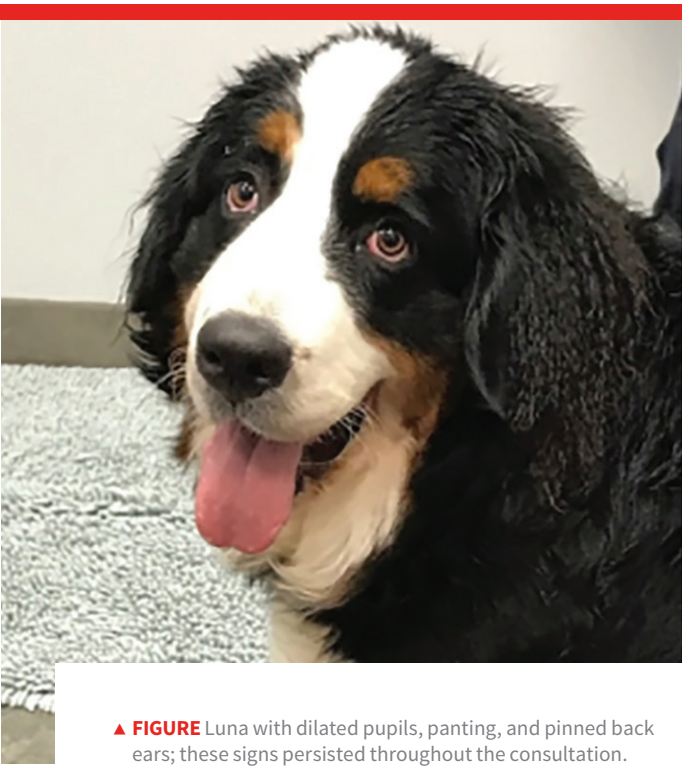
# Sudden Onset of Fear & Panic in a Bernese Mountain Dog

**Amy L. Pike, DVM, DACVB**
*Animal Behavior Wellness Center*
*Fairfax, Virginia*



▲ **FIGURE** Luna with dilated pupils, panting, and pinned back ears; these signs persisted throughout the consultation.

Luna, a 9-month-old, 60-lb (27-kg) intact female Bernese mountain dog, had a sudden onset of severe fear and panic toward new elements in her environment, unfamiliar humans, and riding in a car after she fell from a moving vehicle at 4 months of age.

Prior to Luna falling out of the car, her owners reported that she was normal, quickly accepted unfamiliar humans, and appeared to enjoy riding in the car. After falling, Luna began to startle, back up, bark, and growl when encountering novel items (eg, a plastic bag blowing in the wind); pant, bark, growl, and attempt to hide when unfamiliar humans entered the home; and back up, cower, tremble, pant, and profusely drool when being lifted into and riding in the car. She also appeared fearful when walking underneath objects (eg, trees, entryways). These behaviors continued for the next 5 months, at which time she was presented to a behavior clinic.

## Physical Examination & Diagnostics

Luna was initially presented to an emergency veterinary clinic after the fall. Diagnostic evaluation (including CBC, serum chemistry profile, and urinalysis) was performed, and all results were within normal limits. Because there was possible head trauma from the fall, she was also referred to a neurologist where a brain MRI was completed—results were also within normal limits.

Physical and neurologic examination findings at the time of presentation to the behavior clinic were also within normal limits. Behavior signs in the examination room included panting, pinning her ears back, cowering near her owners, and being unwilling to interact with staff or take treats during the consultation; her pupils were also dilated (***Figure***). An FAS (ie, Fear, Anxiety, and Stress) spectrum and pain algorithm was used (see ***Suggested Reading***, page 71), on which Luna scored an FAS 4: severe.

# DIAGNOSIS:

## CHRONIC POST-TRAUMATIC STRESS DISORDER

Based on patient history, and because the behavior issues were persistent and did not resolve, chronic post-traumatic stress disorder (PTSD) was diagnosed.

Secondary diagnoses included generalized anxiety disorder (based on the patient spending most of her time in an anxious state), global phobia (ie, persistent and excessive fears that are potentially irrational in nature), neophobia (ie, exaggerated fear response to novel items), and fear-based aggression (ie, distance increasing body postures and vocalizations [eg, barking, growling, snarling, lunging, nipping, snapping, biting] toward unfamiliar humans and dogs).

### Treatment

Treatment for behavior issues should include environmental management, behavior modification, and medical therapy.

## DESENSITIZATION & COUNTERCONDITIONING FOR A TRIGGER

To address Luna's fear of plastic bags, the distance at which she had no negative reaction toward the bag was determined. The bag was presented to her at that distance, her owner fed her a high-value reward, and the bag was removed when she stopped feeding. Once Luna developed a positive emotional response to the presence of the bag (as a result of receiving a high-value reward), criteria were increased, including bringing the bag closer to her or having the bag make noise or move. Luna was kept under threshold for reaction, and focus was kept on creating a positive emotional response before moving to next steps.

DSCC = desensitization and counterconditioning
NT = neurotransmitter
PTSD = post-traumatic stress disorder

### Environmental Management

Environmental management is important for elimination of unwanted behavior, as well as elimination (as much as feasible) of fear, anxiety, and frustration that are often the underlying cause of behavior concerns. Learning can only take place when the patient is not experiencing a high level of emotional arousal; thus, environmental management is the first step in treatment, before behavior modification can be started.

Luna's owners were instructed to attempt to avoid triggering situations during the treatment period, including not having guests in the home, not driving Luna in the car, and taking Luna on walks during nonpeak hours. Her owners were told to remove her from triggering encounters as quickly as possible.

### Behavior Modification

Behavior modification involves either teaching an alternate incompatible behavior to replace the unwanted behavior or altering the emotional state from one that is negative to one that is positive or neutral (ie, desensitization and counterconditioning [DSCC]).

Initial behavior modification techniques were focused on additional management strategies, including teaching Luna to wear a basket muzzle and perform an emergency U-turn (ie, a 180-degree turn away from the trigger/stimulus). Further behavior modification was delayed until Luna's anxiety was low enough to remain under threshold (ie, the level at which emotional arousal is too high and a negative reaction occurs). Once Luna's anxiety was under control, DSCC for her triggers could begin (see ***Desensitization & Counterconditioning for a Trigger***).

### Medical Therapy

Environmental management alone is impractical, and complete compliance is difficult in patients with numerous triggers, as with Luna and most patients with this set of diagnoses. Anxiolytic medication is thus necessary. Medical therapy is often multimodal, targeting ≥1 neurotransmitters

(NTs) involved in fear and anxiety and includes serotonin (ie, coping NT), dopamine (ie, pleasure/activation NT), γ-aminobutyric acid (ie, inhibitory NT), and norepinephrine (ie, NT involved in fight/flight modulation).

Treatment for dogs with chronic PTSD and other phobias can be challenging, and the correct medications and products are needed for behavior modification.

Luna was started on the following:

- Sertraline (25 mg twice daily [≈1 mg/kg PO every 12 hours]), which was chosen because it is a selective serotonin reuptake inhibitor that targets serotonin and dopamine increases via inhibition of reuptake in the postsynaptic cleft.[1] In humans, sertraline is approved for use in patients with PTSD and social phobias.[2-4]
- Alprazolam (1-3 mg PO prior to or immediately after any panic-inducing situation [≈0.04-0.1 mg/kg PO every 6-8 hours as needed]), which is shown to be effective in treating dogs with noise phobia and often useful for treatment of other phobia disorders (eg, noise phobia)[5,6]
- α-casozepine (450 mg; used as directed based on patient weight), which is used for calming effects in dogs with anxiety disorders[7]
- Pheromone collar (used as directed by the manufacturer); maternal-appeasing pheromones have been shown to help dogs with noise phobias and other anxiety disorders (eg, travel anxiety).[8-10]

Nutraceuticals and pheromones may augment medical therapy and potentially improve outcomes when combined with other treatment modalities.[11]

After 4 weeks, sertraline was increased to 50 mg twice daily (≈2 mg/kg PO every 12 hours) based on an ≈60% reduction in intensity of fear and anxiety, as well as a continued need for improvement. All other drugs and products were continued at the starting dosages. Luna's owners reported a decrease in the intensity of reactions to triggers and slightly decreased time of recovery, but attempts at DSCC were still unsuccessful. Management was still difficult due to the numerous triggers Luna experienced daily; this was partly due to living in an apartment complex in a major metropolitan area and the need to walk Luna for elimination purposes on a busy street.

## Prognosis & Outcome

Once Luna's anxiety was lowered and she was able to be under threshold while at a reasonable distance from triggering situations, a program of DSCC to specific triggers (eg, riding in a car, meeting new people, going through thresholds and under trees) was implemented.

Despite moderate improvement in fear intensity and ability to recover when triggered, Luna's owners chose to relinquish her because they lived in an urban area in which she was exposed to triggers daily and because they were first-time dog owners who felt overwhelmed by her continued need for behavioral care. Luna's breeder assisted in rehoming her with a family in a suburban area in which management could be more easily accomplished. Luna had significant progress with the new family, presumably due to the combined effect of being in a new environment, ongoing medical therapy, and the new owner's commitment to the prescribed behavior modification plan. Alprazolam was rarely

## TREATMENT AT A GLANCE

- Any possible medical etiology should be ruled out, especially in patients with a sudden change in behavior.
- Strict environmental management should be implemented to avoid unwanted behavior and keep the patient under threshold during treatment.
- Appropriate psychotropic medications and products should be considered to help reduce fear, anxiety, and stress.
- Behavior modification, including DSCC, with the assistance of a board-certified veterinary behaviorist or other qualified positive-reinforcement–based trainer can be helpful.

needed; however, her owners continued sertraline and other products because of Luna's progress and the owner's hesitance for potential setbacks.

## Discussion

Canine PTSD is diagnosed based on the patient experiencing a potentially traumatizing event and subsequently developing signs like hypervigilance, aggression, compulsive disorders, sleep disturbance, increased startle response, fear, avoidance, and/or withdrawal. These signs persist >1 month after the traumatic event and are not present prior to the event. Similar experiences in humans should be used as criteria when diagnosing PTSD. Prevalence of PTSD in dogs is widely unknown due to lack of retrospective studies.[12]

Sudden onset of behavior is usually an indicator that a thorough medical workup is needed. Once medical etiologies have been ruled out and diagnostic criteria for behavior disorders are met, treatment can be started to alleviate and modify signs.

## TAKE-HOME MESSAGES

- Medical etiologies should always be considered and ruled out when there is a sudden change in behavior.
- Traumatic events can cause PTSD in companion animals similar to that seen in humans.[12]
- Treatment for PTSD and other behavior problems should include a 3-part approach (ie, environmental management, behavior modification, medical therapy).
- Behavior modification, which is key for behavior disorders, cannot proceed until triggers do not immediately push the patient over their threshold.
- Psychotropic medications and products can positively impact patient well-being.
- Some owners may be unable or unwilling to care for a patient with behavior disorders.
- Improved living environment can impact treatment outcomes.

See page 71 for references and suggested reading.

PTSD = post-traumatic stress disorder

## … TO YOUR PATIENTS

Key pearls to put into practice:

1. Steroid therapy may result in insulin resistance and DM in cats. Most (64.3%) cats that developed DM in this study required insulin therapy and/or reduction of the steroid dosage for management of DM.
2. Although DM can occur at any time, most cats developed DM within the first 3 months of prednisolone therapy. It is important to educate owners on how to monitor for polyuria, polydipsia, and polyphagia, so cats that develop DM can be identified. Unlike dogs, cats do not normally exhibit polyuria/polydipsia with corticosteroid therapy.
3. Tapering to the lowest effective steroid dosage as soon as possible may help reduce the risk for secondary DM; however, this requires further evaluation.

## References


1. Gilor C, Niessen SJM, Furrow E, DiBartola SP. What's in a name? Classification of diabetes mellitus in veterinary medicine and why it matters. *J Vet Intern Med.* 2016;30(4):927-940.
2. McCann TM, Simpson KE, Shaw DJ, Butt JA, Gunn-Moore DA. Feline diabetes mellitus in the UK: the prevalence within an insured cat population and a questionnaire-based putative risk factor analysis. *J Feline Med Surg*. 2007;9(4):289-299.
3. Öhlund M, Egenvall A, Fall T, Hansson-Hamlin H, Röcklinsberg H, Holst BS. Environmental risk factors for diabetes mellitus in cats. *J Vet Intern Med*. 2017;31(1):29-35.
4. Suh S, Park MK. Glucocorticoid-induced diabetes mellitus: an important but overlooked problem. *Endocrinol Metab (Seoul)*. 2017;32(2):180-189.


**CASE IN POINT** ▸ CONTINUED FROM PAGE 86

## References


1. Kitaichi Y, Inoue T, Nakagawa S, et al. Sertraline increases extracellular levels not only of serotonin, but also of dopamine in the nucleus accumbens and striatum of rats. *Eur J Pharmacol*. 2010;647(103):90-96.
2. Friedman MJ, Marmar CR, Baker DG, Sikes CR, Farfel GM. Randomized, double-blind comparison of sertraline and placebo for posttraumatic stress disorder in a Department of Veterans Affairs setting. *J Clin Psychiatry*. 2007;68(5):711-720.
3. Brady K, Pearlstein T, Asnis GM. Efficacy and safety of sertraline treatment of posttraumatic stress disorder: a randomized controlled trial. *JAMA*. 2000;283(14):1837-1844.
4. Davidson JRT. Remission in post-traumatic stress disorder (PTSD): effects of sertraline as assessed by the Davidson Trauma Scale, Clinical Global Impressions and the Clinician-Administered PTSD scale. *Int Clin Psychopharmacol*. 2004;19(2):85-87.
5. Pineda S, Anzola B, Ruso V, Ibáñez M, Olivares Á. Pharmacological therapy with a combination of alprazolam and fluoxetine and use of the trace element lithium gluconate for treating anxiety disorders and aggression in dogs. *J Vet Behav*. 2018;28:30-34.
6. Crowell-Davis SL, Seibert LM, Sung W, Parthasarathy V, Curtis TM. Use of clomipramine, alprazolam, and behavior modification for treatment of storm phobia in dogs. *J Am Vet Med Assoc*. 2003;222(6):744-748.
7. Beata C, Beaumon-Graff E, Diaz C, et al. Effects of alpha-casozepine (Zylkene) versus selegiline hydrochloride (Selgian, Anipryl) on anxiety disorders in dogs. *J Vet Behav*. 2007;2(5):175-183.
8. Levine ED, Ramos D, Mills DS. A prospective study of two self-help CD based desensitization and counter-conditioning programmes with the use of dog appeasing pheromone for the treatment of firework fears in dogs (*Canis familiaris*). *Appl Anim Behav Sci*. 2007;105(4):311-329.
9. Landsberg GM, Beck A, Lopez A, Deniaud M, Araujo JA, Milgram NW. Dog-appeasing pheromone collars reduce sound-induced fear and anxiety in beagle dogs: a placebo-controlled study. *Vet Rec*. 2015;177(10):260.
10. Denenberg S, Landsberg GM. Effects of dog-appeasing pheromones on anxiety and fear in puppies during training and on long-term socialization. *J Am Vet Med Assoc*. 2008;233(12):1874-1882.
11. Ley J, Kerr K, Seksel K. Results on the use of dog appeasement pheromone (DAP) collars in a selection of Australian dogs with anxiety disorders. *J Vet Behav*. 2010;5(1):45-46.
12. Burghardt WF. Preliminary evaluation of case series of military working dogs affected with canine post-traumatic stress disorder (N = 14). In: Proceedings from the American College of Veterinary Behaviorists-American Veterinary Society of Animal Behavior Veterinary Behavior Symposium; July 19, 2013; Chicago, IL.


## Suggested Reading


FAS spectrum and pain algorithm. Fear Free website. https://fearfreepets.com/fas-spectrum. Accessed November 2020.