**Letters to the Editor**

**More thoughts on separation anxiety**

Dr. Myrna L. Papurt offers a skeptical view of the condition termed separation anxiety, instead suggesting that the signs are more likely attributable to boredom (JAVMA, Oct 1, 2001, pp 910). She raises an important point. Boredom has been given little attention by the veterinary profession, yet research suggests that it can be associated with substantial suffering.1 It is likely that some of the distress experienced by pets left at home is attributable to boredom resulting from insufficient stimulation.

However, it seems unlikely that the signs described for separation anxiety can be accounted for by the emotional state of boredom. Specifically, if the signs of distress are caused by boredom and not separation anxiety:

1. Why is the condition frequently triggered within minutes of the owner leaving, and often before the owner leaves?2
2. Why is the condition often not alleviated with activities, interactive toys, the presence of other animals, and even interaction with other humans?
3. Why don’t the signs occur when the owner is present but not interacting with the dog, such as when the owner is asleep?3
4. Why is the incidence of the condition higher in shelter source dogs?5
5. Why does the condition respond to behavior modification techniques (desensitization and counterconditioning),1 which do not address boredom?
6. Why does the condition respond to tricyclic antidepressants?3

Dr. Papurt states that she “doesn’t believe that my dog loves me so much that he goes crazy in my absence.” She does accept, however, that separation anxiety exists in puppies. In her brief review of the evolution of dogs, she fails to point out that one of the most important developments in the domestication process (evolution) of domestic dogs is the selective retention of puppy-like characteristics, both physical (eg, shorter muzzles) and psycologic (eg, play behavior, face-licking, submissiveness, emotional dependency), a process termed neoteny.1 Many researchers now view dogs as infantized wolves stuck in an early stage of development—wolf cubs that never fully mature. The result is that today’s adult domestic dog is, for all intents and purposes, emotionally wired like a puppy. Accordingly, the presence of separation anxiety in adult dogs (which Dr. Papurt rejects) is evolutionarily consistent with the presence of separation anxiety in puppies (which Dr. Papurt accepts).

This issue is far more important than a debate over semantics. Just as in treating physical pain and distress, an accurate diagnosis of the specific emotional distress is essential to its effective relief. The distress of boredom must be given serious attention, and when it is present by itself or coexists with separation anxiety, it should be aggressively treated. However, properly recognizing and treating the suffering of separation anxiety is essential to alleviating the emotional pain these animals endure.

Franklin D. McMillan, DVM
Los Angeles, Calif

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Dr. Papurt responds:

In his very interesting letter, Dr. McMillan equates boredom with distress.

Roget’s Thesaurus defines distress in the following terms: grief, torment, woe, affliction, agony, and anguish. In my opinion, the average dog that is destructive, dirty, and noisy in its owner’s absence is not in distress as so defined. The dogs don’t carry out these adverse behaviors because they are experiencing grief or torment. Yet again, I feel that the average misbehaving dog simply has no other outlet for its energy.

I have never implied that true separation anxiety in dogs does not exist. I do attest that the condition is so rare that it is seldom, if ever, encountered by the average practitioner. Some of the questions posed in Dr. McMillan’s letter may apply only to these very uncommon cases. Items one, two, and three in his letter are examples. I wonder just how many dogs the average practitioner treats that tear up the...
couch and defecate on the floor the instant the owners reach for their coats. How many dogs commit these acts when any person is present, even if the person is asleep in the dogs’ vicinity?

Item four in Dr. McMillan’s letter requires special attention. My considerable experience with humane societies leads me to question the statement that the “incidence of this condition is higher in shelter source dogs.” This implies that the former shelter dog cannot tolerate the absence of its new owner, because it is so insecure from being abandoned or because it is so grateful for being rescued. I doubt that dogs possess the mentality to grasp the concepts of abandonment and rescue.

However, there is a reason for this misperception. The most common shelter-source dog is an adolescent or young adult of a large breed. This describes the very animal that is most likely to be dirty, noisy, and destructive when left alone. Is it not likely that they were placed in a shelter because they were dirty, noisy, and destructive in their former homes? This in no way implies that large, young dogs should not be adopted from shelters. It indicates that people who do so should have the information and the facilities to handle their pets correctly.

Item five in Dr. McMillan’s letter is also of interest. Yes, misbehavior usually does respond to behavior modification techniques. We used to call this training.

Finally, the active misbehaviors accredited to separation anxiety often (not always) respond to tricyclic antidepressants. The reason is simple: the drugs reduce the dogs’ perceived need for activity. The drugged dog is not as interested in finding something to chew or to bark at.

Separation anxiety in puppies is something that every new owner expects. Puppies cry when left alone the first few nights. I cannot interpret this to mean that the domestic dog is somehow stuck forever in a state of neoteny.

My point is that true separation anxiety is very rare. I believe that the signs popularly attributed to separation anxiety are committed by dogs that are neither trained nor restrained to prevent these adverse activities. I cannot believe that millions of pet dogs are in abject misery because they are not on prescription mood-altering drugs.  

Myrna L. Papurt, DVM  
Huntsburg, Ohio

Thinks complication rates should be put in perspective

While reviewing the article “Assessment of claims of short- and long-term complications associated with onychectomy in cats” (JAVMA, Oct 1, 2001, pp 932–937), I was struck by an inconsistency in veterinary society’s level of concern toward complications. In particular, I am referring to the complication rate of vaccine-associated sarcomas versus the complication rate of onychectomy in cats. In the article “Vaccine-associated feline sarcomas” (JAVMA, Mar 1, 2001, pp 697–702), sarcomas are noted to develop at a rate of 1 case/10,000 cats to 10 cases/10,000 cats after the administration of rabies and feline leukemia virus vaccines. Feline leukemia is a leading cause of death in cats. Even so, we are advised to decrease our frequency of vaccination and change our protocols on the basis of the 1/10,000 to 10/10,000 rate of complication. The onychectomy article lists a rate of complications as low as 0.86% and as high as 33%. This is a very high complication rate, particularly for an elective surgery. To decrease our frequency of vaccination against fatal diseases because of a complication rate of 1/10,000 to 10/10,000 yet to continue to perform an elective procedure with a complication rate of 0.86 to 33% just does not make sense to me. I understand that the complication rate onychectomy is severe and often fatal. Permanent lameness, biting, or house soiling after onychectomy can also result in fatality when a frustrated owner decides to euthanize the cat.

Certainly the percentage of complications after onychectomy should encourage all surgeons to reconsider performing this procedure. There are plenty of alternatives to onychectomy. I do not know any satisfactory alternatives to vaccinating to prevent feline leukemia and rabies. An elective procedure with a high complication rate and a plethora of alternatives is a “low hanging fruit” type of problem to solve. Although it makes the most sense to do all that we can to prevent all types of complications, it does not make sense to give little attention to those common procedures with high complication rates while spending so much time and attention on those common procedures with low complication rates.

Rebecca Bozarth, DVM  
Bend, Ore

Does not believe there is an ovarian remnant syndrome

I am writing about the Oct 15, 2001 JAVMA Theriogenology Question of the Month article (pp 1065–1066). I am disturbed that the discussion refers to ovarian remnant syndrome as a disorder. In my opinion, it is only a fancy name that candy coats the real issue, which is that an incomplete ovariohysterectomy (OHE) was performed by the veterinary surgeon doing the OHE!

I am talking about the approximately one-inch OHE incision just cranial to the cervix to remove the ovaries and uterus. On a typical cat, the uterus is about three-and-a-half to four inches. (I’ve not actually measured one, so this is a guess and it isn’t backed up by any scientific studies.) This means the surgeon who is removing the four-inch uterus through a one-inch incision has to stretch the uterus and ovaries (and their blood vessels) to the one-inch opening and pull out as much as he or she possibly can without rupturing the blood vessels or tearing apart a possibly friable uterus.

I have had to perform second OHE surgeries on more than one occasion to remove a piece of ovarian tissue left inside, because the ovaries were not completely removed. A local veterinary surgery specialist has had to do the same surgery on numerous occasions. He has removed sections of uterus with pyometra in supposedly spayed cats and dogs. His comment...
to me was, “The complete ovary or the complete uterus was not removed during the first OHE.”

I was taught in veterinary school to make an incision long enough to adequately expose the organ or structure I wished to remove or repair. It was easier for the surgeon and safer for the animal. As Dr. Robert Horne at Auburn University always said, “The incision heals from side to side, not end to end.” This philosophy is still being taught in our veterinary schools.

The short incision is a shortcut, not the accepted standard of care or surgery. I do not believe there is an ovarian remnant syndrome, but I do believe there are some veterinarians who, for whatever reason, are doing an incomplete OHE surgery.

Frank A. Bonsack, DVM
Tampa, Fla

Dr. Root-Kustritz responds:

In the absence of scientific evidence to the contrary, I think it is inappropriate to assume that all cats with signs of cyclic estrus caused by a retained piece of ovarian tissue after ovariohysterectomy do so because of surgeon error. While I, too, have been responsible for cats in which a substantial piece of ovary was left behind after ovariohysterectomy, it is a documented fact that most cats with this problem do not have large pieces of ovary or uterus left behind. In fact, many of the referrals I see for this problem come to me because the cat has undergone an exploratory laparotomy after clinical signs were first noticed and the piece of functional ovarian tissue was too small to be visible to the referring surgeon without either a follicle or corpus luteum on it. Of the retrospective surveys evaluating cats with this problem that describe the tissue found at the time of exploratory surgery, only one, a study published in a British journal, reports that a preponderance of the cats had a large enough piece of ovary present at the time of laparotomy to suggest that incomplete removal of the ovary was the inciting cause of the problem.

Margaret V. Root-Kustritz, DVM, PhD, DACVTT
St. Paul, Minn

Information on adverse drug reaction in cats

I write to further alert veterinarians to an important adverse drug reaction identified in some cats given the commonly used antibiotic enrofloxacin (Baytril, Bayer Corporation). Cases of blindness involving cats receiving enrofloxacin began to be reported four years ago, after Bayer instituted a flexible dosing label that increased the dosage from 5 mg/kg of body weight/day (2.3 mg/lb/day) up to 20 mg/kg/day (9.1 mg/lb/day). This toxic adverse effect is now characterized as resulting from an acute, generally irreversible retinal degeneration. The prevalence of this toxicosis is not known, and although the condition appears to be rare relative to the widespread use of this antibiotic in cats, many veterinary ophthalmologists in this country have diagnosed this condition. In a recent multicenter study on enrofloxacin toxicity in cats, most had been treated at dosages of 10 to 25 mg/kg/day (4.5 to 11.4 mg/lb/day). However, some cats developed retinal degeneration at dosages near or even below 5 mg/kg/day, and some cats were given as few as 4 doses of the drug.

Blindness has been reported following administration of the oral tablets or the parenteral form (not approved for use in cats) of the drug.

In response to these reports, Bayer issued a “Dear Doctor” letter in July 2000 recommending that in cats, Baytril be used at a dosage not to exceed 5 mg/kg/day, modified the label instructions, and instituted additional toxicity tests in experimental animals. In this postapproval testing, retinal degeneration was documented in cats given enrofloxacin orally at 20 and 50 mg/kg/day (9.1 and 22.7 mg/lb/day) for 21 days, and no adverse effects were seen in the 8 cats given enrofloxacin at 5 mg/kg/day. Dosages between 5 and 20 mg/kg/day were not investigated.

These studies were performed in young, healthy research cats, and it is important to note that with clinical use of any drug, disease states and inherent population variability in metabolism may affect drug disposition in individual animals. Additionally, as some of the reported clinical cases are cats that have been treated at or very near the recommended dosage of 5 mg/kg/day, the safety margin of this drug in cats is currently not defined.

Veterinarians should consider this information when selecting the appropriate antibiotic in feline patients. If enrofloxacin is used, the total daily dosage should not exceed 5 mg/kg/day. In my opinion, the (extra-label) use of the parenteral form of the drug should be avoided in cats if other antimicrobial agents would be considered effective. In a March 2001 “Dear Doctor” letter, Bayer has recommended that this potential adverse effect be discussed with clients, who should be counseled to watch for mydriasis (reportedly an early warning sign) and vision loss and to discontinue the drug immediately if this occurs.

Veterinarians who document any visual problems in either cats or dogs following use of enrofloxacin, or who have seen suspected cases that have not previously been reported to the company, should contact Bayer Veterinary Services at (800) 422-9874 or report the reaction on-line through the Veterinary Practitioners’ Reporting Program of the US Pharmacopeia (USP) at http://www.usp.org/.

Michael Davidson, DVM, DACVO
Raleigh, NC


Praise for small communities with pet healthy attitudes

Congratulations to Denver on being the Pet Healthiest City in the United States (JAVMA, Nov 1, 2001, pp 1199). What a wonderful way to encourage people to care...
for their pets and their environment. But, I think these positive attitudes exist in communities of smaller size as well. An example is the community of Keokuk, Iowa. We have a human population of 13,000 and a very large pet population. Our city government and local humane society cooperate well, and our animal control ordinances and practices are the best enforced I’ve ever seen. I’ve lived in many communities of various sizes and as a practicing veterinarian, I have had first-hand knowledge of the need for and effectiveness of animal control and humane shelters.

We do many things in Keokuk to make ours a pet healthy community. There are five very dedicated, knowledgeable, and experienced veterinarians providing emergency, preventive, and curative care as well as compassionate hospice for companion animals not only in Keokuk but also in many of our neighboring smaller communities in Iowa, Illinois, and Missouri. Heartworm and flea infestation prevention are in widespread use. Being located on the Mississippi River, we see far less heartworm disease in dogs and cats than may be expected in riverside farming communities. Our humane society has many activities aimed at adults and youth to educate pet owners on health and safety issues concerning their pets. Our city has a skilled and kind animal control officer who takes his duties seriously enough that I can guarantee that should you decide to go jogging in town, you will not be bothered by loose or vicious dogs. In fact, you may disturb deer grazing on front lawns. It is the cooperation between the veterinary service providers, the city and county governments, and the caring population that have made this little town one of the best pet friendly communities in which I have ever lived.

I know large cities have much more complicated pet population problems and that Purina Pet Institute’s Healthy Pets 21 Consortium wants to target high density populations, but I wanted to put in a plug for small towns all over the United States struggling with pet and human health and environmental issues. Pat yourselves on the back guys, and wish us good luck to the larger communities in the continued battle for a safe and healthy life for their residents, no matter how many legs they have.

Cristine Mincheff, DVM
Keokuk, Iowa

AVMA Washington office commended for courage, professionalism

I would like to take this opportunity to commend the men and women of the AVMA Washington, DC office. In this very trying time, when our nation’s capitol has, in fact, been under siege, the voice of the AVMA has remained strong through the dedication of our Governmental Relations Division (GRD) staff.

While tanks were rolling in the streets of Washington, DC, the AVMA-GRD continued its mission of being the voice of the veterinary medical profession in the halls of government. Dr. Niall Finneghan, Dr. Bernadette Dunham, Dr. Dean Gooldner, Dr. Pamela Abney, Senator John Melcher, Ms. April Demert, Dr. Lester Crawford and his staff at the Association of American Veterinary Medical Colleges and Dr. Dale Boyle and his staff at the National Association of Federal Veterinarians, have displayed true patriotism by seeing the crisis yet moving forward in its face. Their offices are located just a mere four blocks north of the White House, so I am sure they are cognizant of being on the front line in the homeland. I am pleased that I got to know them personally when I worked with them as an extern for one month, and I am fortunate to have them as colleagues and friends.

Politics and public policy are often a delicate business. The staff of the AVMA-GRD meets each challenge with decorum, sincerity, and intelligence and, above all, by acting in the best interests of our profession. As a profession, we are indeed fortunate to have such people acting on our behalf.

Russell Donathan
Fourth-year veterinary student
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Broken Arrow, Okla

Advisory on proper disposal of euthanized animals

I recently had an experience euthanatizing a calf on a dairy farm that I would like to relate. The calf was euthanatized with sodium pentobarbital at the labeled dose, and a necropsy was performed. Within 24 hours of leaving the farm, two bald eagles consumed parts of the carcass and died shortly afterwards. The United States Fish and Wildlife Service was called in by the owners of the dairy to investigate the death of the eagles. At that time, the owners were not aware of the possible connection between the euthanatized calf and the death of the eagles. The service conducted an investigation and concluded that the eagles died from the effects of secondary sodium pentobarbital toxicity after consuming the calf.

On conclusion of the investigation, the service requested that I write a letter to veterinary journals, advising other veterinarians of the risk and responsibility we have to ensure that our clients are advised of the appropriate method of disposal of any euthanized animals. These animals need to be well protected from exposure to carnivores until the rendering service picks up the carcass. Our clients are advised to properly dispose of the animals within 24 hours, but in this case, the eagles had scavenged on the carcass within this period. One should check with local regulations on appropriate disposal of euthanized animals to ensure compliance. The manufacturers of sodium pentobarbital are not required to carry the labeled warning of this potential risk to wildlife and other animals. I was informed by the US Fish and Wildlife Service agent that sodium pentobarbital had carried a warning label until it was removed in the 1980s. I feel we should work together as a professional community to have the label amended to ensure that it effectively describes
the correct disposal method and risk factors when using sodium pentobarbital.

In addition to our ethical responsibility as professional veterinarians to take precautions to ensure there are no adverse effects from the drugs we administer, we also have a legal responsibility. In the case of the two eagles that died of the secondary effects of sodium pentobarbital, I was advised by the agent that I could be prosecuted for that act, even though it was purely unintentional. Bald eagles are protected pursuant to the Migratory Bird Treaty Act (MBTA), the Eagle Protection Act (EPA), and the Endangered Species Act (ESA). Maximum penalties authorized by the ESA and EPA for an individual or business taking or killing an eagle are $100,000 and $200,000, respectively, or up to one year in prison for a misdemeanor conviction. A subsequent violation under the EPA may be charged as a felony. Under the MBTA the maximum penalty is $5,000 for an individual and $10,000 for a corporation or business or six months in prison or both.

According to the service, sodium pentobarbital poisoning of these two bald eagles is not an isolated incident. Numerous incidents like this one have been reported all across North America. I now realize how important it is that veterinarians and livestock owners fully understand who is responsible for disposing of euthanatized carcasses and how to correctly accomplish the disposal. Once again I want to emphasize we should all work together as responsible professionals to demand that an effective warning label accompany sodium pentobarbital.

Donald R. Otten, DVM