overnight and sleep during the day or have episodes of interrupted sleep. A lack of enough sleep, causes a feeling of being out sorts and increased irritability. Reduced sleep quality may also increase the severity of pain (Manteca 2018).

HOUSE-SOILING

Some dogs are truly incontinent which is a medical issue and should be treated. In contrast, pets with CDS do not remember that outside is the ideal place to go or are confused about where they are but know that they need to go immediately. This can have a lasting effect on the human-animal bond as house-soiling is one of the most common reasons for pet relinquishment and causes frustration in the caretaker.

CHANGE IN ACTIVITY LEVEL

Some pets with CDS wander aimlessly and get underfoot. This can be confusing for them and annoying to their owners, which further deteriorates the human-animal bond.

ANXIETY

CDS causes an increase in anxiety and stress especially when faced with a change to the environment or novel stimuli. The ability to predict an event and respond accordingly can relieve anxiety, but these patients are unable to do either.



Recent studies have generated valuable information about environmental enrichment and neuroplasticity in the brain (Mohammed 2002). Neuroplasticity is the ability of the brain to heal or reorganize in response to learning or experience. Researchers have found that enrichment promotes the survival of specific neurons, sustains neurotrophin levels, and attenuates the changes associated with aging and cognitive dysfunction (Mohammed 2002). In addition to the possible neuroprotective aspect of enrichment, it can also be an essential way to alleviate stress for these patients and improve their quality of life.

Dogs are very social creatures and have built a close bond with their humans over the last 10,000 years. When this bond starts to falter both the human and the dog can have an increase in their anxiety level, so it is crucial to address both sides. As mentioned above some of the signs of CDS include decreased social interactions and change in activity level. It is important for the humans not to take this personally and instead find the time or different ways that they can bond with their pet. Short training sessions or walks are a great way to do this.

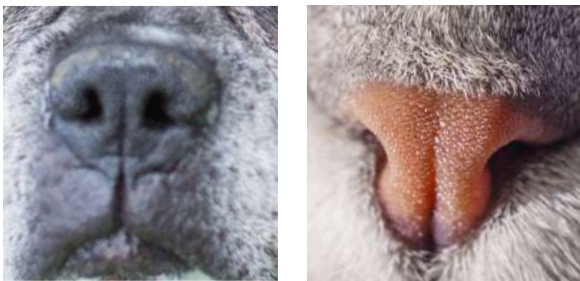
Older pets also may have many other medical problems that need to be considered. Biannual veterinary exams that include cognitive screening, can be very valuable for patients seven years of age and over as the onset of signs may be gradual. This is also important for assessing the older patient for other aging changes or pain.

During those appointments, we need to ensure that pets showing signs of pain or confusion don't slip and aren't squeezed, poked, or prodded. The choice of PVPs used in those cases should be considered carefully to alleviate anxiety and not cause any adverse side effects.

Many positive effects on welfare can be seen due to environmental enrichment. These include promoting species-specific behavior and reducing the time spent performing stereotypies and other "abnormal" behaviors; increased activity and exploratory behavior; decreased frequency and intensity of aggressive interactions, and reduction of the chronic stress response (Manteca 2018).

Techniques for environmental enrichment should abide by one of several principles: allowing the animal to have more control over its environment, presenting a problem to solve, providing an outlet for behavior needs like finding shelter or foraging, reinforcing or rewarding exploration, or increasing social interaction (Manteca 2018). However, it is crucial to consider the pet's limitations. Some possibilities to consider include: stroller walks for gathering sensory information from the outside world, mental stimulation with food puzzles, allowing social interaction with family members, passive range of motion exercises, massage, slip-resistant surfaces/stairs, ramps, and nose work (Overall 2013).

No one likes getting old, but we can help our pets age with dignity and stay physically and mentally sharp as they pass through their golden years. So put down the wrinkle cream and pick up a snuffle mat, it's time to give back to your pet.



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animal medicine and surgery. She has been practicing general medicine for 15 years and is Fear Free level 3 certified. Dr. Learn is currently in her second year of a veterinary behavior residency under the mentorship of Drs. Lisa Radosta and Amy Pike.

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