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CANINE COGNITIVE DYSFUNCTION

Caring For Dogs With Advanced Dementia

By Melissa McMath Hatfield, M.S., CBCC-KA, CDBC and Sara Cain-Bartlett, MSW, LCSW, C-ASWCM

Whether you work in a shelter, rescue organization or are a pet parent, it would not be uncommon at some point to have to care for a senior canine citizen. Although each dog is an individual, there are some patterns of symptoms and behaviors in the aging process that we should be aware.

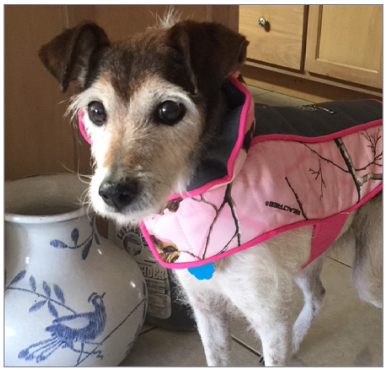
Canine cognitive dysfunction (CCD) is similar to Alzheimer's disease in humans; it is a "progressive age-related neurodegenerative condition that affects cognitive function." The disease, both in dogs and in humans, affects many parts of the way an individual thinks, remembers, and feels. It is marked by memory loss, a decreased ability to learn, problems regulating emotions and interacting socially, problems with sleeping and waking, confusion and disorientation that can lead to wandering and circling, heightened anxiety, bladder and bowel control issues, and a decrease in overall activity levels (Fast et al., 2013[1]; Madari et. al., 2015[2]; Schütt et al., 2015[3]).

Symptoms of CCD are not uncommon in the estimated 30 million senior and geriatric dogs in the U.S. (Madari et al., 2015[4]). Pan (2011[5]) notes that 27.5 percent of dogs aged 11 to 12 years suffer from mild to severe cognitive impairment, but that number rises to 67 percent in dogs aged 15 to 16 years. As Sarah Fraser puts it, "With upwards of 1 in 5 senior-aged companion dogs experiencing impaired cognitive function, it is critical that we work to better understand, identify, treat and manage CCD in our aging pets to ensure their later years are as comfortable and low stress as possible."

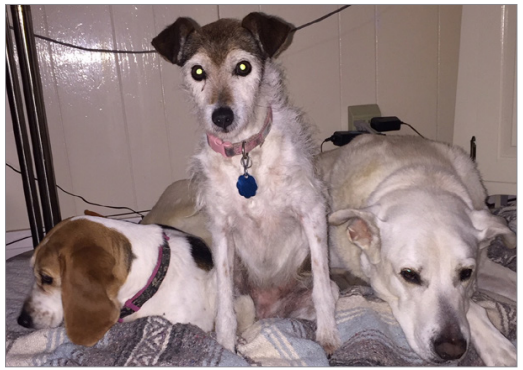
The following case study came to me through a friend who is a geriatric social worker specializing in dementia. She called concerned about her foster dog's behavior, which when described, sounded like CCD. Even though she was an expert in dementia in humans and a lifetime dog owner, she was unaware of dementia in dogs. She wanted to share her experience and educate dog lovers about this common malady, so I suggested that she chronicle Mitsy's story and I would do the research, hence, this paper. I visited Mitsy, and Sara (co-author Sara Cain-Barlett) stayed in close contact with me until the ultimate decision was made. Sara was a natural caregiver for Mitsy and has since fostered more geriatric dogs. Because of her experience, she was able to compare her foster dog's behaviors with some of the behaviors seen in her human patients and recognize that they were symptoms of similar underlying needs: for routine, safety, and comfort.

Case Study: Mitsy

Mitsy was a small mixed-breed terrier, brought to an animal shelter in the winter. Her chip showed she was 15; she was thin, uncared for, unclaimed, and cold. Her foster, experienced in fostering old dogs, cats, and horses, offered a "forever" foster with a warm bed and love. Mitsy was said to be house-trained.



Mitsy, 15, was diagnosed with dementia.



Mitsy, center, loved sharing the big dog bed with Foster Taylor, right, and Lucy, left.

After a week's home care and observation, it was evident Mitsy was highly anxious; she could not control her bowel or bladder, and she attempted to flee when outdoors if not kept on a leash, which she resisted. A call placed to the shelter director garnered this response: "She has doggie dementia." When Sara called me, I agreed with this assessment. As a clinical social worker specializing in dementia care for many years, Sara now understood all the behaviors she had been observing in Mitsy.

Adults with advanced dementia often have challenging behaviors. Wandering, pacing, following, bladder and urinary incontinence due to stress, defiant behaviors, aggressive behaviors – all are common in the later stages of cognitive impairment. Mitsy exhibited daily separation anxiety and followed her foster parent with every step in the house, a behavior noted by Gayatri Devi, M.D., in her new book "The Spectrum of Hope: An Optimistic and New Approach to Alzheimer's Disease and Other Dementias." Dr. Devi, a neurologist at New York's Lenox Hill Hospital, characterizes Alzheimer's disease as a kind of spectrum disorder, one that can present in multiple different ways and can respond to treatment that at least slows its progression[6]. Separation anxiety is one such symptom that presents in some dogs with CCD, but not in others. The distress it causes can be minimized with behavioral support—including bringing in a certified behavior consultant—and adapting the dog's environment.

The spouse or adult child caring for an elder with dementia is likely to know this behavior well and can start to feel overwhelmed and emotionally drained by the constant presence of the elder. Mitsy, too, followed so closely that a stop caused her to run into Sara. Mitsy became anxious at separation, and when united again with her foster she could be aggressive, snapping and lunging at her. Adults with dementia can also exhibit aggressive behavior when uniting with their caregivers, because they are overcome with anxiety and the need to be close and secure with that familiar person.

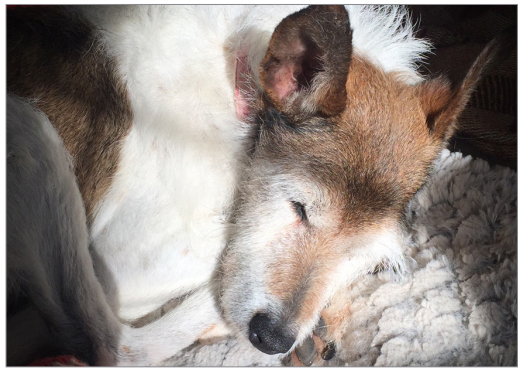
If she wasn't following closely behind Sara or sleeping, Mitsy paced the house, wandering back and forth through the hall and rooms, never stopping until she went back to her bed to sleep. When taken out for a walk on a long lead, she pulled forward at all times. She could not stand still. If Sara stopped, Mitsy continued forward in a circle, pulling on her lead. If the end of the long lead was not held high up to make a "merry-go-round" so that Mitsy could continue circling, she literally wrapped the long cord around Sara's legs.

Mitsy also exhibited spatial confusion, showing difficulty exiting through a door, hesitance to walk over a shiny floor, difficulty finding an opening—all the same behaviors many adults with a more advanced stage of dementia exhibit.

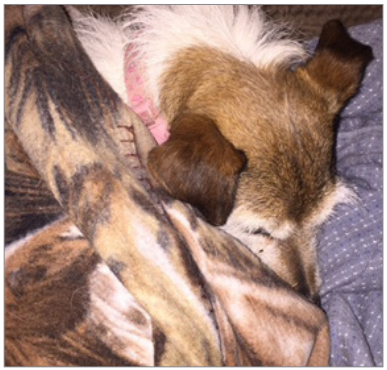
Now that Sara had a better understanding of the underlying cause of Mitsy's behaviors, a care plan was created just as it would be created for an elder human. Because of the advanced nature of Mitsy's CCD, routine was the critical part of the plan, with as little variation and stimulation as possible.

Mitsy needed to remain in the same home environment, eat at the same times with her bowl in the same place for each meal, and only interact with her two people, two dogs and three cats in the house. Every day's routine was the same: going out for her morning potty time at 6 a.m. with her two doggy companions, returning to the house for the morning meal, morning walks through the yard on a lead, daytime in the company of the two dogs and three cats, her evening meal at 5 p.m., then a long walk on the farm on her lead, returning to the house for the evening, then outdoors again at 9 p.m. for more yard time on her lead, then to her garage bed for the night. Introduction of other activities or people created anxiety in Mitsy that usually led to urinating or defecation on the spot. Calming activities such as being held or brushed while on her bed or being lifted to the sofa and cuddled helped to resettle Mitsy and calm her.

Photos: Sara Cain-Bartlett



A care plan helped Mitsy stop pacing, relax and snooze in the sun.



Mitsy snuggling in her blankets.

A care plan for an adult with advanced dementia is created in the same way. Every day needs to be the same, with a daily routine established for meal times, for bathing and dressing, for activities such as walks, music, old movies, and for going to bed. Changes in this routine—such as a trip outside the home for a medical appointment, meals away from home, or visitors in the home—often cause behavioral changes and challenges.

The needs for Mitsy's routine were learned by trial and error. A guest in the house prompted immediate defecation in the room where her humans were visiting, so this observation led to putting Mitsy in the garage with her bed and water when another person was expected to visit in the home. When Mitsy was brought back into the house from her garage bed, Sara held her close for several minutes, which eliminated the aggressive biting when she saw Sara again.

After a month of established routine, Mitsy's daily habits as a housedog were much more acceptable. With an increase of being petted, brushed lightly, and being held, Mitsy's anxiety and pacing almost completely vanished. She settled into her routine of going outdoors with her foster mom for shorter walks on the leash at the same times of the day and night until her bedtime. Shortening her time exposed to the stimulation of walks decreased her anxiety. She no longer wandered and paced in the house, but she still stayed within a step of her foster mom when she was awake, following right behind her at every step. Dog beds throughout the house allowed Mitsy to always be next to Sara, which she did until her last day.

The most important factors in Mitsy's care plan were the daily routine, avoidance of any new stimulation, providing a care environment that allowed Mitsy to be next to Sara at every opportunity, and providing more time for hugging, petting, and cuddling on the sofa. Mitsy was much calmer and more content, and the accidents in the house greatly decreased. Understanding the needs of the senior dog with dementia greatly relieves the stress on the caregiver, just as training for those who are caring for a human with dementia decreases the stress and fatigue of caregiving.

Caring for the Canine Senior Citizen

The formula for developing a care plan for a human showing signs and symptoms of cognitive impairment or decline is similar to that of a dog. The first rule is routine, routine, routine! It is best to create a daily routine for meals, dressing, naps, bedtime, visitors, or outings, and prevent change as much as possible. If the routine must be varied, it is best to do so in early hours of the day before fatigue sets in from the day's activities. Any stressors, such as rushing to complete a task, a change of environment, visitors who create anxiety (such as small, active children), loud noises, and expressions of anger or frustration by the caregiver, can produce challenging behaviors, also called "catastrophic reactions."

In humans with dementia, a catastrophic reaction might be crying, yelling, pounding fists, pacing, kicking, fleeing, throwing things, refusing care or food, or whatever reaction relates to the event causing the stress. This reaction is brought on by stressful events and experiences like anxiety, confusion, pain, overstimulation, or loss of a comforting possession. For the senior dog, the same is true. Making demands of the dog, correcting the dog, yelling at the dog, attempting to hurry the dog, and introducing the dog to any new experience or environment all cause anxiety and stress for the dog with cognitive impairment. They cannot take in new information, their reasoning is impaired, and they do not know how to respond. A catastrophic reaction may result.

If you've just started noticing these behaviors in your dog, it's best to seek a formal diagnosis from a veterinarian. An MRI is the gold standard, although expensive. Your veterinarian may also ask about changes in the dog's behavior. Your veterinarian can also prescribe

interventions that can help slow down cognitive decline. These can take the form of dietary supplements, specially formulated foods, and medications. Due to Mitsy's advanced age and already frail physical condition, and considering she was from a rural dog shelter with limited financial means, no medications, supplements, or sedatives were tried. The goal of Mitsy's foster mom and the shelter director were to provide end-of-life comfort and love for this old dog.

Not all cases of CCD are as advanced as Mitsy's, and dogs in the early stages of cognitive decline can benefit greatly from medication and behavioral therapies. As a behavior consultant, I recommend behavioral enrichment to help keep senior dogs engaged and prevent the progression of dementia-like symptoms before they become as challenging as Mitsy's case. Don't just let your senior dog curl up and sleep all day. Behavioral enrichment can include cognitive stimulation in the form of food puzzles, access to novel toys, training and practicing simple behaviors, and working on more complex cognitive tasks such as discrimination and concept training; it can include social enrichment in the form of access to and positive interaction with conspecific friends and human friends; and it can include physical exercise by way of leash walks and off-leash playtime (Landsberg, 2005[7]; Pop et al., 2010[8]).

Keeping a dog active both mentally and physically with training, interaction, and play in their geriatric years, combined with regular exercise, is known to decrease cognitive impairment. Research backs this up too — a multitude of studies confirm the provision of cognitive and environmental enrichment opportunities can prevent, delay, and improve symptoms of cognitive decline (Fraser, 2018[9]).

For dogs with advanced dementia, however, this approach can be counterproductive. I would not recommend a caregiver introduce any puzzles or novel toys, because the inability to focus and understand what is expected of the dog is likely to cause a stress reaction. They can't learn something new, so work on cognitive tasks would not be recommended for a dog with advanced dementia. Comfort for these dogs is what is needed. Gentle, predictable walks or other exercise they can tolerate can still be a source of pleasure, as can play if they still enjoy simple games, such as going a few feet for a ball, but no new activities. I would also recommend against the introduction of unknown people or animals — a trip to a dog park, for example, would likely overstimulate a dog with this stage of the condition.

Caring for the Caretaker

The family caregiver for the adult with moderate to advanced dementia is at risk for multiple mental and physical complications. Fatigue is most common, due to the lack of sleep and the 24-hour daily need to be alert, provide care, provide verbal responses, and the constant need to be aware of safety. Human caregivers suffer not only fatigue but multiple physical responses to stress, and many mental responses such as depression, grief, anxiety, anger, social isolation, and multiple losses.

The owner of a geriatric dog with cognitive loss will experience many of the same responses. Sleepless nights, and hyper-awareness of changes and needs can lead to fatigue and mental exhaustion. Emotional responses of depression and grief about the impending loss of their loved companion are also common. The human responsible for the elder dog also has the added responsibility of making that difficult decision about when to euthanize their pet.

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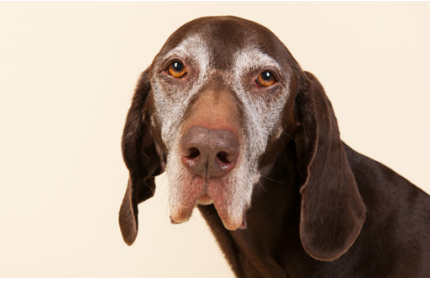
Support and education groups for the owners of old dogs and dogs with cognitive impairment are greatly needed. Animal shelters, the Humane Society, rescue organizations, and veterinary clinics all need to become aware of this progressive condition as we all keep our companions with us as long as possible. Just as the excellent veterinary care available now can keep a canine companion physically healthy longer, that longer life can lead to more experiences of cognitive disorders in late life. Education and emotional support can be the key to the quality of life of both the canine and the human caregiver.

Conclusion

Canine cognitive dysfunction will affect one in every five geriatric companion dogs, so the chances are if you own senior dogs or work in sheltering, foster, or rescue, you're likely to encounter this condition eventually. It is therefore useful to educate yourself on how to spot the signs of both the early stages and the more advanced symptoms like Mitsy's, as they may be missed by others.

CCD not only affects the quality of the dog's and caregiver's daily lives, but their relationship as well. Anything that we can do, no matter how small, to keep our senior citizens comfortable in a time of disorientation, stress, and anxiety would be a gift. Routine is the foundation for both dog and caregiver in coping with the emotional, mental, and physical changes of CCD. Having a balanced perspective of the realities of the world you both find yourselves in, with a sense of gratitude and acceptance, will be a comfort during this last stage of the dog's life. *(continued on page 40)*



Symptoms and Behavior of Canine Cognitive Dysfunction (CCD)

Four of the most common clinical symptoms are:

1. Sleeping during the day, and restlessness at night.
2. Decreased social interactions with family members and other pets.
3. Disorientation in the home.
4. Anxiety.

Other symptoms include a failure to recognize familiar people or pets, wandering, getting lost in corners, staring into space and failure to complete previously known obedience behaviors.

CCD exhibits in many forms of behavioral changes. They can be in learned behaviors, such as manners and or commands, or through decreased awareness, appetite, ability to learn, activity level, with an increase in aggression and anxiety. These can be put into seven categories[10]:

1. Confusion / Spatial Disorientation
2. Relationships / Social Behavior
3. Activity Levels Increased / Decreased
4. Anxiety / Increased Irritability
5. Sleep-Wake Cycles / Reverses Day-Night
6. Learning and Memory-House Soiling
7. Learning-Memory-Work, Tasks, Cues

Diagnosis

It is recommended veterinarians should screen for CCD at age 8 by administering a senior cognitive check, since a CCD diagnosis increases as the dog ages. To establish a CCD diagnosis, the veterinarian must first establish or identify five primary signs of cognitive dysfunction. It is the acronym DISHA[11].

1. Disorientation,
2. Interactions with family members,
3. Sleep-Wake cycle changes,
4. House soiling and
5. Activity level changes.

To rule out other causes for recent behavior changes it is recommended to identify when the new behavior began. Ask are these recent behaviors or symptoms or have these been observed before the aging process was noticed?

Owner-completed questionnaires are an important first step in identifying dogs with CCD. Multiple questionnaires exist and have proven themselves effective, reliable diagnostic tools, particularly for dogs displaying multiple symptoms, and/or moderate to severe level symptoms of CCD (Schutt et al., 2015[3]).

The Cognitive Dysfunction Rating scale (CCDR) (Hannah E. Salvin, 2011[12]) uses 27 previously validated behavioral indicators of CCD and is comprised of 13 behavioral items, three of which relate to determining severity of the condition (Hannah E. Salvin, 2010[13]).

An alternative to CCDR, the Canine Dementia Scale (CADES) (Madari et al., 2015[2]), is administered in-person by a veterinarian to an owner in an effort to limit potential subjectivity involved in having the owner fill out the questionnaire themselves. CADES contains 17 items that span four domains: spatial orientation, social interactions, sleep-wake cycles, and house soiling, and, similarly to CCDR, it rates level of impairment from mild to moderate to severe. Because the scale can be completed during a regular office visit, the authors assert that it is useful not only as a screening tool, but to use in long term assessment and monitoring efficacy of treatment interventions (Madari et al., 2015[2]).

Treatment of Canine Cognitive Dysfunction

Treatments for CCD fall into one of three primary categories: special diets and dietary supplements; pharmacological intervention, or environmental and behavioral enrichment. Generally, dogs with CCD show an increased sensitivity to change. They have a harder time coping with ordinary life stressors and show a decreased ability to adapt to unexpected situations (Fast et al., 2013[1]).

Diet: A nutritious diet throughout a dog's lifetime can prevent or slow cognitive impairment later in life as a poor diet can increase the risk of CCD. A specially formulated food designed for dogs already showing cognitive decline are widely available via veterinarians for the treatment of CCD.

Pharmacological: Supplements recommended by veterinarians can slow declining cognitive dysfunction. Various studies have looked more deeply at how these dietary supplements, particularly those rich in anti-oxidants that promote cognitive health. Pharmacological interventions targeting MAO-B, serotonin, dopamine, and other neurochemicals involved in cognitive function have also proven effective, though magnitude of effects can vary widely by the individual dog and medication type (Cotman & Head, 2008[14]; Head et al., 2006[15]; Landsberg, 2005[7]).

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Sara Cain-Bartlett, MSW, LCSW, C-ASWCM, *has practiced medical and geriatric clinical social work for more than 20 years, specializing in dementia care. She has written workbooks on the challenging behaviors presented in dementia care and has had a private practice as a geriatric care consultant since 2010. Sara also fosters large dogs and horses for the Animal League of Washington County, Arkansas. Mitsy was a foster from the Prairie Grove, Arkansas shelter.*

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