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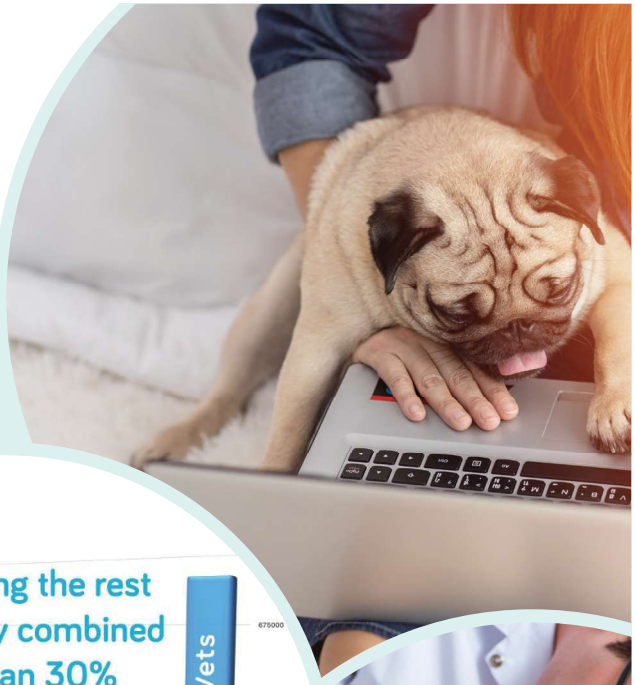

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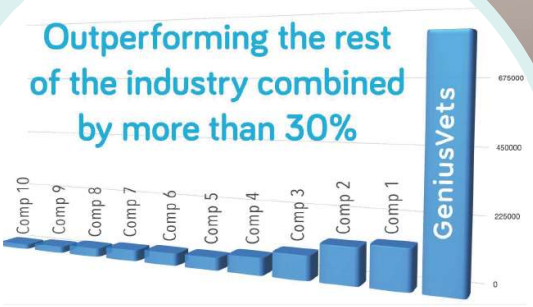

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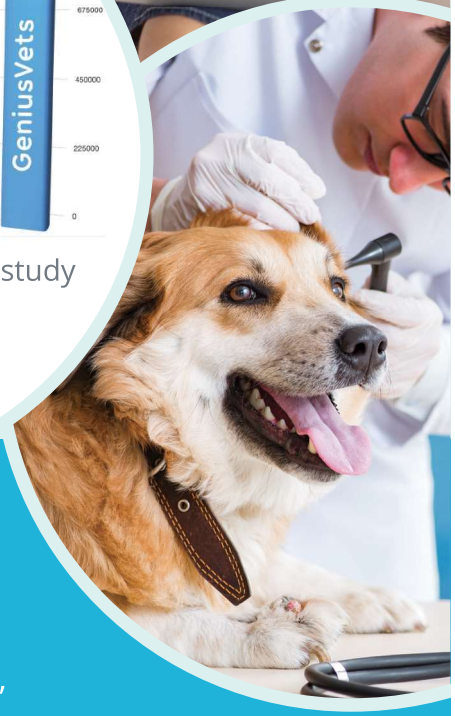

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AAHA The Standard of Veterinary Excellence

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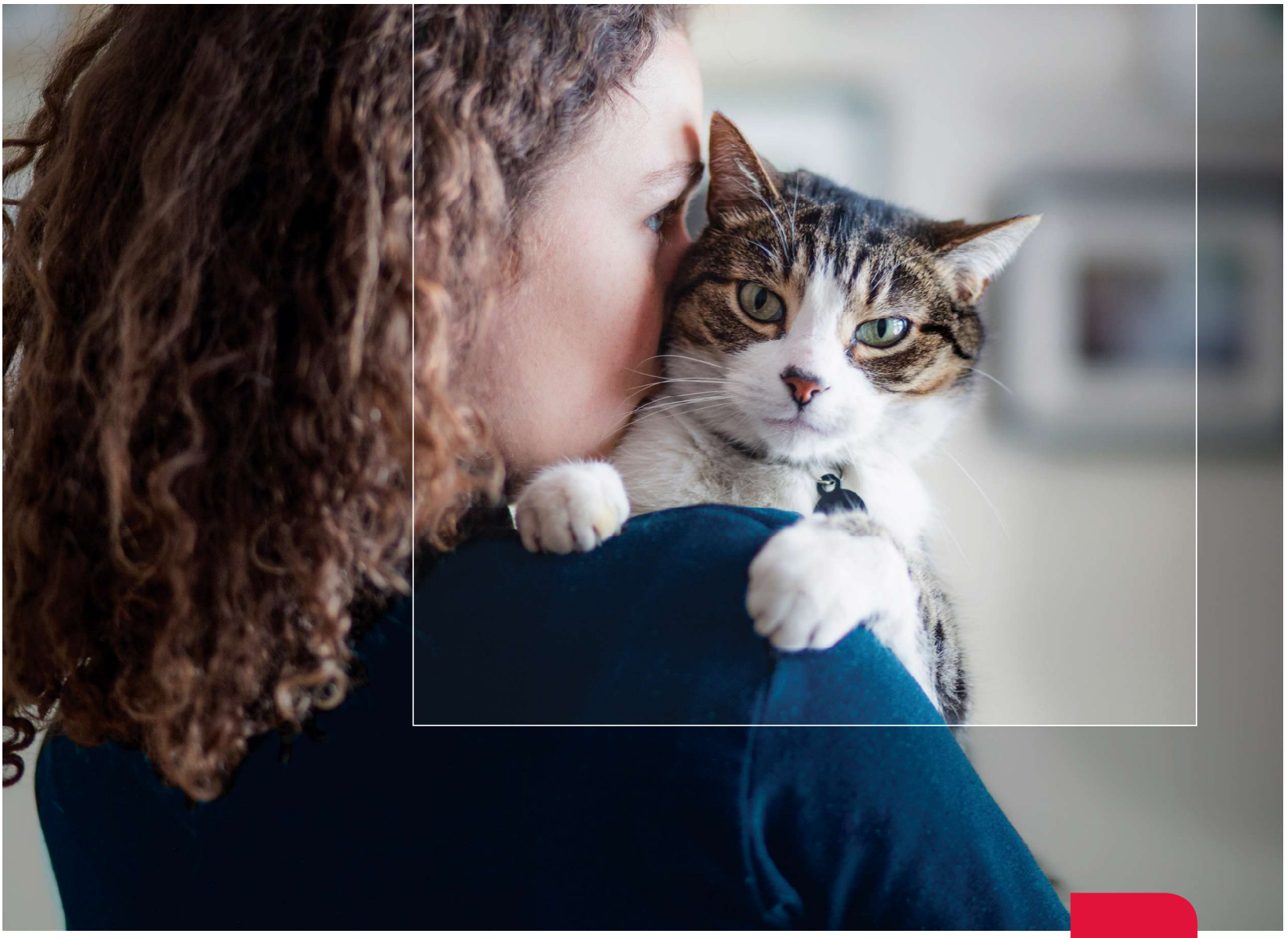

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> 40% of pet owners wouldn't return to a veterinary hospital where they had an unsatisfactory pet euthanasia experience.

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from the editor's desk

AS USEFUL AS PET INSURANCE APPEARS, there are still only 2% of pet owners who have it in the United States. Canada's rate is slightly higher, at 2.5%, but there are still a lot of opportunity for growth. Is it worth getting? Will it help your practice if you recommend it to clients? We attempt to answer these questions this month in our cover story.

Another kind of "insurance" is disaster planning. As we enter into the 2021 disaster season, *Trends* gets into the pros and cons of investing in preparations for disasters. Should you get that generator? Put on a fire-resistant roof? Depending on where you are, these and other preparations could be lifesavers.

Also in this issue, we discuss games and gamification. If you are not familiar, it is a business model or concept where you use games or point-based systems to engage with clients and promote your business. We have covered this topic before, but I wanted to revisit since gaming has become even more popular during the pandemic times.

I VALUE YOUR OPINION

I am always interested to hear what our readers have to say about the topics *Trends* is covering—and what we are not covering. Feel free to reach out any time with your thoughts or ideas for article topics.

And don't forget to nominate your own Employee of the Month to win $100!

COMING NEXT MONTH

In October, we will celebrate all things tech—technician that is! We'll have our Techs@Work photo spread as well as articles on techs and wellbeing, alterative careers for techs, and diversity in the tech world.

As always, let me know what you think at trends@aaha.org.

—Ben Williams, Editor

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Package Insert for Dogs

ProZinc®
(protamine zinc recombinant human insulin)

40 IU/mL

Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

Description: PROZINC® is a sterile aqueous protamine zinc suspension of recombinant human insulin.

Each mL contains:

recombinant human insulin	40 International Units (IU)
protamine sulfate	0.466 mg
zinc oxide	0.088 mg
glycerin	16.00 mg
dibasic sodium phosphate, heptahydrate	3.78 mg
phenol (added as preservative)	2.50 mg
hydrochloric acid	1.63 mg
water for injection (maximum)	1005 mg

pH is adjusted with hydrochloric acid and/or sodium hydroxide.

Indication: PROZINC (protamine zinc recombinant human insulin) is indicated for the reduction of hyperglycemia and hyperglycemia-associated clinical signs in dogs with diabetes mellitus.

Dosage and Administration: USE OF A SYRINGE OTHER THAN A U-40 SYRINGE WILL RESULT IN INCORRECT DOSING.

FOR SUBCUTANEOUS INJECTION ONLY.

DO NOT SHAKE OR AGITATE THE VIAL.

PROZINC should be mixed by gently rolling the vial prior to withdrawing each dose from the vial. Once mixed, PROZINC suspension has a white, cloudy appearance. Clumps or visible white particles can form in insulin suspensions: do not use the product if clumps or visible white particles persist after gently rolling the vial.

Using a U-40 insulin syringe, the injection should be administered subcutaneously on the back of the neck or on the side of the dog.

Always provide the Client Information Sheet with each prescription.

Starting dose: The recommended starting dose for PROZINC is 0.2-0.5 IU insulin/pound of body weight (0.5-1.0 IU/kg) **once daily**. The recommended starting dose for naïve dogs is the lower end of the dose range. The recommended starting dose for dogs with poorly controlled diabetes mellitus and transitioning from another insulin product is the mid to higher end of the dose range based on the veterinarian's experience with the dog's medical history and previous insulin dose. When transitioning from another insulin, the dog's blood glucose and general condition should be closely monitored. **When transitioning from another insulin, PROZINC should be started once daily, regardless of the frequency of prior insulin use.**

The dose should be given concurrently with or right after a meal. The veterinarian should re-evaluate the dog at appropriate intervals and adjust the dose and frequency based on both clinical signs and laboratory test results (the blood glucose curve values and shape, nadir, and fructosamine) until adequate glycemic control has been attained. In the effectiveness field study, glycemic control was considered adequate if the glucose nadir from a 9-hour blood glucose curve was between 80 and 125 mg/dL, the maximum blood glucose was ≤ 300 mg/dL, and clinical signs of hyperglycemia such as polyuria, polydipsia, or weight loss were improved.

Changing to twice daily dosing: Twice daily dosing should be considered if the duration of insulin action is determined to be inadequate with once daily dosing. Use caution when adjusting from once daily to twice daily dosing because PROZINC may have prolonged duration of action in some dogs (see Clinical Pharmacology). The veterinarian should closely monitor the duration of action using blood glucose curves to avoid the increased risk of hypoglycemia. If twice daily dosing is initiated, the two doses should each be approximately 25% less than the once daily dose required to attain an acceptable glucose nadir. For example, if a dog receiving 10 units of PROZINC once daily has an acceptable nadir but inadequate duration of activity, the dose should be changed to 7 units twice daily (round down to the nearest whole unit).

Further adjustments in the dosage may be necessary with changes in the dog's diet, body weight, or concomitant medication, or if the dog develops concurrent infection, inflammation, neoplasia, or an additional endocrine or other medical disorder.

Contraindications: PROZINC is contraindicated in dogs sensitive to protamine zinc recombinant human insulin or any other ingredients in PROZINC. PROZINC is contraindicated during episodes of hypoglycemia.

Warnings:

User Safety: For use in dogs and cats. Keep out of the reach of children. Avoid contact with eyes. In case of contact, immediately flush eyes with running water for at least 15 minutes. Accidental injection may cause hypoglycemia. In case of accidental injection, seek medical attention immediately. Exposure to product may induce a local or systemic allergic reaction in sensitized individuals.

Animal Safety: Owners should be advised to observe for signs of hypoglycemia (see Client Information Sheet). Use of this product, even at established doses, has been associated with hypoglycemia. A dog with signs of hypoglycemia should be treated immediately. Glucose should be given orally or intravenously as dictated by clinical signs. Insulin should be temporarily withheld and, if indicated, the dosage adjusted.

Any change in insulin should be made cautiously and only under a veterinarian's supervision. Changes in insulin strength, manufacturer, type, species (human, animal) or method of manufacture (rDNA versus animal-source insulin) may result in the need for a change in dosage.

Appropriate diagnostic tests should be performed to rule out other endocrinopathies in diabetic dogs that are difficult to regulate.

Precautions: Dogs presenting with severe ketoacidosis, anorexia, lethargy, and/or vomiting should be stabilized with short-acting insulin and appropriate supportive therapy until their condition is stabilized. As with all insulin products, careful patient monitoring for hypoglycemia and hyperglycemia is essential to attain and maintain adequate glycemic control and to prevent associated complications. Overdose can result in profound hypoglycemia and death.

Glucocorticoids, progestogens, and certain endocrinopathies can have an antagonistic effect on insulin activity. Glucocorticoid and progestogen use should be avoided.

The safety and effectiveness of PROZINC in breeding, pregnant, and lactating dogs has not been evaluated.

The safety and effectiveness of PROZINC in puppies has not been evaluated.

Adverse Reactions: In a 182-day field study, 276 dogs received PROZINC. The most common adverse reactions were lethargy, anorexia, hypoglycemia, vomiting, seizures, shaking, diarrhea, and ataxia.

Table 1 summarizes the adverse reactions reported in the study. Clinical signs of hypoglycemia varied and included seizure, collapse, ataxia, staggering, trembling, twitching, shaking, disorientation, lethargy, weakness, and vocalization. In Table 1, the individual clinical signs that were observed during the episodes of hypoglycemia are captured as separate adverse reactions and a single dog may have experienced more than one clinical sign of hypoglycemia.

Table 1. Adverse reactions seen in the safety population (276 dogs)

Adverse Reaction	Number and Percentage
Lethargy (lethargy, depression, listless, and tiredness)	45 (16.3%)
Anorexia (anorexia, decreased appetite, inappetence, and not eating)	28 (10.1%)
Hypoglycemia with clinical signs	24 (8.9%)
Vomiting	21 (7.6%)
Seizures	16 (5.8%)
Shaking/trembling/twitching	13 (4.7%)
Ataxia (ataxia, balance problem, stumbling gait)	11 (4.0%)
Diarrhea (includes bloody diarrhea)	9 (3.3%)
Disorientation/confusion	9 (3.3%)
Weakness	8 (2.9%)
Restlessness/anxiety/agitation	6 (2.2%)
Cataract	6 (2.2%)
Panting (panting and tachypnea)	6 (2.2%)
Hematuria	4 (1.5%)

Clinical pathology: The only change seen in complete blood count, serum chemistry, and urinalysis results was an elevation in mean cholesterol at Day 182 (432.6 mg/dL, normal range 131-345 mg/dL) compared to Day -1 (333.7 mg/dL).)

Injection site reactions: Seven dogs had injection site reactions, including observations of thickened skin, swelling, bumps at the injection site, and redness. All injection site reactions resolved without cessation of PROZINC therapy. Reaction to the injection, including vocalization, was observed in four dogs.

Hypoglycemia: There were 80 hypoglycemic episodes recorded during the study with some dogs experiencing more than one episode; 37 episodes were associated with clinical signs in 24 dogs, 40 episodes were without clinical signs in 27 dogs, and 3 were with unknown signs in 2 dogs. Clinical signs of hypoglycemia varied and included seizure, collapse, ataxia, staggering, trembling, twitching, shaking, disorientation, lethargy, weakness, and vocalization. Some dogs required hospitalization and intravenous dextrose while most recovered after receiving oral supplementation with a meal and/or oral glucose such as syrup. Two dogs were euthanized when the hypoglycemia did not resolve with supportive care. Hypoglycemia without clinical signs was defined as two consecutive blood glucose curve values < 60 mg/dL unaccompanied by clinical signs.

Diabetic ketoacidosis and pancreatitis: Eleven dogs were diagnosed with diabetic ketoacidosis. Four of these 11 dogs died or were euthanized, one after one dose of PROZINC. Twenty-one dogs were diagnosed with pancreatitis. Seven of these 21 dogs died or were euthanized due to complications of pancreatitis. Four dogs had concurrent diabetic ketoacidosis and pancreatitis, three of which died or were euthanized. Not all the deaths were considered related to PROZINC.

Deaths: Thirty-six (36) dogs died or were euthanized, six of which were possibly related to PROZINC. One dog died from recurrent episodes of pancreatitis, and one died after developing severe vomiting and diarrhea followed by a seizure. Four dogs were euthanized: one developed severe pancreatitis and azotemia, one had recurrent episodes of pancreatitis and diabetic ketoacidosis, and two for lack of effectiveness.

To report suspected adverse drug events, for technical assistance or to obtain a copy of the Safety Data Sheet (SDS), contact Boehringer Ingelheim at 1-888-637-4251.

For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or online at http://www.fda.gov/reportanimalae.

Clinical Pharmacology: PROZINC was administered subcutaneously to 10 healthy Beagles using an incomplete crossover design at doses of 0.5 IU/kg (5 dogs), 0.8 IU/kg at a single site (10 dogs), or 0.8 IU/kg at three separate sites (6 dogs). Insulin and glucose concentrations were measured over 24 hours. The shapes of insulin and glucose curves were variable among dogs; and the relationship between insulin dose, concentration, and glucose-lowering effect was nonlinear (Table 2).

Table 2. Pharmacodynamics of three dosing groups

Dose group	Onset of Action	Time to nadir	Duration of Action
0.5 IU/kg at a single site	1 to 14 hours	6 to 16 hours	16 to >24 hours
0.8 IU/kg at a single site	0.5 to 10 hours	5 to >24 hours	16 to >24 hours
0.8 IU/kg divided at three sites	1 to 10 hours	8 to 20 hours	18 to >24 hours

Information for Dog Owners: Please refer to the Client Information Sheet for Dogs for more information about PROZINC. PROZINC, like other insulin products, is not free from adverse reactions. Owners should be advised of the potential for adverse reactions and be informed of the associated clinical signs. Potential adverse reactions include hypoglycemia, insulin antagonism/resistance, rapid insulin metabolism, insulin-induced hyperglycemia (Somogyi Effect), and local or systemic reactions. The most common adverse reaction observed is hypoglycemia. Signs may include weakness, depression, behavioral changes, muscle twitching, and anxiety. In severe cases of hypoglycemia, seizures and coma can occur. Hypoglycemia can be fatal if an affected dog does not receive prompt treatment. Appropriate veterinary monitoring of blood glucose, adjustment of insulin dose and regimen as needed, and stabilization of diet and activity help minimize the risk of hypoglycemic episodes. The attending veterinarian should evaluate other adverse reactions on a case-by-case basis to determine if an adjustment in therapy is appropriate, or if alternative therapy should be considered.

Effectiveness: A total of 276 client-owned dogs were enrolled in an 84-day field study followed by a 98-day extended-use phase with 276 dogs receiving PROZINC. The dogs included various purebred and mixed breed dogs ranging in age from 2 to 16 years and in weight from 3.3 to 123 pounds. There were 128 neutered males, 8 intact males, 134 spayed females and 6 intact females. Two hundred twenty-four dogs (224) were included in the effectiveness analysis. Dogs were started on PROZINC at a dose of 0.2-0.5 IU/lb (0.5-1.0 IU/kg) once daily. Dogs were evaluated at 7, 14, 21, 28, 42, 63 and 84 days after initiation of therapy. The dose was adjusted based on clinical signs and results of 9-hour blood glucose curves on Days 7, 14, 21, 28, 42, 63 and 84.

Effectiveness was based on successful control of diabetes which was defined as improvement in at least one laboratory variable (blood glucose curve mean, blood glucose curve nadir, or fructosamine) and at least one clinical sign (polyuria, polydipsia, or weight loss). Based on this definition, 162 of 224 cases (72%) were considered successful.

How Supplied: PROZINC is supplied as a sterile injectable suspension in 10 mL and 20 mL multi-dose vials. Each mL of PROZINC contains 40 IU recombinant human insulin.

Storage Conditions: Store in an upright position under refrigeration at 36-46°F (2-8°C). Do not freeze. Protect from light. **Use the 10 mL vial within 60 days of first puncture. Use the 20 mL vial within 80 days of first puncture.**

Approved by FDA under NADA # 141-297

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Revised 08/2019

449986-01

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Package Insert for Cats

ProZinc®
(protamine zinc recombinant human insulin)

40 IU/mL

Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

Description: PROZINC® is a sterile aqueous protamine zinc suspension of recombinant human insulin.

Each mL contains:

recombinant human insulin	40 International Units (IU)
protamine sulfate	0.466 mg
zinc oxide	0.088 mg
glycerin	16.00 mg
dibasic sodium phosphate, heptahydrate	3.78 mg
phenol (added as preservative)	2.50 mg
hydrochloric acid	1.63 mg
water for injection (maximum)	1005 mg

pH is adjusted with hydrochloric acid and/or sodium hydroxide.

Indication: PROZINC (protamine zinc recombinant human insulin) is indicated for the reduction of hyperglycemia and hyperglycemia-associated clinical signs in cats with diabetes mellitus.

Dosage and Administration: USE OF A SYRINGE OTHER THAN A U-40 SYRINGE WILL RESULT IN INCORRECT DOSING.

FOR SUBCUTANEOUS INJECTION ONLY.

DO NOT SHAKE OR AGITATE THE VIAL.

PROZINC should be mixed by gently rolling the vial prior to withdrawing each dose from the vial. Once mixed, PROZINC suspension has a white, cloudy appearance. Clumps or visible white particles can form in insulin suspensions: do not use the product if clumps or visible white particles persist after gently rolling the vial.

Using a U-40 insulin syringe, the injection should be administered subcutaneously on the back of the neck or on the side of the cat.

Always provide the Client Information Sheet with each prescription.

The initial recommended PROZINC dose is 0.1 – 0.3 IU insulin/pound of body weight (0.2 – 0.7 IU/kg) every 12 hours. The dose should be given concurrently with or right after a meal. The veterinarian should re-evaluate the cat at appropriate intervals and adjust the dose based on both clinical signs and glucose nadirs until adequate glycemic control has been attained. In the effectiveness field study, glycemic control was considered adequate if the glucose nadir from a 9-hour blood glucose curve was between 80 and 150 mg/dL and clinical signs of hyperglycemia such as polyuria, polydipsia, and weight loss were improved.

Further adjustments in the dosage may be necessary with changes in the cat's diet, body weight, or concomitant medication, or if the cat develops concurrent infection, inflammation, neoplasia, or an additional endocrine or other medical disorder.

Contraindications: PROZINC is contraindicated in cats sensitive to protamine zinc recombinant human insulin or any other ingredients in PROZINC. PROZINC is contraindicated during episodes of hypoglycemia.

Warnings: User Safety: For use in cats and dogs only. Keep out of the reach of children. Avoid contact with eyes. In case of contact, immediately flush eyes with running water for at least 15 minutes. Accidental injection may cause hypoglycemia. In case of accidental injection, seek medical attention immediately. Exposure to product may induce a local or systemic allergic reaction in sensitized individuals.

Animal Safety: Owners should be advised to observe for signs of hypoglycemia (see Client Information Sheet). Use of this product, even at established doses, has been associated with hypoglycemia. A cat with signs of hypoglycemia should be treated immediately. Glucose should be given orally or intravenously as dictated by clinical signs. Insulin should be temporarily withheld and, if indicated, the dosage adjusted.

Any change in insulin should be made cautiously and only under a veterinarian's supervision. Changes in insulin strength, manufacturer, type, species (human, animal) or method of manufacture (rDNA versus animal-source insulin) may result in the need for a change in dosage.

Appropriate diagnostic tests should be performed to rule out other endocrinopathies in diabetic cats that are difficult to regulate.

Precautions: Cats presenting with severe ketoacidosis, anorexia, lethargy, and/or vomiting should be stabilized with short-acting insulin and appropriate supportive therapy until their condition is stabilized. As with all insulin products, careful patient monitoring for hypoglycemia and hyperglycemia is essential to attain and maintain adequate glycemic control and to prevent associated complications. Overdose can result in profound hypoglycemia and death.

Glucocorticoids, progestogens, and certain endocrinopathies can have an antagonistic effect on insulin activity. Glucocorticoid and progestogen use should be avoided.

The safety and effectiveness of PROZINC in breeding, pregnant, and lactating cats has not been evaluated.

The safety and effectiveness of PROZINC in kittens has not been evaluated.

Adverse Reactions: Effectiveness Field Study

In a 45-day effectiveness field study, 176 cats received PROZINC. Hypoglycemia (defined as a blood glucose value of < 50 mg/dL) occurred in 71 of the cats at various times throughout the study. Clinical signs of hypoglycemia were generally mild in nature (described as lethargic, sluggish, weak, trembling, uncoordinated, groggy, glassy-eyed or dazed). In 17 cases, the veterinarian provided oral glucose supplementation or food as treatment. Most cases were not associated with clinical signs and received no treatment. One cat had a serious hypoglycemic event associated with stupor, lateral recumbency, hypothermia and seizures.

All cases of hypoglycemia resolved with appropriate therapy and if needed, a dose reduction.

Three cats had injection site reactions which were described as either small, punctate, red lesions; lesions on neck; or palpable subcutaneous thickening. All injection site reactions resolved without cessation of therapy.

Four cats developed diabetic neuropathy during the study as evidenced by plantigrade stance. Three cats entered the study with plantigrade stance, one of which resolved by Day 45. Four cats were diagnosed with diabetic ketoacidosis during the study. Two were euthanized due to poor response to treatment. Five other cats were euthanized during the study, one of which had hypoglycemia. Four cats had received PROZINC for less than a week and were euthanized due to worsening concurrent medical conditions.

The following additional clinical observations or diagnoses were reported in cats during the effectiveness field study: vomiting, lethargy, diarrhea, cystitis/hematuria, upper respiratory infection, dry coat, hair loss, ocular discharge, abnormal vocalization, black stool, and rapid breathing.

Extended Use Field Study

Cats that completed the effectiveness study were enrolled into an extended use field study. In this study, 145 cats received PROZINC for up to an additional 136 days. Adverse reactions were similar to those reported during the 45-day effectiveness study and are listed in order of decreasing frequency: vomiting, hypoglycemia, anorexia/poor appetite, diarrhea, lethargy, cystitis/hematuria, and weakness. Twenty cats had signs consistent with hypoglycemia described as: sluggish, lethargic, unsteady, wobbly, seizures, trembling, or dazed. Most of these were treated by the owner or veterinarian with oral glucose supplementation or food; others received intravenous glucose. One cat had a serious hypoglycemic event associated with seizures and blindness. The cat fully recovered after supportive therapy and finished the study. All cases of hypoglycemia resolved with appropriate therapy and if needed, a dose reduction.

Fourteen cats died or were euthanized during the extended use study. In two cases, continued use of insulin despite anorexia and signs of hypoglycemia contributed to the deaths. In one case, the owner decided not to continue therapy after a presumed episode of hypoglycemia. The rest were due to concurrent medical conditions or worsening of the diabetes mellitus.

To report suspected adverse drug events, for technical assistance or to obtain a copy of the Safety Data Sheet (SDS), contact Boehringer Ingelheim at 1-888-637-4251.

For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or online at http://www.fda.gov/reportanimalae.

Information for Cat Owners: Please refer to the Client Information Sheet for Cats for more information about PROZINC. PROZINC, like other insulin products, is not free from adverse reactions. Owners should be advised of the potential for adverse reactions and be informed of the associated clinical signs. Potential adverse reactions include: hypoglycemia, insulin antagonism/resistance, rapid insulin metabolism, insulin-induced hyperglycemia (Somogyi Effect), and local or systemic reactions. The most common adverse reaction observed is hypoglycemia. Signs may include: weakness, depression, behavioral changes, muscle twitching, and anxiety. In severe cases of hypoglycemia, seizures and coma can occur. Hypoglycemia can be fatal if an affected cat does not receive prompt treatment. Appropriate veterinary monitoring of blood glucose, adjustment of insulin dose and regimen as needed, and stabilization of diet and activity help minimize the risk of hypoglycemic episodes. The attending veterinarian should evaluate other adverse reactions on a case-by-case basis to determine if an adjustment in therapy is appropriate, or if alternative therapy should be considered.

Effectiveness: A total of 187 client-owned cats were enrolled in a 45-day field study, with 176 receiving PROZINC. One hundred and fifty-one cats were included in the effectiveness analysis. The patients included various purebred and mixed breed cats ranging in age from 3 to 19 years and in weight from 4.6 to 20.8 pounds. Of the cats included in the effectiveness analysis, 101 were castrated males, 49 were spayed females, and 1 was an intact female.

Cats were started on PROZINC at a dose of 0.1-0.3 IU/lb (0.2-0.7 IU/kg) twice daily. Cats were evaluated at 7, 14, 30, and 45 days after initiation of therapy and the dose was adjusted based on clinical signs and results of 9-hour blood glucose curves on Days 7, 14, and 30.

Effectiveness was based on successful control of diabetes which was defined as improvement in at least one blood glucose variable (glucose curve mean, nadir, or fructosamine) and at least one clinical sign (polyuria, polydipsia, or body weight). Based on this definition, 115 of 151 cases (76.2%) were considered successful. Blood glucose curve means decreased from 415.3 mg/dL on Day 0 to 203.2 mg/dL by Day 45 and the mean blood glucose nadir decreased from 407.9 mg/dL on Day 0 to 142.4 mg/dL on Day 45. Mean fructosamine values decreased from 505.9 µmol/L on Day 0 to 380.7 µmol/L on Day 45.

Cats that completed the effectiveness study were enrolled in an extended use field study. The mean fructosamine value was 342.0 µmol/L after a total of 181 days of PROZINC therapy.

How Supplied: PROZINC is supplied as a sterile injectable suspension in 10 mL and 20 mL multi-dose vials. Each mL of PROZINC contains 40 IU recombinant human insulin.

Storage Conditions: Store in an upright position under refrigeration at 36-46°F (2-8°C). Do not freeze. Protect from light. **Use the 10 mL vial within 60 days of first puncture. Use the 20 mL vial within 80 days of first puncture.**

Approved by FDA under NADA # 141-297

Marketed by:
Boehringer Ingelheim Animal Health USA Inc.
Duluth, GA 30096

Revised 08/2019

449986-01

Boehringer Ingelheim

View from the President

Have a Plan in Place

September is National Preparedness Month, so I would like to share a little story with you.

Disasters come in many shapes and sizes. Some are natural, some man-made, and some are just bad luck. No one could have predicted what happened in March of 2020, but I would bet that those who had disaster plans in place had an edge on those who did not when it came to the world shutting down for COVID-19 and the instant pivot of operations as we knew it in the veterinary world.

Disaster preparedness are two words that meant little to me early in my career. That is until September 2005, when I had the opportunity to make the acquaintance of a storm named Rita. She was the lesser-known storm that was the sequel to her big sister, Katrina. This was really the first time I experienced a disaster as an adult with a young family. I realized that it was mostly dumb luck that nothing serious happened to my family, but I saw the devastation suffered by those around me who were affected. Bad decisions and no decisions wind up being good teachers when things go poorly. One of the lessons I learned during that storm season was that I needed a plan.

I started out trying to create the ultimate disaster plan and was quickly overwhelmed, so I lowered my expectations and started with a one-page plan. It consisted of a list of items I would need in case my family and I had to evacuate for three days. That was a simple enough task. After that, I worked on a list of all insurance policies and family records that would not be easy to replace. My plan has grown with each disaster and near miss since. There are general themes for planning that can be shared, but there is no premade plan. The ultimate plan needs to be created by and for the individual. There is also no such thing as disaster season. An unexpected disaster is something we should be prepared for 365 days a year.

Fast forward to 2008 when I met Hurricane Ike. This time I had a plan. It was a simple plan, but a plan, nonetheless. We knew what to do and where to go. With each subsequent storm, we did better and were more prepared.

It all starts with making the decision to have a plan. Every part of the country has certain natural disasters that they are prone to, whether hurricanes, snowstorms, tornadoes, earthquakes, fires, or whatever Mother Nature throws at your region. This is where you start. Plan for those things that happen commonly. It was about the time of my third or fourth disaster when I was taught that you cannot help anyone else if you need to help yourself. Disaster planning starts with you, then expands to your family, then your business, then your community. I consider my work team my family and have included them in my disaster plans.

By the time Hurricane Harvey hit Houston in 2017 and flooding forced the evacuation of my family (plus my father) from our homes, our family disaster plan ran like a well-oiled machine. We moved the five of us, our dog, perishable and nonperishable food, a pressure cooker and indoor grill, and all our important paperwork and photos from our home and into our hospital in a couple of hours. We were able to live there comfortably for nearly a week.

We were thrown a curveball in Texas earlier this year with a severe ice storm that our part of the country does not handle well. Even through that experience, knowing how to prioritize our response made all the difference. Family safety comes first, then staff and hospital concerns. It was bizarre putting ice packs in our vaccine fridge when the power was out and it was below freezing, but we knew what to do because of our hurricane preparedness experience. We knew that the power would still be out when it warmed up the next day.

It is exceedingly difficult to make good decisions when under stress. Being in the middle of a disaster is nothing if not stressful. Creating a plan is step one. Knowing the plan and sharing the plan are steps two and three. Thinking through contingencies beforehand is also important. That is why we have fire drills in schools, so everyone knows the plan and can execute it when it really matters.

Starting a disaster plan can seem daunting, but all journeys start the same way—by taking that first step. Start with "what if" scenarios and go from there. Having a plan in place goes a long way toward maintaining positive mental health during an event. The actual disaster is always stressful, but it is more stressful if you are trying to create a game plan on the fly. There will always be alterations to the plan, and no plan is foolproof, but having one does wonders for helping your mental state and the mental state of those around you.

Understand that there is no finish line in creating a disaster plan. It will always be a work in progress. I challenge you to get started—before the next disaster strikes. ※

Scott Driever, DVM, is a new director on the AAHA board. Driever is a Houston native who received his Doctor of Veterinary Medicine degree from Texas A&M University in 2000. He began his career at Animal Hospital Highway 6 in Sugarland, Texas, where he became a partner in 2005 and purchased the practice in 2015. He is a member of the American Veterinary Medical Association, the Texas Veterinary Medical Association, the International Veterinary Academy of Pain Management, the American Association of Feline Practitioners, and the Harris County Veterinary Medical Association.

DEAR AAHA

Dear AAHA,

What is a good technique for checking the integrity of my radiology PPE?

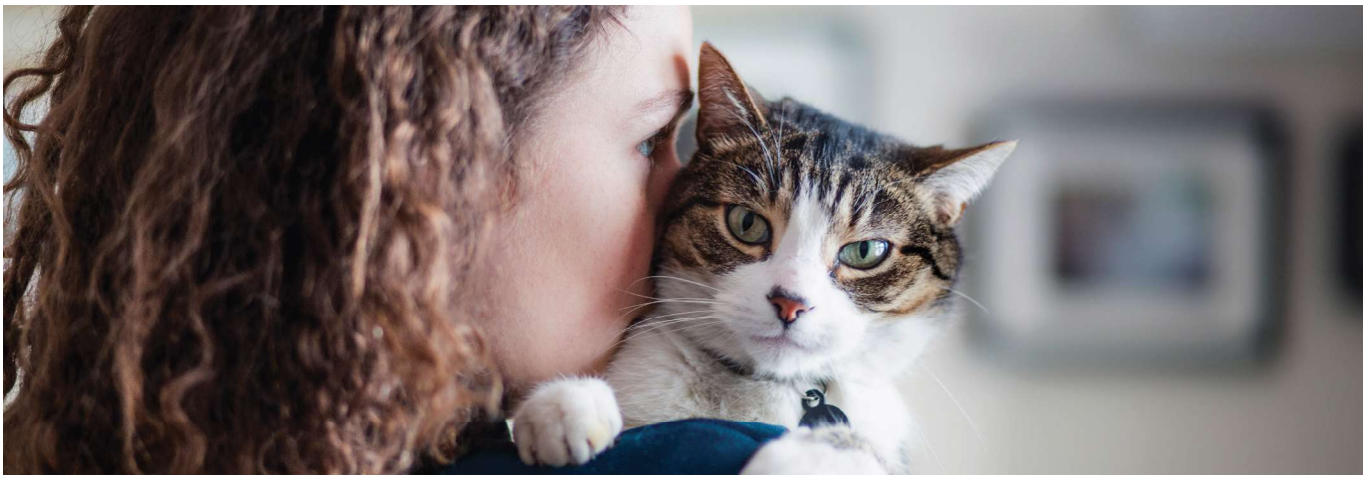
—X-ray Safety in Beaumont

Dear X-ray Safety,

According to the *AAHA Standards of Accreditation*, commonly used settings for checking thyroid shields and aprons are ~5–10 mAs ~80–90 kVp. For gloves and mittens, use ~10–20 mAs ~90 kVp. With new radiology PPE available to veterinary hospitals, such as lead-equivalent PPE, we always recommend checking with the manufacturer for exact procedures and techniques to use when regularly checking the durability and integrity of the PPE being utilized in your practice.

—AAHA's Member Experience Team

Have a question you'd like AAHA to answer? Email us at dearaaha@aaha.org.



Add End-of-Life Care Accreditation to Your Practice's Credentials

Almost half of pet owners (40%) say that they won't continue as your client if they have a bad euthanasia experience at your practice. Elevate your ability to provide appropriate and supportive care with AAHA's End-of-Life Care (EOLC) accreditation, which equips the whole team with tools to handle these difficult situations in thoughtful, intentional ways. End-of-life care will always be part of your services—make sure your team knows how to do it well.

AAHA ACCREDITED END-OF-LIFE CARE The Standard of Veterinary Excellence

Who is eligible for EOLC accreditation?

- AAHA-accredited practices with a dedicated end-of-life care services department (brick-and-mortar and/or mobile)
- Practices not accredited by AAHA that are solely dedicated to end-of-life care services (brick-and-mortar and/or mobile)

4 Steps to EOLC accreditation

1. Email eolcaccreditation@aaha.org for access to the End-of-Life Care standards.
2. Complete an End-of-Life Care accreditation agreement and pay initial evaluation fee.
3. Submit your agreement and begin preparing for your initial evaluation.
4. Your AAHA accreditation specialist will follow up to schedule an evaluation date.

Will you be attending the IAAHPC Conference this month? Stop by our booth, and if your practice already has a dedicated department for end-of-life care services, don't wait to add AAHA's newest accreditation to your credentials. Want to learn more about EOLC? See the *2016 AAHA/IAAHPC End-of-Life Care Guidelines* and contact the AAHA Member Experience team for access to the new updated EOLC standards.

For more information, please contact AAHA's Member Experience team at 800-252-2242 or aaha@aaha.org.

FREE to All! Blend Your Favorite Learning Styles with Beyond Medicine Workshop

Join expert facilitators Mia Cary, DVM, and Jason Coe, DVM, PhD, for this enlightening free workshop for veterinary professionals of all career levels who want to gain hands-on skills for the nonmedical part of the job, such as client communications, overcoming professional challenges, and caring for your own well-being.

"The topics we discuss are foundational to thriving. Regardless of career path, where you have been, where you are now, and where you are heading in the future, the content we share—along with the rich networking discussions—will provide a strong base and launchpad to whatever is next in your career," said Cary.

By popular demand, Beyond Medicine Workshop will be offered in a blended approach of virtual interaction and e-learning and will earn you eight (8.0) hours of RACE nonmedical, interactive-distance CE.

The program is free and registration is open to all veterinary team members, even if your practice is not accredited by AAHA!

This limited-capacity educational experience starts October 30, 2021. Register now to reserve your spot and learn more at aaha.org/beyond.

Linda Raymond/iStock via Getty Images Plus

AAHA MEETINGS AND EVENTS

SEPTEMBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	21	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
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OCTOBER

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31						

NOVEMBER

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28	29	30				

- AAHA at WVC Annual Conference Booth #1924
- AAHA at IAAHPC Conference
- Connexity (in-person) Scottsdale, Arizona
- Beyond Medicine Workshop
- Connexity (virtual) Please visit aaha.org
- Beyond Medicine Workshop

To register for a learning program and learn more about AAHA's upcoming events, visit aaha.org.

Show off your AAHA PRIDE

AAHA accredited merchandise helps you demonstrate your AAHA pride while educating your clients on the value of AAHA accreditation. It's great for open houses, community events, and more!

Popular items include:

AAHA Brochures	Exam Table Mats	Pet Food Lids	Bandanas	Collapsible Bowls
FREE	$35 each	$1 each	$5 each	$5 each

Find these items and more at aaha.org/store; sort by "Accredited Members."

Cheers from AAHA!

Congratulations to the following practice teams, who are celebrating 75, 50, and 25 years, respectively, of AAHA accreditation in 2021. We are so proud of these practices for continuously upholding themselves to the highest level of veterinary excellence.

Niskayuna Animal Hospital

Adobe Animal Hospital, Los Altos
Animal Hospital of Soquel
Buffalo Grove Animal Hospital
Companion Animal Hospital of Norridge
Countryside Animal Hospital
Detroit Dover Animal Hospital
Glenway Animal Hospital
Golf-Mil Veterinary Hospital
Lewisburg Veterinary Hospital
Markham Animal Clinic
North Canton Veterinary Clinic
Okemos Animal Hospital
Sequoia Veterinary Hospital
St Joe Center Veterinary Hospital
VCA Beech Road Animal Hospital
VCA Cascade Animal Medical Center & Inn
VCA Madeira Animal Hospital
VCA Mission Animal Hospital
VCA Monte Vista Animal Hospital
VCA West Shore Animal Hospital
VCA Woodford Animal Hospital

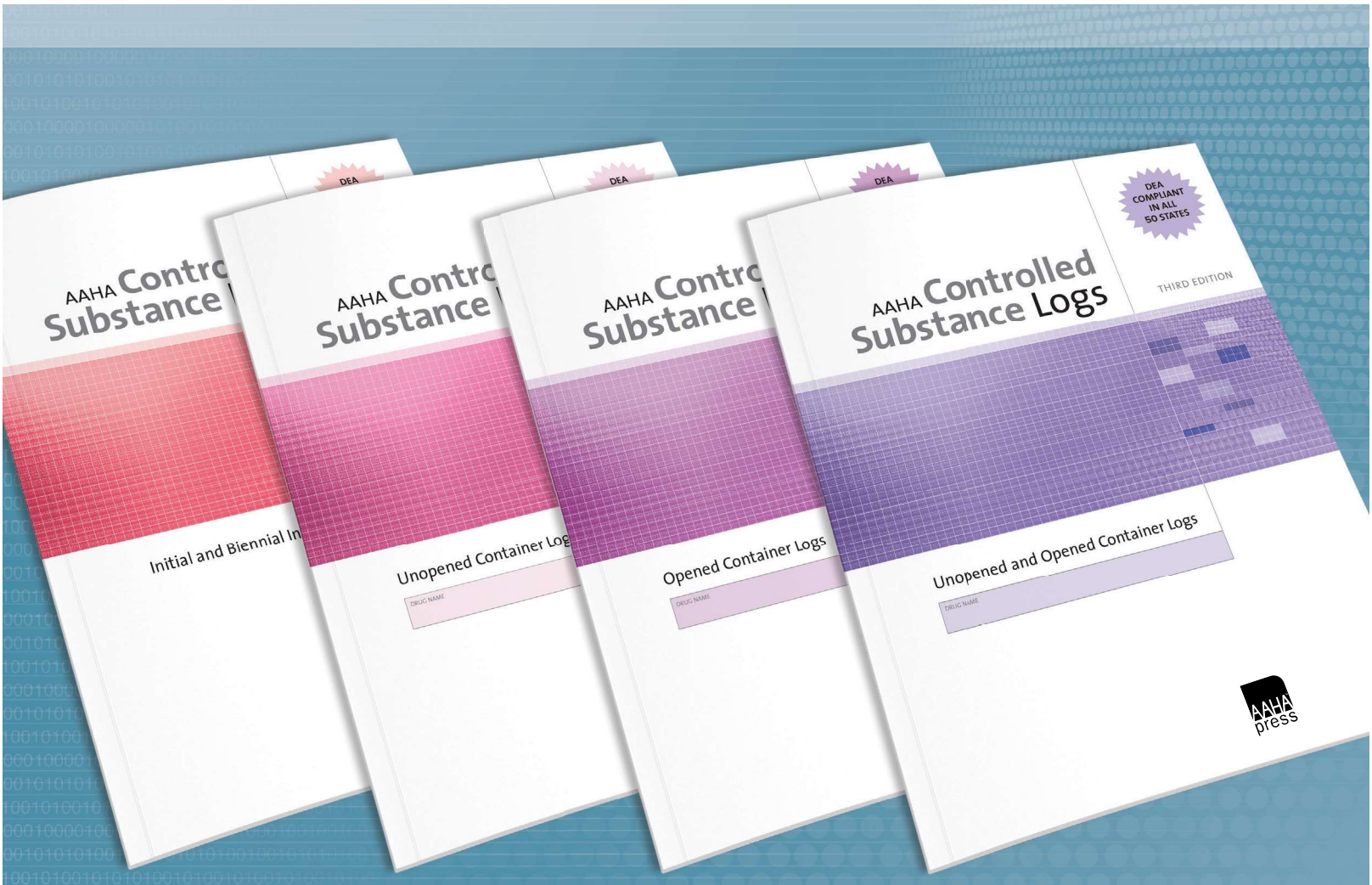
Aboite Animal Hospital
Animal Health Center
Annapolis Cat Hospital and Bay Ridge Animal Hospital
Athens Animal Clinic
Baldwin Animal Hospital
Bear River Veterinary Clinic
Brandon Hills Veterinary Clinic
Care Small Animal Hospital
Cat Doctors
Cats Limited Veterinary Hospital
Chillicothe Animal Clinic
Fall River Animal Hospital
Fox Valley Veterinary Hospital
Gulfshore Animal Hospital
Halifax Veterinary Hospital
Heritage Veterinary Hospital
Hope Veterinary Clinic Northside
Hopkins Road Animal Hospital
IndyVet Emergency & Specialty Hospital
Jefferson Road Animal Hospital
Juneau Veterinary Hospital
Manlius Veterinary Hospital
MetroWest Veterinary Clinic
Mill Creek Animal Hospital
Miramonte Veterinary Hospital
Monument Road Animal Hospital
Muddy Branch Veterinary Center
New Frontier Animal Medical Center
North Tollway Pet Hospital
Northern Oaks Bird & Animal Hospital
Northpark Animal Hospital
Pet Pals Holistic Veterinary Hospital
Petcare Animal Hospital
Plantation Animal Hospital
Plymouth Heights Pet Hospital
Prescott Animal Hospital
Prettyboy Veterinary Hospital
Redwood Veterinary Hospital
Salmon Creek Veterinary Clinic
Sierra Veterinary Clinic
Southgate Animal Hospital
Southgate Veterinary Hospital
Temple Terrace Animal Hospital
The Animal Clinic Port Charlotte
The Parkway Veterinary Hospital
Town & Country Animal Hospital
Uptown Animal Hospital
VCA Animal Specialty Group
VCA Brown Animal Hospital
VCA Chatsworth Veterinary Center
VCA Davis Animal Hospital
VCA Feline Medical Center
VCA Glasgow Animal Hospital
VCA Health Associates Animal Hospital
VCA Kaneohe Animal Hospital
VCA Lakewood Animal Hospital
VCA Marshalltown Animal Hospital
VCA North Country Animal Hospital
VCA Park East Animal Hospital
VCA Seaside Animal Hospital
VCA Timpanogos Animal Hospital
VCA West Linn Animal Hospital
Vermont-New Hampshire Veterinary Clinic Inc
Wellswood Midtown Animal Hospital
Wright Veterinary Medical Center
Wright's Corners Animal Care Center

The profession's top tool for DEA compliance in all 50 states:

updated & improved

With the new *AAHA Controlled Substance Logs,* you'll enjoy peace of mind knowing that your practice is in full DEA compliance—and you're providing greater efficiency and security for your staff. The new editions have been revised, redesigned, and reviewed by industry experts and former DEA officials to include:

- A weight log for increased accuracy
- An expired drug log and instructions for proper disposal
- An incident-notification log for tracking unexplained events and correcting errors



Shop today at **press.aaha.org**.

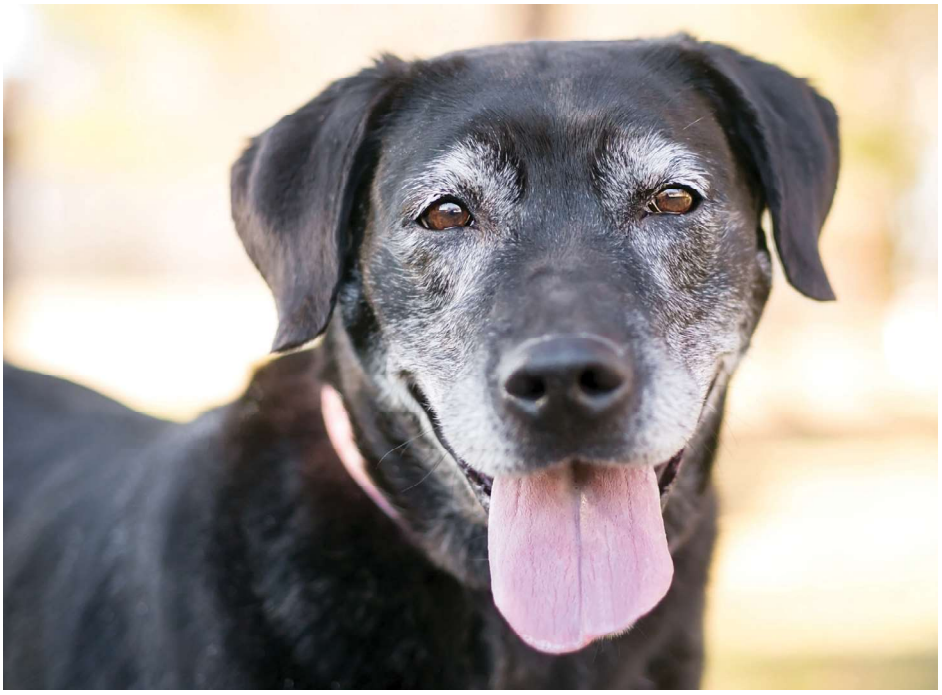
notebook

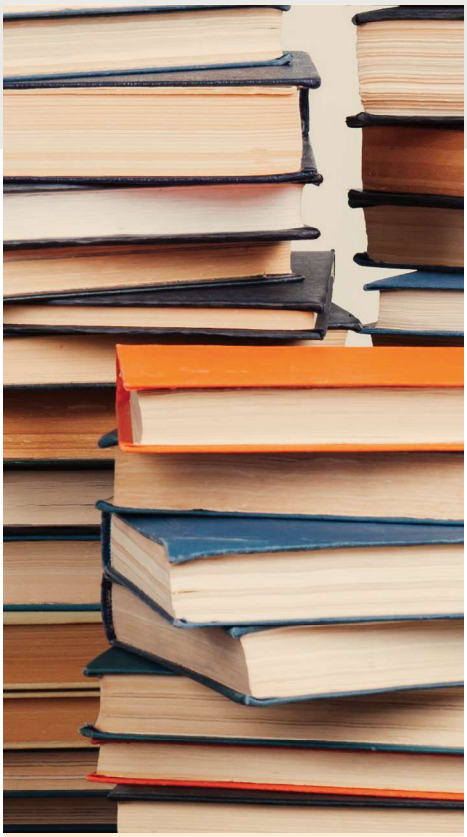
Study Links Periodontal Health and Canine Cognitive Dysfunction

In a recent study published in *Open Veterinary Journal*, researchers Curtis Wells Dewey of Elemental Pet Vets and Mark Rishniw, BVSc, MS, PhD, DACVIM, of the College of Veterinary Medicine at Cornell University found data that suggests that periodontal health may be related to the mental problems associated with canine cognitive dysfunction (CCD).

Researchers used photographs of aging dogs with known CCD as well as a control group, along with owner questionnaires and veterinarian evaluations, and found data suggesting that the older dogs with CCD tended to show worse levels of periodontal disease than similarly aged dogs without CCD. The data also indicated that the degree of cognitive dysfunction tended to correlate positively with the degree of gum disease. This seems to be in line with research on humans, which showed that periodontal disease is a risk factor for the development of Alzheimer's disease.

They related that while a cause-and-effect relationship between periodontal disease and cognitive impairment cannot be ascertained from this preliminary study, they established a link between these two disorders that warrants further investigation using more stringent criteria for evaluating both periodontal disease and cognitive dysfunction.





Donate Books, Journals, and Supplies

The American Veterinary Medical Association reports that veterinarians and students in foreign countries can make use of the unused textbooks, journals, instruments, equipment, and other supplies cluttering many veterinary clinics in the United States. They maintain a list of individuals and organizations that collect contributions for various countries and advise that potential donors should call or email contacts on the list directly. Individuals or organizations that collect contributions may inquire about being added to the list by emailing asuresh@avma.org. For more information, visit avma.org/send-unused-journals-textbooks-and-supplies-abroad.

American Pet Products Association Releases Pet Owners Survey

The American Pet Products Association (APPA) reports that the latest edition of the APPA National Pet Owners Survey reveals significant post-pandemic changes for the pet care industry. They report that the industry set a new benchmark in 2020, generating over $100 billion in annual sales in the US, and that they project growth of 5.8% for the coming year, well above the historical average of 3–4%. Key findings from the 2021–2022 study include:

- Pet spending increased during the past year, with 35% of pet owners stating they spent more on their pet/pet supplies—including food, wellness-related products, and other pet care items—in the last 12 months than in the preceding year.
- Fourteen percent of total respondents (pet owners and non–pet owners) obtained a new pet during the pandemic. Additionally, at least one in four new pet owners shared that their recent pet acquisition—including saltwater fish (60%), dogs (47%), birds (46%), small animals (46%), cats (40%), freshwater fish (34%), reptiles (27%), and horses (27%)—was influenced by the pandemic.
- Pet owners shopping online increased by almost 20%, from 72% in the prior year to 86% of responses in this year's study. Before the pandemic, 60% of pet owners usually purchased pet products in person at brick-and-mortar stores. During the pandemic, in-person shopping dropped to 41%, aligning more closely with the 46% of pet owners who prefer to purchase online with purchases shipped to their home.
- Fifty-one percent of pet owners are willing to pay more for ethically sourced pet products and eco-friendly pet products.
- Pet insurance purchases among both dog and cat owners have also increased, nearly doubling among cat owners in particular.

For more information, visit americanpetproducts.org/survey.

insonnia/iStock via Getty Images Plus

Zoetis Announces FDA Approval of Simparica

Zoetis recently announced that the US Food and Drug Administration (FDA) has approved a new label indication for Simparica (sarolaner) Chewables for the prevention of *Borrelia burgdorferi* infections as a result of killing *Ixodes scapularis* ticks (deer ticks) for dogs six months of age or older. In two separate studies, Simparica prevented 100% of infections that cause Lyme disease, even when challenged near the end of the month.

This new indication for Simparica is particularly significant, as Companion Animal Parasite Council (CAPC) data has shown that Lyme disease is a rising threat to dogs in the United States, with a 147% increase in *B. burgdorferi*–positive dogs in under 10 years and more than 400,000 dogs testing positive last year. A CAPC study also found that the prevalence of *I. scapularis* ticks carrying the *B. burgdorferi* pathogen has increased across the Northeast, as well as in states not typically considered endemic, including regions in Illinois, Iowa, North Dakota, Ohio, Michigan, and Tennessee.

"Lyme disease, caused by *Borrelia burgdorferi*, is transmitted by deer ticks, which are expanding to new areas of the country. So, it's important for veterinarians to be aware of the current distribution of deer ticks as well as local prevalence of Lyme disease–positive dogs," said Chris Adolph, DVM, MS, ACVM, senior veterinary specialist in parasitology at Zoetis.

Park works with Eve during the cognitive ability testing phase of the study.

New Project Studies Dog Pain Sensitivity

A new study at the NC State College of Veterinary Medicine (CVM) is hoping to answer the question of whether there are actual breed differences when it comes to pain sensitivity. "We're trying to pinpoint whether it's just a stereotype that we carry around or if there is something to it," says Margaret Gruen, CVM, assistant professor of behavioral medicine, who is overseeing the research project. "If there is this biological basis for a difference in pain sensitivity, that would be something important for us to know from the standpoint of treatment of dogs, but also for understanding pain in pets."

The two-year study, funded by the American Kennel Club, involves 180 dogs of 10 different breeds, including Chihuahuas, Maltese, Jack Russell terriers, Boston terriers, golden retrievers, Labrador retrievers, border collies, Siberian huskies, Pit bull terriers, and German shepherd dogs. Dogs are examined to make sure they are in normal health and free from joint or other pain. They then undergo a sensitivity test, in which a small portion of hair is clipped from their front and back legs. Three tools are used, two that apply pressure and one that applies light heat. As soon as the dog pulls away, the encounter is stopped. Researchers record the grams of pressure, or how long the dog tolerates the heat stimulus.

Each dog spends the rest of the afternoon in playtime, during which researchers assess a dog's cognitive flexibility, as well as other characteristics such as attention span and emotional reactivity to new objects and a stranger—even their judgment bias, whether they are optimists or pessimists. Researchers report that this information paints a picture of what makes the dog tick and helps form an idea of whether some dog breeds are truly more sensitive to stimuli or more emotionally reactive in general. The team is analyzing data now.

"The data are going to be fascinating regardless of what the answer is," says Duncan Lascelles, CVM, professor of translational pain research and the project's coinvestigator. "You can imagine the next step could be starting to look at the genetic makeup of these different breeds and relating that to pain sensitivity. And this has significant implications for breed-specific and individualized pain medicine in the future."

Photo courtesy John Joyner/NC State Veterinary Medicine

USPS Releases Dog Bite Statistics

The United States Postal Service (USPS) released its annual statistics of the number of dog attacks against mail carriers. The USPS announced that more than 5,800 employees were attacked by dogs in 2020. An attack was defined as a postal worker submitting an injury claim or telling their supervisors they were attacked.

The USPS reported that this number was relatively stable from the previous years, with 5,803 postal service workers bitten by dogs in 2019; this was a decrease of more than 200 compared with 2018 and a decrease of more than 400 compared with 2017.

Following are lists of the top 10 cities and states, and the number of recorded attacks:

BY CITY

Houston, 73
Chicago, 59
Los Angeles, 54
Cleveland, 46
Denver, 44
Baltimore, 43
Dallas, 38
Columbus, 37
San Antonio, 36
San Diego, 35
Detroit, 35

BY STATE

California, 782
Texas, 402
Ohio, 369
New York, 295
Pennsylvania, 291
Illinois, 290
Michigan, 253
Florida, 198
New Jersey, 179
Virginia, 169

AVMF Announces National Veterinary Charitable Care Grant Program

The American Veterinary Medical Foundation (AVMF) in partnership with Merck Animal Health recently announced that the AVMF is launching the National Veterinary Charitable Care Grant Program. The AVMF states that the program provides American Veterinary Medical Association member veterinary practitioners with a simple and effective way to offer low- or no-cost, necessary veterinary services to the animals of clients facing personal hardships due to COVID-19 or domestic violence. Applicants will be reimbursed in full or in part for the cost of treatment using expense codes contained in the online application form. For requests related to COVID-19, there is a reimbursement cap of $500. For requests related to domestic violence, no cap is currently in place.

“This program is designed to improve access-to-care issues, especially as they relate to ongoing financial hardship due to COVID-19 and domestic violence,” said David Granstrom, AVMF assistant executive director, in an AVMF press release. He added the program also contributes to the wellbeing of the veterinary healthcare team and members of the public struggling to afford veterinary care for their pets.

The AVMF reports that the new grant program is designed to build on the success of the AVMF Veterinary Care Charitable Fund (VCCF), which offers clinics the opportunity to raise funds to provide charitable care within the clinic. Practices enrolled in the VCCF program are eligible to apply for funding through the new grant program. For more information, visit avmf.org.

Nevada Passes Veterinary Cannabis Law

Nevada has become the first state in the US to authorize veterinarians to recommend and administer cannabidiol (CBD) under a new law that protects practitioners from disciplinary action if they treat veterinary patients with the cannabis derivative. The law takes effect October 1.

Sponsored by Assemblyman Steve Yeager (D-Las Vegas), AB101 authorizes licensed veterinarians to administer products containing CBD or hemp in the treatment of an animal and to recommend use of such products to pet owners. It also prohibits the state Board of Veterinary Medical Examiners from taking disciplinary action against veterinarians who administer or use such products. The bill passed unanimously out of the Senate and Assembly.

Two other states, California and Michigan, allow veterinarians to discuss the use of cannabis with clients but not administer the products. Meanwhile, a survey conducted by the Veterinary Information Network reports that 63% of veterinarians surveyed said clients ask questions regarding cannabis pet products on a monthly, weekly, or daily basis.

AAFP Releases End-of-Life Toolkit

The American Association of Feline Practitioners (AAFP) has released an online End-of-Life Educational Toolkit to provide information to help facilitate a peaceful and painless transition for a cat at the end of their life. The toolkit addresses several key aspects of the euthanasia process, such as the Quality of Life discussion, decisionmaking, the euthanasia experience for both veterinary professionals and caregivers, the euthanasia process, and how to support a client through final arrangements and beyond.

View, download, or print the toolkit from the AAFP website, catvets.com. Resources to help cat caregivers understand more about euthanasia, quality of life, and end-of-life decisionmaking can be found at catfriendly.com.

AAHA End-of-Life Care Accreditation

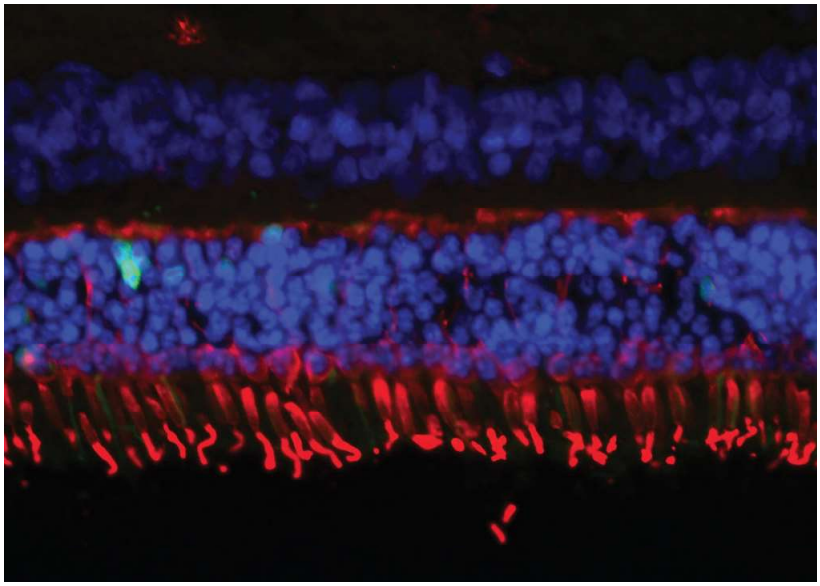
AAHA's new End-of-Life Care accreditation will help veterinary practices elevate their end-of-life services, further enhancing and strengthening the human-animal bond. Learn more at aaha.org/EOLC

AAHA ACCREDITED END-OF-LIFE CARE

Researchers Study Severe Vision Disorder

Gustavo Aguirre and William Beltran, veterinary ophthalmologists and vision scientists at the University of Pennsylvania School of Veterinary Medicine, have studied a range of different retinal blinding disorders. They report that the one caused by mutations in the NPHP5 gene, leading to a form of Leber congenital amaurosis (LCA), is one of the most severe. In a new paper in the journal *Molecular Therapy*, Aguirre and Beltran, along with colleagues at UPenn and other institutions, have demonstrated that a canine gene therapy can restore both normal structure and function to the retina's cone photoreceptor cells, which, in patients with LCA, otherwise fail to develop normally. Delivering a normal copy of either the canine or human version of the NPHP5 gene restored vision in treated dogs.

"What's amazing is that you can take this disease in which cone cells have incompletely formed, and the therapy restores their function—they had no function whatsoever before—and recover their structure," says Aguirre.



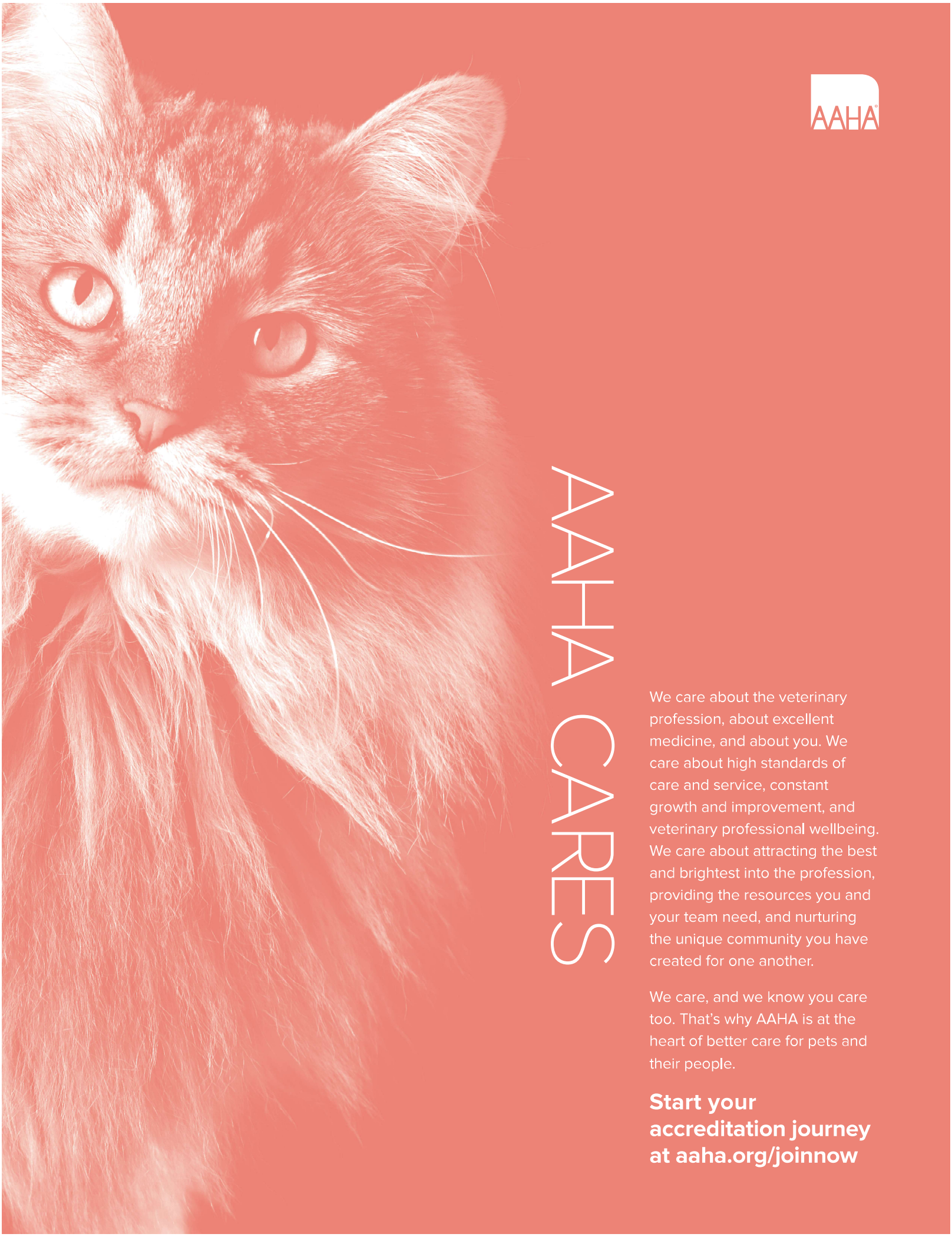
A mutation in the NPHP5 gene leads to a severe blinding disorder, Leber congenital amaurosis. Dogs with the condition that were treated with a gene therapy regrew normal, functional cone cells, labeled in red, that had previously failed to develop. The treatment led to a recovery of retinal function and vision.

QUOTE OF THE MONTH

Simplify, slow down, be kind. And don't forget to have art in your life—music, paintings, theater, dance, and sunsets.

—Eric Carle, writer, illustrator, designer

Photo courtesy of Gustavo Aguirre and William Beltran



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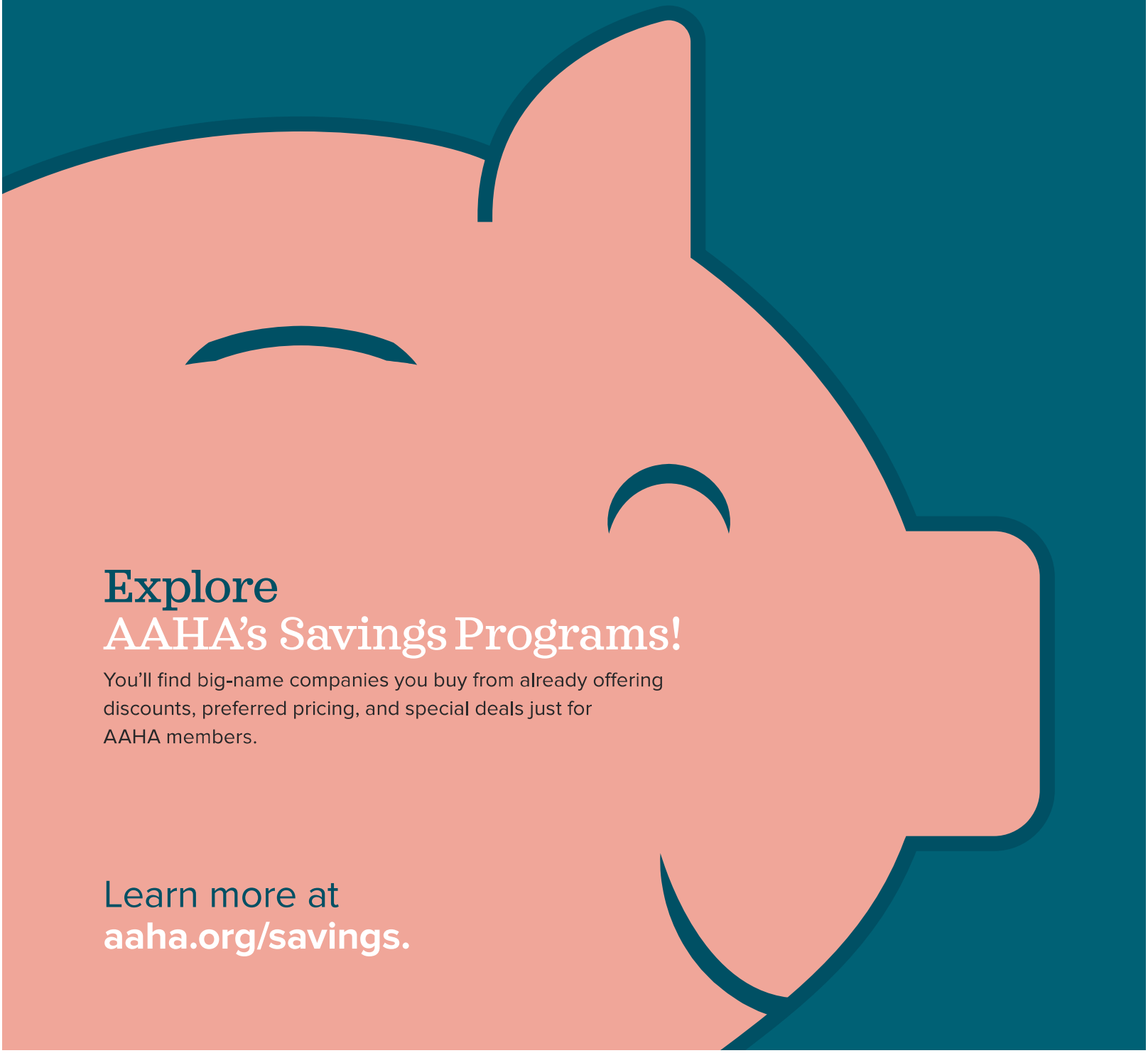

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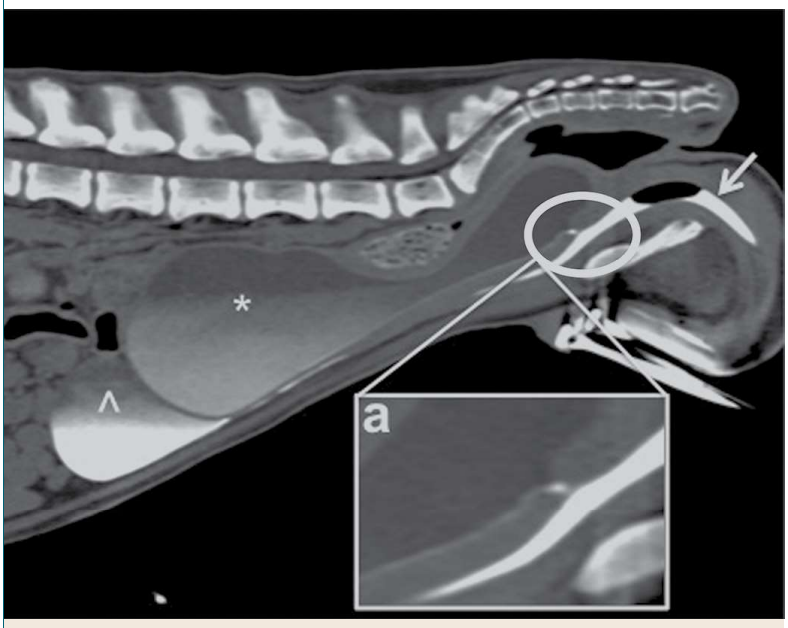
ABSTRACTS



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RETROSPECTIVE STUDIES

Owner Perceptions of Long-Term Systemic Use of Subcutaneous Administration of Polysulfated Glycosaminoglycan

Gabriella Varcoe, Julia Tomlinson, Jane Manfredi

Polysulfated glycosaminoglycan (PSGAG) is a slow-acting disease-modifying agent used to treat degenerative joint disease. Although labeled for intramuscular use, it is commonly given by owners via a subcutaneous (SC) route. There is little information on adverse events related to SC administration or what other therapies are used concurrently with PSGAG. We hypothesized that SC PSGAG is perceived by owners as having minimal adverse events and that it would most often be given with other therapies. Owners (n = 378) were surveyed about their perceptions regarding SC PSGAG prescribed to dogs at one veterinary rehabilitation clinic. Complete surveys were provided for 69 dogs (two owners had multiple dogs). Overall, 13/69 (18.8%) dogs had an adverse event reported during the use of PSGAG. Most events were considered minor (stomach upset, loose stool, pain at injection site, fear) and did not lead to discontinuation of PSGAG. One dog experienced a moderate adverse event (persistent gastrointestinal symptoms) and one a severe adverse event (thrombocytopenia, bruising), which resolved after discontinuing PSGAG. PSGAG is most commonly administered along with other medications and rehabilitation therapies. The present study demonstrates that SC administration of PSGAG is well tolerated in most of the dogs, with primarily mild, self-resolving adverse events.

CASE REPORTS

Congenital Urethrovaginal Fistula with Blind-Ending Vagina in a Female Pseudohermaphrodite Dog with Urinary Incontinence

Jamie-Leigh Thompson, Tiziana Liuti, Carolina Albuquerque, Daniela Murgia

An 8 mo old male Doberman pinscher was referred for investigation of persistent urinary incontinence. Physical examination revealed urine leakage and abnormal external genitalia. A computed tomography scan identified a large fluid-filled cavity extending from the caudoventral abdomen displacing the colon and urinary bladder. No retained testicles were identified. A retrograde urethrogram study found a linear communication, cranial to the pubic brim between the urethra to the fluidfilled cavity (fistula). Exploratory celiotomy was performed, and an entire female reproductive tract with a blind-ending vagina and a urethrovaginal fistula was found. En bloc gonad hysterectomy was performed, the fistula was transected, and a careful urethral reconstruction was performed. The urinary incontinence resolved immediately after surgery, and no complications were reported. Mild urinary incontinence recurred 4 days following patient discharge, and a urine bacterial culture was positive for *Klebsiella* spp. An antibiotic course was prescribed, and

the incontinence fully resolved. Congenital urogenital abnormalities should always be considered in young animals presenting with urinary incontinence. Here, a young female pseudohermaphrodite dog with a naturally occurring congenital urethrovaginal fistula is described. Exploratory surgery was required for definitive diagnosis and surgical intervention yielded a good medium-term outcome with resolution of clinical signs.

RETROSPECTIVE STUDIES

Topical Minoxidil Exposures and Toxicoses in Dogs and Cats: 211 Cases (2001–2019)

Kathy C. Tater, Sharon Gwaltney-Brant, Tina Wismer

Topical minoxidil is a medication for hair loss, initially available in the United States by prescription only and available since 1996 as an over-the-counter product. To determine the epidemiology of minoxidil exposures and toxicoses in dogs and cats, 211 dog and cat cases with topical minoxidil exposure were identified from the American Society for the Prevention of Cruelty to Animals Animal Poison Control Center database. In 87 cases with clinical signs of toxicosis (62 cats, 25 dogs), case narratives were reviewed and coded for exposure-related circumstances. Unintentional delivery, especially while pet owners applied minoxidil for his/her own hair loss (e.g., pet licked owner's skin or pillowcase, pet was splashed during a medication spill), was the most common cat exposure circumstance. Exploratory behavior (e.g., searching through trash) was the most common dog exposure circumstance. Clinical signs occurred in dogs and cats even with low exposure amounts, such as drops or licks. In patients that developed clinical signs, most developed moderate or major illness (56.0% dogs, 59.7% cats). Death occurred in 8/62 (12.9%) cats that developed clinical signs after the pet owner's minoxidil use. Pet owners should be educated on the risk of dog and cat toxicosis from accidental minoxidil exposure.

RETROSPECTIVE STUDIES

Collaborative Care Improves Treatment Outcomes for Dogs with Chronic Otitis Externa: A Collaborative Care Coalition Study

Dawn Logas, Elizabeth A. Maxwell

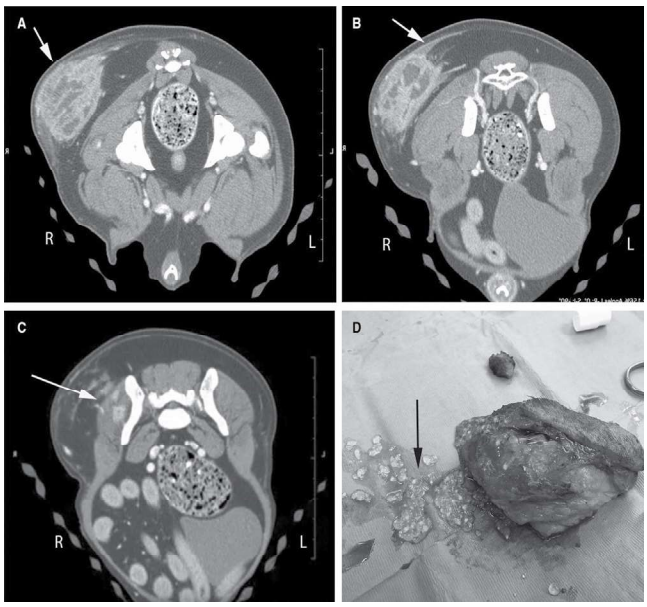
The purpose of this retrospective study was to compare outcome measures in dogs treated by a primary care veterinarian (pcDVM) before referral and after seeking collaboration with a board-certified veterinary dermatologist (BCVD) for cases of severe recurrent chronic otitis externa. Medical records of 65 client-owned dogs were retrospectively reviewed, and data were obtained regarding treatment history, referral timeframe, recurrence rate, clinical signs, and resolution of signs. The median number of otitis recurrences while under the care of the pcDVM was 4 (range 1–40) versus collaborative BCVD care of 2 ($P < .01$). There was a longer median time to otitis recurrence with collaborative care (171 days) compared with dogs managed by the pcDVM before referral (21 days; $P > .01$). Proliferative changes in the ear canals improved in 41/45 (91%) of cases under BCVD care compared with 6/45 (13%) under care by the pcDVM ($P < .01$). Dogs with chronic otitis had better long-term outcomes when collaboration with a BCVD was pursued within 6 mo of treatment. Referral or consultation with a BCVD should be considered for cases of chronic canine otitis that are persistent or quickly recurrent (20–30 days) over a 6 mo period.

CASE REPORTS

Subcutaneous *Taenia crassiceps* Cysticercosis Mass Excision from an 11-Year-Old Mixed-Breed Dog

Christina Murphy, Logan Kursh, Thomas Nolan, James Perry

An 11 yr old mixed-breed dog presented with a 2 × 3 cm semimovable subcutaneous soft-tissue mass overlying the right hip region that grew to 8 × 5 cm over a 6 mo period. Two separate fine needle aspiration cytology samples showed marked pyogranulomatous inflammation with no cytologically apparent infectious etiology or neoplasia. Computed tomography imaging revealed a well-marginated, heterogeneous, contrast-enhancing soft-tissue mass extending into the adjacent fat, suggestive of neoplasia. A 14G needle biopsy showed similar chronic inflammatory changes without evidence of neoplasia or infectious etiology. Excisional biopsy of the mass was performed, and ex vivo sectioning revealed *Taenia crassiceps* cysticerci. Histopathology confirmed severe chronic pyogranulomatous cellulitis and myositis with intralesional cysticerci. Anthelmintic treatment was administered postoperatively, and no evidence of local recurrence has been noted as of 6 mo after the operation. To our knowledge, this is the first case report describing the cytological, histological, cross-sectional imaging characteristics and treatment outcome of *T crassiceps* cysticercosis in a dog.



RETROSPECTIVE STUDIES

Evaluation of Iatrogenic Hypocortisolemia Following Trilostane Therapy in 48 Dogs with Pituitary-Dependent Hyperadrenocorticism

Elizabeth Appleman, Abigail Schrage, Kenneth E. Lamb, Cathy Langston

This study aimed to retrospectively describe the clinical progression following diagnosis of iatrogenic hypocortisolemia (iHC) in 48 dogs receiving trilostane for pituitary-dependent hyperadrenocorticism. Cortisol concentrations were ≥1.5 mg/dL within 6 mo following diagnosis of iHC in 76.3% of dogs (95% confidence interval [CI] 59.8–88.6%). At the time of study completion, 25% of dogs (95% CI 13.6–39.6%) were receiving either glucocorticoids or mineralocorticoids or both; 42% of dogs (95% CI 27.6–56.8%) were on no adrenal-related medications; and the remaining 33% of dogs (95% CI 20.4–48.4%) were receiving trilostane. No patient-, clinicopathologic-, or trilostane-associated factors were identified to influence adrenal recovery following diagnosis of iHC, and it remains difficult to predict the clinical progression in this population of dogs.

CASE REPORTS

Gallbladder and Liver Lobe Torsion in a Young Cat Presented with Hemoabdomen

Pierre P. Picavet, Pierre-André Vidal, Géraldine Bolen, Kris Gommeren, Stéphanie Noël

An 11 mo old domestic shorthair presented with acute lethargy. The cat was hypothermic and bradycardic and had pale pink mucousmembranes, poor pulses, and a distended abdomen. Point-of-care ultrasound identified significant abdominal effusion, which was diagnosed to be a hemoabdomen. Blood work revealed hyperlactatemia, regenerative anemia, neutrophilia, hypoproteinemia, hypoalbuminemia, and increased alanine aminotransferase. The cat received an allotransfusion and a subsequent canine xenotransfusion and received further supportive therapy. After stabilization, abdominal ultrasonography diagnosed a gallbladder and liver lobe torsion with hemoabdomen. Exploratory laparotomy confirmed the torsion of the right medial and quadrate hepatic lobes together with the gallbladder. Cholecystectomy and lobectomy of the affected lobes were performed using a surgical stapler. The cat was discharged after 4 days. Histopathology confirmed hemorrhagic infarction of the liver lobes and gallbladder, consistent with the described torsion, and the hepatic pseudocyst. It also demonstrated a mucocele in the gallbladder. One month postoperatively, the cat had totally recovered. Hepatic lobe torsion without neoplasia is a rare disease in cats, with variable clinical signs. Gallbladder torsion is a hitherto unreported condition in cats. This is the first report of gallbladder and liver lobe torsion with secondary hemoabdomen in a cat, successfully treated by one-stage surgery.

ORIGINAL STUDIES

Dilutional Effect of Ethylenediaminetetraacetic Acid on Packed Cell Volume in Healthy Dogs

Elizabeth H. Ross, Amy Dickinson

Packed cell volume (PCV) is commonly used to assess and monitor red blood cell count in animals, but the results can be altered if inappropriate ratios of anticoagulant/blood are used. The purpose of this study was to determine the effect of ideally filled, overfilled, and underfilled K3 ethylenediaminetetraacetic acid (EDTA) tubes with various volumes of healthy dog blood on centrifuged PCV. Six milliliters of blood was obtained from 94 blood donors each. Initial distribution was injected into two nonheparinized microhematocrit tubes. The remainder was instilled into 1.3 mL K3 EDTA spray-dried tubes as 1.5 mL, 1.3 mL, 0.75 mL, 0.5 mL, and 0.25 mL aliquots. Normality was determined using the D'agostino–Pearson method and by visual examination of histograms. Data were analyzed using a repeated-measures analysis of variance with post hoc testing using Tukey's test. There is a statistically significant decrease in the PCV between all groups with progressive underfilling of tubes ($P < .0001$). The closest difference is between 1.5 and 1.3 mL ($P = .0138$). Our study suggested that underfilling K3 EDTA tubes significantly and negatively influences the PCV in healthy dogs. Using underfilled K3 EDTA tubes result in a lower PCV compared with directly filled microhematocrit tubes without anticoagulant.

CASE REPORTS

Fatal Complications of Nasogastric Tube Misplacement in Two Dogs

Jenniffer Rodriguez-Diaz, Julia P. Sumner, Meredith Miller

Provision of enteral nutrition via the use of nasoenteric feeding tubes is a commonly used method in both veterinary and human medicine. Although case reports in human medicine have identified fatalities due to misplacement of nasogastric (NG) tubes into the tracheobronchial tree and subsequent pneumothorax, there are no case reports, to our knowledge, of fatalities in veterinary patients. This case report describes two fatalities caused by misplaced NG tubes in intubated patients (one intraoperative, one postoperative). This report highlights risk factors for feeding tube complications and methods to prevent future fatalities such as two-view radiography, two-step insertion, capnography, laryngoscopic-assisted placement, and palpation of the NG tube in the stomach. The recent fatalities discussed within this case series demonstrate that deaths as a result of NG tubes misplaced into the tracheobronchial tree occur in veterinary patients, and measures should be taken to prevent this complication.

BRAVECTO® PLUS

(fluralaner and moxidectin topical solution) for Cats

Caution:
Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

Description:
Each tube is formulated to provide a minimum dose of 18.2 mg/lb (40 mg/kg) fluralaner and 0.9 mg/lb (2 mg/kg) moxidectin. Each milliliter contains 280 mg of fluralaner and 14 mg of moxidectin.

The chemical name of fluralaner is (±)-4-[5-(3,5-dichlorophenyl)-5-(trifluoromethyl)- 4,5-dihydroisoxazol-3-yl]-2-methyl-N-[2-oxo-2-(2,2,2- trifluoroethylamino)ethyl]benzamide. The chemical name of moxidection is (2aE,4E,5R, 6R,6'S,8E,11R,13S,15S,17aR, 20R,20aR,20bS)-6'-[(E)-1,3-Dimethyl-1-butenyl]-5',6,6',7,10,11, 14,15,17a,20,20a,20b-dodecahydro-20,20b-dihydroxy-5',6,8,19-tetramethylspiro[11,15-methano-2H,13H,17H-furo[4,3,2-pg][2,6] benzodioxacyclooctadecin-13,2'-[2H]pyran]-4',17(3'H)-dione 4'-(E)-(O-methyloxime). Inactive ingredients: dimethylacetamide, glycofurol, diethyltoluamide, acetone, butylhydroxytoluene

Indications:
Bravecto Plus is indicated for the prevention of heartworm disease caused by *Dirofilaria immitis* and for the treatment of infections with intestinal roundworm (*Toxocara cati*; 4th stage larvae, immature adults and adults) and hookworm (*Ancylostoma tubaeforme*; 4th stage larvae, immature adults and adults). Bravecto Plus kills adult fleas and is indicated for the treatment and prevention of flea infestations (*Ctenocephalides felis*) and the treatment and control of tick infestations [*Ixodes scapularis* (black-legged tick) and *Dermacentor variabilis* (American dog tick)] for 2 months in cats and kittens 6 months of age and older and weighing 2.6 lb or greater.

Dosage and Administration:
Bravecto Plus should be administered topically as a single dose every 2 months according to the **Dosage Schedule** below to provide a minimum dose of 18.2 mg/lb (40 mg/kg) fluralaner and 0.9 mg/lb (2 mg/kg) moxidectin.

For prevention of heartworm disease, Bravecto Plus should be administered at 2-month intervals. Bravecto Plus may be administered year-round without interruption or at a minimum should be administered at 2-month intervals beginning at the cat's first seasonal exposure to mosquitoes and continuing until the cat's last seasonal exposure to mosquitoes. If a dose is missed and a 2-month interval between doses is exceeded, administer Bravecto Plus immediately and resume the dosing every 2 months.

When replacing a monthly heartworm preventative product, the first dose of Bravecto Plus should be given within one month of the last dose of the former medication.

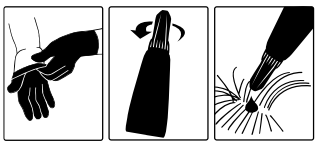
Dosing Schedule:

Body Weight Ranges (lb)	Fluralaner content (mg/tube)	Moxidectin content (mg/tube)	Tubes Administered
2.6 – 6.2	112.5	5.6	One
>6.2 – 13.8	250	12.5	One
>13.8 – 27.5*	500	25	One

* Cats over 27.5 lb should be administered the appropriate combination of tubes.

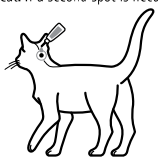
A veterinarian or veterinary technician should demonstrate or instruct the pet owner regarding the appropriate technique for applying Bravecto Plus topically to cats prior to first use.

Step 1: Immediately before use, open the pouch and remove the tube. Put on gloves. Hold the tube at the crimped end with the cap in an upright position (tip up). The cap should be rotated clockwise or counter clockwise one full turn. The cap is designed to stay on the tube for dosing and should not be removed. The tube is open and ready for application when a breaking of the seal is felt.



Step 2: The cat should be standing or lying with its back horizontal during application. Part the fur at the administration site. Place the tube tip vertically against the skin at the base of the skull of the cat.

Step 3: Squeeze the tube and gently apply the entire contents of Bravecto Plus directly to the skin at the base of the skull of the cat. Avoid applying an excessive amount of solution that could cause some of the solution to run and drip off of the cat. If a second spot is needed to avoid run off, then apply the second spot slightly behind the first spot.



Greasy, oily, or wet appearance may occur at the application site in some cats.

Contraindications:
There are no known contraindications for the use of the product.

WARNINGS:

Human Warnings:
Not for human use. Keep this and all drugs out of the reach of children.

Do not contact or allow children to contact the application site until 2 hours post application.

Keep the product in the original packaging until use in order to prevent children from getting direct access to the product. Do not eat, drink or smoke while handling the product. Avoid contact with skin and eyes. If contact with eyes occurs, then flush eyes slowly and gently with water. **If wearing contact lenses, eyes should be rinsed first, then remove contact lenses and continue rinsing, then seek medical advice immediately. Wash hands and contacted skin thoroughly with soap and water immediately after use of the product. If the product accidentally contacts skin and a sticky residue persists after washing, rubbing alcohol (70% isopropyl alcohol) can be applied to the area to remove the residue.**

The product is highly flammable. Keep away from heat, sparks, open flame or other sources of ignition.

Precautions:
For topical use only. Avoid oral ingestion (see **Animal Safety**).

Fluralaner, one of the ingredients in Bravecto Plus, is a member of the isoxazoline class. This class has been associated with neurologic adverse reactions including tremors, ataxia, and seizures. Neurologic adverse reactions have been reported in cats receiving isoxazoline class drugs, even in cats without a history of neurologic disorders. Use with caution in cats with a history of neurologic disorders.

Use with caution in cats that are heartworm positive (see **Animal Safety**).

Bravecto Plus has not been shown to be effective in kittens less than 6 months of age.

The safety of Bravecto Plus has not been established in breeding, pregnant, and lactating cats.

The effectiveness of Bravecto Plus to prevent heartworm disease after bathing or water immersion has not been evaluated.

Adverse Reactions:
In a well-controlled U.S. field study, which included a total of 176 treated cats (135 with Bravecto Plus and 41 with a monthly topical active control), there were no serious adverse reactions.

Percentage of Cats with Adverse Reactions (AR) in the Field Study

Adverse Reaction	Bravecto Plus Group: Percent of Cats with the AR During the 120-Day Study (n=135 cats)	Active Control Group: Percent of Cats with the AR During the 120-Day Study (n=41 cats)
Vomiting	5.9%	12.2%
Alopecia (not at application site)	5.2%	2.4%
Pruritus	4.4%	12.2%
Application site pruritus	4.4%	4.9%
Diarrhea	3.7%	7.3%
Lethargy	3.7%	9.8%
Dry Skin	3.0%	0.0%
Elevated alanine aminotransferase (ALT)*	3.0%	0.0%
Hypersalivation	1.5%	1.5%
Application site alopecia	0.7%	0.0%

*ALT was greater than twice the upper reference range of 100 IU/L. These cats also had mild elevations of aspartate aminotransferase (AST) (less than twice the upper reference range of 100 IU/L). No clinical signs associated with liver disease were noted in these cats.

In well-controlled laboratory effectiveness studies, the following adverse reactions were seen after application of Bravecto Plus: pyrexia, tachypnea, mydriasis, pruritus, scabbing, and bloody stool.

Foreign Market Experience: The following adverse events were reported voluntarily during post-approval use of the product in cats in foreign markets: polydipsia, swelling of chin and lips, periorbital swelling, blepharospasm, pruritus, erythema, aggression, agitation, pyrexia, mydriasis, hypersalivation, hyperactivity, alopecia, and excessive grooming. These adverse events occurred within 48 hours of administration.

In a European field study for fluralaner topical solution for cats, there were three reports of facial dermatitis in humans after close contact with the application site which occurred within 4 days of application. In foreign market experience reports for Bravecto Plus, one veterinarian experienced tingling and numbness of the fingers, hand, and arm, and swelling of the hand and arm after getting Bravecto Plus on her fingers. Additional signs, including blurred vision and disorientation, occurred after taking an antihistamine.

To report suspected adverse events, for technical assistance or to obtain a copy of the Safety Data Sheet (SDS), contact Merck Animal Health at 1-800-224-5318. Additional information can be found at www.bravecto.com. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or online at http://www.fda.gov/reportanimalae.

Clinical Pharmacology:
Peak fluralaner concentrations are achieved between 3 and 21 days following topical administration and the elimination half-life ranges between 11 and 18 days. Peak moxidectin concentrations are achieved between 1 and 5 days following topical administration and the elimination half-life ranges between 20 and 30 days.

Mode of Action:
Fluralaner is for systemic use and belongs to the class of isoxazoline-substituted benzamide derivatives. Fluralaner is an inhibitor of the arthropod nervous system. The mode of action of fluralaner is the antagonism of the ligand-gated chloride channels (gamma-aminobutyric acid (GABA)-receptor and glutamate-receptor).

Moxidectin is for systemic use and is a semisynthetic derivative of nemadectin, belonging to the milbemycin group of macrocyclic lactones. It binds to gamma-aminobutyric acid (GABA) and glutamate-gated chloride channels of the nerves and muscles of the parasite resulting in hyperpolarization, paralysis and death.

Effectiveness:
In two well-controlled laboratory studies, Bravecto Plus was 100% effective against induced heartworm infections when administered 2 months prior to infection. Bravecto Plus was not effective when administered more than 2 months prior to infection.

In well-controlled laboratory studies, Bravecto Plus was effective against naturally and experimentally induced adult and experimentally induced 4th stage larval and immature adult *Toxocara cati* and *Ancylostoma tubaeforme* infections in cats.

In a well-controlled laboratory study, Bravecto Plus killed 100% of fleas within 12 hours after treatment and reduced the numbers of live fleas on cats by >99% within 12 hours after treatment or infestation for 2 months. In well-controlled laboratory studies, Bravecto Plus demonstrated >90% effectiveness against *Dermacentor variabilis* 48 hours after treatment or infestation for 2 months but failed to demonstrate ≥ 90% effectiveness beyond 2 months. In well-controlled laboratory studies, Bravecto Plus demonstrated ≥ 98.1% effectiveness against *Ixodes scapularis* 48 hours after treatment or infestation for 2 months.

Animal Safety:
Margin of Safety Study: In a margin of safety study, Bravecto Plus was administered topically to 9- to 13-week-old (mean age 12 weeks) kittens at 1X, 3X, and 5X the maximum labeled dose of 93.0 mg fluralaner/kg and 4.7 mg moxidectin/kg at three, 8-week intervals (10 kittens per group). The kittens in the control group (0X) were treated with mineral oil. There were no clinically-relevant, treatment-related effects on physical examination, body weights, food consumption, clinical pathology (hematology, clinical chemistries, coagulation tests, serum amyloid A, and urinalysis), gross pathology, histopathology, or organ weights. Single incidences of self-limiting hypersalivation in three kittens (one kitten in the 1X group and two kittens in the 3X group) and pruritus at the administration site in one kitten in the 3X group were observed on the day of dose administration. Cosmetic changes at the application site included matting/clumping/spiking of hair, wetness, or a greasy appearance.

Oral Safety Studies: In an oral safety study, one dose of Bravecto Plus was administered orally to 4- to 9-month-old kittens at the maximum labeled dose of 93.0 mg fluralaner/kg and 4.7 mg moxidectin/kg. The kittens in the control group were administered saline orally. There were no clinically-relevant, treatment-related effects on physical examination, body weights, food consumption, or clinical pathology (hematology, clinical chemistries, coagulation tests, serum amyloid A, and urinalysis). Five of six treated kittens experienced hypersalivation. One treated kitten experienced vomiting 2 hours after administration and another 8 hours after treatment. Treated kittens had reduced food consumption on the day of treatment.

In an oral safety study for fluralaner topical solution for cats, four out of six cats experienced coughing immediately after oral administration of the maximum labeled dose of 93.0 mg fluralaner/kg.

In a pilot oral safety study, adult cats orally administered 0.5X or 1X the maximum labeled dose of Bravecto Plus had foaming hypersalivation for up to five minutes and reduced food consumption on the day of dosing. One cat exhibited transient lacrimation from one eye during the first 15 minutes after dosing.

Safety in cats infected with adult heartworm (Dirofilaria immitis): Bravecto Plus was administered topically to cats infected with adult heartworm at 1X or 3X the maximum labeled dose of 93.0 mg fluralaner/kg and 4.7 mg moxidectin/kg (8 cats per group). The cats in the control group (0X) received mineral oil topically. Two untreated cats were found dead prior to dosing. There were no clinically-relevant, treatment-related effects on body weights, clinical pathology (hematology, clinical chemistry, and coagulation profile), gross pathology or histopathology. Self-limiting hypersalivation due to grooming was observed on the day of treatment in both treatment groups (6/8 cats in the 1X group and 7/8 cats in the 3X group). In addition, three treated cats (2/8 cats in the 1X group and 1/8 cats in the 3X group) developed adverse neurologic signs during the study and were euthanized due to quality-of-life concerns. Clinical signs in one cat in the 1X group included vomiting, depression, vocalization, and ataxia 38 days that included ataxia, paresis, and muscle tremors 25 days after dosing. A cat in the 3X group exhibited depression, dehydration, a hunched position, and inability to stand 22 days after dosing. Heartworms were found in the epidural space in the second cat of the 1X group and the cat in the 3X group.

Field Safety Study: In a well-controlled field study, Bravecto Plus was used concurrently with other medications, such as vaccines, anthelmintics, antibiotics and steroids. No adverse reactions were observed from the concurrent use of Bravecto Plus with other medications.

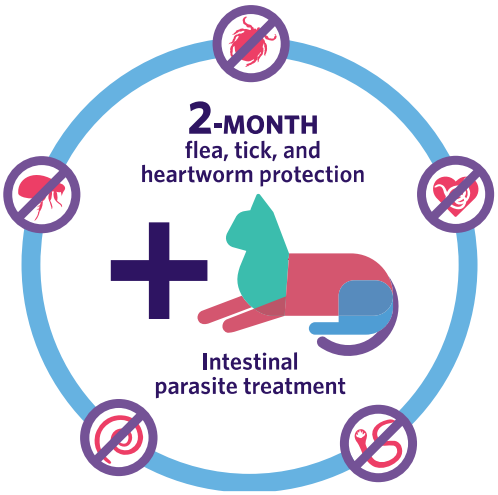
Storage Conditions:
Do not store above 77°F (25°C). Store in the original package in order to protect from moisture. The pouch should only be opened immediately prior to use.

How Supplied:
Bravecto Plus is available in three tube sizes to treat cats ranging in weight from 2.6 lb – 27.5 lb (1.2 kg to 12.5 kg). Each tube is packaged individually in a pouch. Product may be supplied in 1 or 2 tubes per carton.

Approved by FDA under NADA # 141-518

Rev: 08/2019

MERCK Animal Health



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(fluralaner and moxidectin topical solution) for Cats

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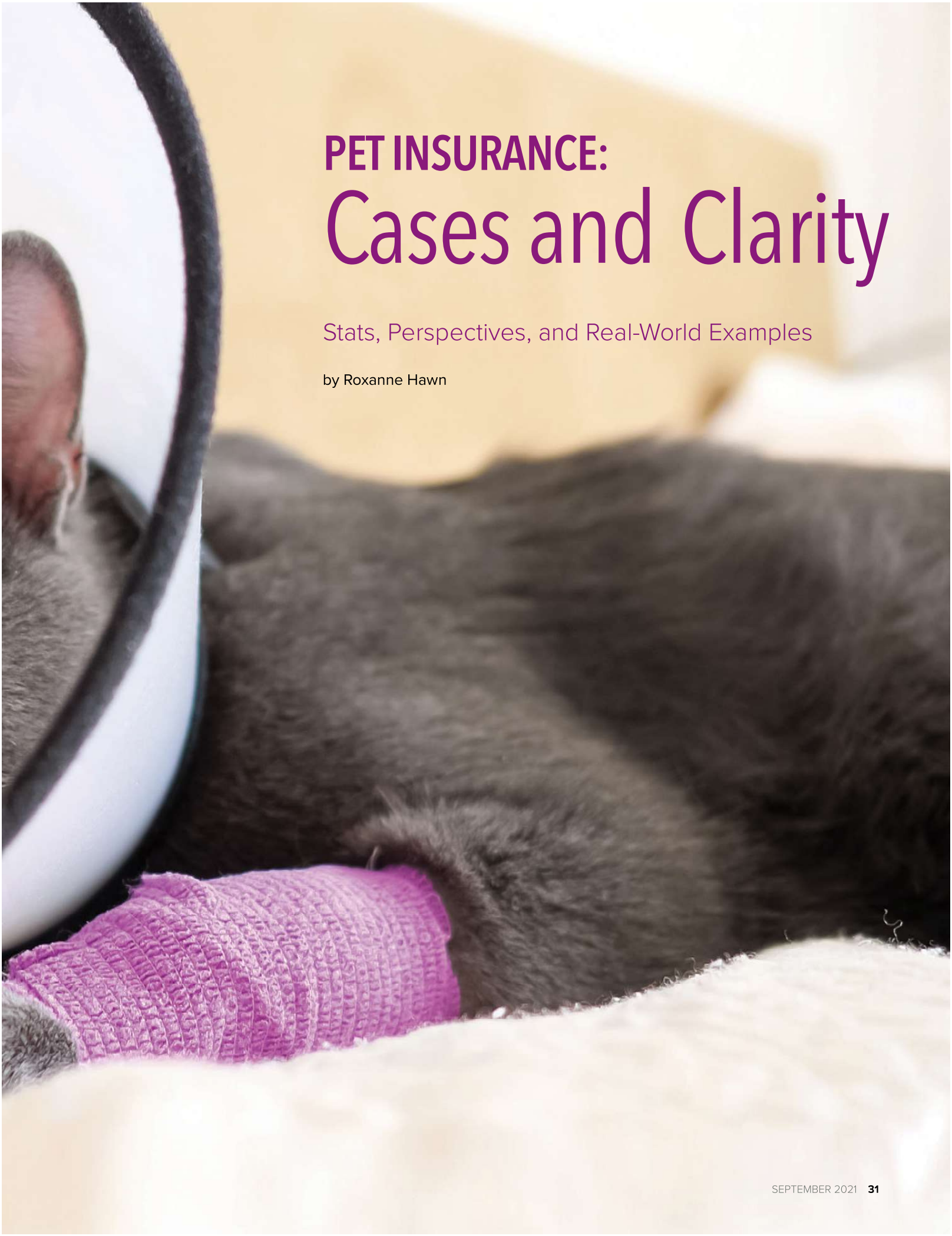
IMPORTANT SAFETY INFORMATION:

The most commonly reported adverse reactions include vomiting, hair loss, itching, diarrhea, lethargy, dry skin, elevated ALT, and hypersalivation. **BRAVECTO PLUS** has not been shown to be effective for 2 months in kittens less than 6 months of age. For topical use only. Avoid oral ingestion. The safety of **BRAVECTO PLUS** has not been established in breeding, pregnant and lactating cats. Fluralaner is a member of the isoxazoline class. This class has been associated with neurologic adverse reactions including tremors, ataxia, and seizures. Neurologic adverse reactions have been reported in cats receiving isoxazoline class drugs, even in cats without a history of neurologic disorders. Use with caution in cats with a history of neurologic disorders. Use with caution in cats that are heartworm positive. The effectiveness of **BRAVECTO PLUS** to prevent heartworm disease after bathing or water immersion has not been evaluated. For full prescribing information, see adjacent page.

1. BRAVECTO® PLUS [product label]. Madison, NJ: Merck Animal Health; 2019.

MERCK Animal Health



PET INSURANCE: Cases and Clarity

Stats, Perspectives, and Real-World Examples

by Roxanne Hawn

EVEN WITH SIGNIFICANT ANNUAL PET INSURANCE growth—averaging 23.4% per year over the past five years—the pet insurance penetration rate for dogs and cats is 2% in the United States and 2.5% in Canada, according to the 2021 State of the Industry Report from the North American Pet Health Insurance Association (NAPHIA).

That means 98% of potential pet insurance customers bring either no experience at all or no current experience with how pet insurance works or with how much it typically costs. NAPHIA data shows that accident and illness coverage in 2020 averaged $49.51 per month for a dog and $28.48 per month for a cat.

A lot of people also harbor old ideas about pet insurance from the earliest days of the industry or misunderstand pet insurance entirely, including consumers who expect HMO-style, low copayments for everything or state regulators who think it's sold by veterinary practices like how travel agents sell travel insurance. Insert eyeroll.

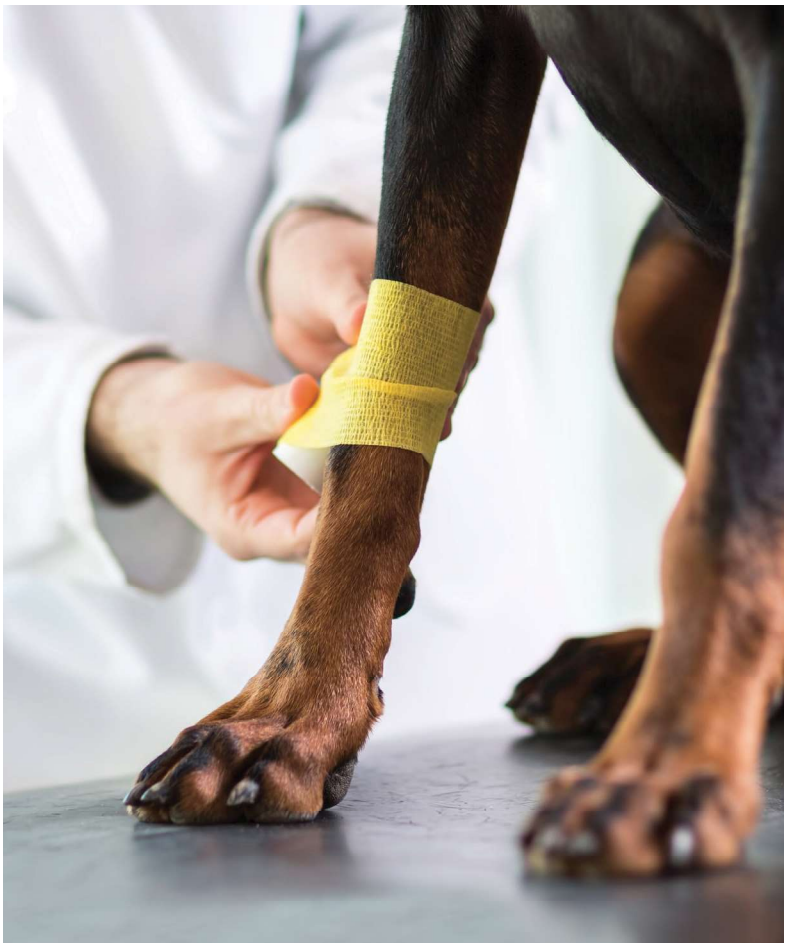
Because of the patchwork of requirements for pet insurance companies who want to provide policies to people in various places, watch for ongoing efforts by the National Association of Insurance Commissioners to develop a model law that could provide consistency—and clarity—so that consumers have access to the same coverage no matter where they live.

In the meantime, veterinary teams often rely on the experiences of their clients, which may focus on disappointment, with people more likely to share how many times pet insurance denied claims or excluded pre-existing conditions. Perhaps that's why "There are too many exclusions" and "It's not worth the money" topped the list of reasons veterinarians don't recommend pet insurance, according to another study published by NAPHIA in 2016.

After a slow start in 2020, the pandemic seems to have boosted the appeal of pet insurance. Kristen Lynch, NAPHIA executive director, shares a theory on that. In addition to people being home more with pets and acquiring more new pets because they were home more, Lynch wonders about pandemic isolation for people who live alone. "For many," she says, "their pet was their only companion or their primary companion. So, that's all sort of the societal and human-animal-bond type stuff, but then for pet insurance, there is an additional factor, and that's adding the element of financial uncertainty to the mix."

Lynch talks about pet insurance as proactive compared with credit or payment options, which she sees as reactive. With insurance, she explains, people start with more confidence and less worry about taking pets in for veterinary care. "It frees me up from having to make emotional decisions," she says. "It's a very rare form of emotional coverage."

Though the law looks at pets as property, people feel emotional about buying coverage and making claims. They feel emotional about seeking veterinary care. "It's



"Pet insurance is designed to be used."

KRISTEN LYNCH, NAPHIA EXECUTIVE DIRECTOR

LuckyBusiness/iStock via Getty Images Plus

really a unique product in that way, but it ties people to that relationship they have with their veterinarian," Lynch said.

For "The Impact of Pet Health Insurance on Dog Owners' Spending for Veterinary Services," published in 2020, American Veterinary Medical Association researchers used several models and "found that pet health insurance had a significant and positive impact on the amount spent at the veterinarian." They did not, however, find a similar positive association between pet insurance and increased veterinary visits.

As for frustrations and disappointments people feel, Lynch encourages them to read their policy, which is often written in easy-to-understand documents, nothing like the copious fine print with other types of insurance.

"Pet insurance is designed to be used," says Lynch, making comparisons with rarely used car or home insurance. "Typically, people make multiple claims a year. If you are an active, engaged pet parent, you use your coverage, so read it. Understand it."

Case Example: Sydney

David Markham, a territory partner for Trupanion in Oregon and southwest Washington, remembers how people laughed 11 years ago when he got into the pet insurance world. Now, he feels like the proof is out there for skeptics such as policies with fewer exclusions, different types of deductibles (annual or lifetime), and real claims paid.

Take his Boston terrier, Sydney. She was five years old when he got her policy in 2010. Before she died in early 2019, Sydney's veterinary costs topped $66,000. Markham got more than $47,000 in pet insurance help.

"To be honest," he says, "This was the first time I added all of it up, and the number is overwhelming. I am so thankful we were able to say yes so many different times without regard for cost. She was our first kiddo, and the reason I found this veterinary world l love so much."

Sydney's list of 33 medical dramas includes claims for mast cell tumors, cataract surgery, glaucoma, foreign bodies, dental extractions, knee surgery and rehabilitation, mitral valve issues, two autoimmune conditions, sudden blindness, fecal transplant, and spinal issues.

Sydney received care from these AAHA-accredited practices:

- VCA Murray Hill Veterinary Hospital
- Oswego Veterinary Hospital
- Dove Lewis Animal Hospital

"No one of these was a sudden $7,000 decision, but boy, did it add up," Markham says. "We trusted the veterinarians to do their best with Sydney, and they did an amazing job."

Case Example: Bud

A domestic shorthair cat named Bud became a clinic cat at AAHA-accredited NOVA Cat Clinic in Arlington, Virginia, around the age of 10, when the team there felt uncomfortable with the request for his euthanasia following a significant bite to his owner's face.

"He had an attitude, honestly," says former practice manager Chrissy Davis. "He also had a lot of chronic pain from a horrifically bad declaw probably done when he was a kitten. That contributed to a lot of arthritis and chronic pain, which the owner didn't really seem interested in treating."

Bud felt better once he started treatment for chronic pain, but he remained a bit of a pistol. He became a clinic fixture, sporting a vest reminding people not to pet him.

While "experiment" isn't quite the right word, NOVA Cat Clinic purchased policies for Bud and the clinic's other cat so that they could experience pet insurance as consumers.

"At that time, Bud didn't have a lot of pre-existing conditions," Davis says. "Everything that happened with him came after the insurance, which is sort of the miraculous part."

Joking that Bud had "more than nine lives," Davis details his various medical needs, which added up to somewhere between $15,000 and $20,000 in pet insurance claims.

NOVA Cat Clinic's team diagnosed Bud as diabetic about six months after his pet insurance policy started. Then came the acromegaly/pituitary tumor diagnosis, which

required an MRI, CT scan, and more before starting radiation treatments. Then in fall of 2019, Bud developed T-cell lymphoma. That's when Davis brought him home with her, assuming a hospice situation, since his age, other conditions, and personality made the decision not to do chemo the best choice for his emotional wellbeing.

Davis thought maybe Bud would last a couple of months, but he lived until May 31, 2021.

Case Example: Goose

Alex Brannon works in management and administration at AAHA-accredited Lafayette Veterinary Care Center in Lafayette, Louisiana. Her black Lab, Goose, celebrated his first birthday in May 2021. "Celebrated" is the right word for it, too, because it turns out he eats rocks.

Brannon purchased pet insurance for several of her animals, including a Great Dane and a pit bull terrier/mastiff mix who both lived to be 12 years old. "We couldn't have kept them alive that long without insurance," she says. So, Brannon knew Goose could get the help he needed when gastrointestinal issues came up at six months old and X-rays revealed rocks. "After they took them out, when I saw them, I was like, 'Oh, yeah, those are definitely from landscaping in our backyard," she says.

Because of the size (big gravel) and location inside Goose, endoscopy wasn't an option. "I guess because he was so young, and the rocks weren't in there for very long, he bounced right back from surgery," Brannon says.

Thanks to the combination of her employee discount and pet insurance covering 90% of the costs, Goose's rock emergency only cost Brannon about $200. Goose also suffered a paw injury at day care, so he had two claims in his first year.

Among the 130 or so employees at the practice, Brannon estimates that 90% of them have pet insurance. She jokes that a large chunk of business comes from "all of our dogs getting themselves into trouble."

Case Example: Rory

Vladimir Vanev, 32, adopted his first-ever dog—a boxer mix named Rory—from the Erie County SPCA about six years ago.

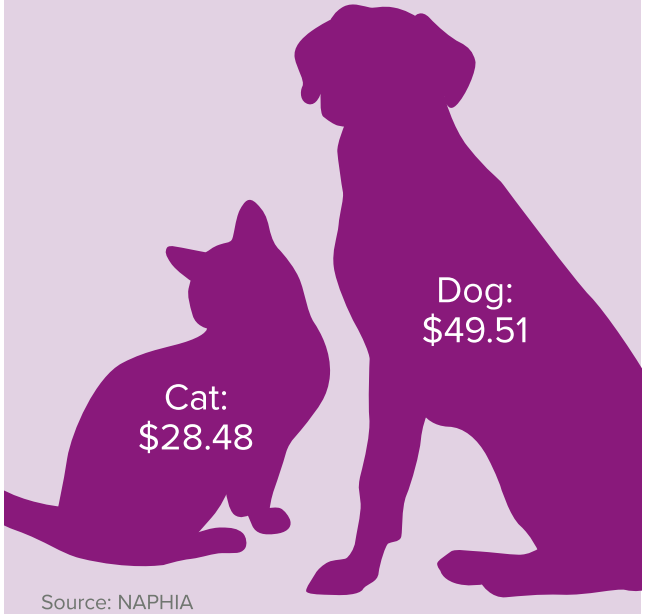
"I purchased the insurance because a friend from work had a dog that got injured, and he was forced to make a difficult decision whether to pay for a very expensive treatment," says Vanev, a systems analyst for the US Department of the Treasury. "He didn't have pet insurance. When he told me about his situation, that very same day, I did a lot of research on pet insurance companies and purchased Rory's insurance policy."

He chose to pay the yearly premium of approximately $350 all at once each year, rather than monthly. Over the years, Rory became a valued addition to Vanev's extended family, which also includes his brother's kids, ages five and one.

Fast-forward to February 2021. Vanev found a lump under Rory's chin while petting him. He says the golf-ball-sized lump seemingly appeared overnight. "The very next day," Vanev says, "I brought him to our vet for an examination and shortly after they took a sample for testing, and we found out that it was lymphoma."

By the Numbers

Average monthly cost for accident and illness coverage in 2020:



Source: NAPHIA

Rory is a patient at AAHA-accredited Orchard Park Veterinary Medical Center in Orchard Park, New York. So far, his lymphoma diagnosis and treatment claims top $8,625, and Embrace Pet Insurance has reimbursed Vanev for $6,898.

"It's been an incredible value and probably one of the best investments I've made," Vanev says.

While Vanev doesn't try to convince friends about the merits of pet insurance, a couple of them did get policies for their pets after hearing Rory's story.

Pet Insurance Clarity

As a starting point, many practices discuss pet insurance when clients get new puppies or kittens. The idea is to get them coverage before any pre-existing conditions pop up. The plan doesn't always work because even young pets from rescue groups and shelters may arrive with little medical issues.

Earlier is better, however, since pet insurance companies often see a J-shaped curve in claim trends—where young pets get hurt or sick a lot in the first 18 months or so, then claims often drop to nothing for many years before climbing again as pets age. But, as cases like clinic cat Bud show, it can also pay off to get coverage for so-far healthy older pets.

Of course, the biggest claims get a lot of attention. According the NAPHIA, the highest claim payout for a dog in 2020 was $71,603 for a large mixed-breed dog with cancer. The highest payout for a cat was for $24,545 for a domestic shorthair cat with pneumonia. Some policies come with annual or lifetime payout limits, so be sure clients understand what they're getting. Not everyone is going to get that much help all at once.

Yet, even everyday claim payouts help families—with as little as $200 to $2,000 making top-notch care possible. That could be X-rays for lameness, blood panels for tickborne infections, dental extractions, hospitalization for accidental poisoning, or surgery for broken bones.

One way to learn more about pet insurance is to offer it or partially support its purchase for practice team members. It's a nice employee benefit, but it also helps pay for care the practice provides to the team's pets anyway.

Most Common Pet Insurance Claims in North America (2020)

Dogs	Cats
Urinary tract infection	Urinary tract infection
Otitis	Diabetes
Gastroenteritis	Emesis
Diarrhea	Kidney disease
Dermatology conditions (allergies, irritation, infections, masses)	Hyperthyroidism
Arthritis	Gastroenteritis
Allergies	Diarrhea
Lameness	Upper respiratory infection
Emesis	Respiratory signs
Seizure	Cancer
Ophthalmology conditions	Inflammatory bowel disease

Source: 2021 State of the Industry Report, NAPHIA

For example, NOVA Cat Clinic reimburses team members $50 per month toward pet insurance for their pets. This keeps the practice in compliance with the IRS since giving staff free veterinary care is a big red flag for untaxed compensation. By supporting pet insurance as a perk instead, the practice can charge for services and keep everyone's financials legal. Maybe even consider trying different policies and companies if you want to compare options and customer service. ※

Roxanne Hawn is an award-winning journalist and author living in Colorado.

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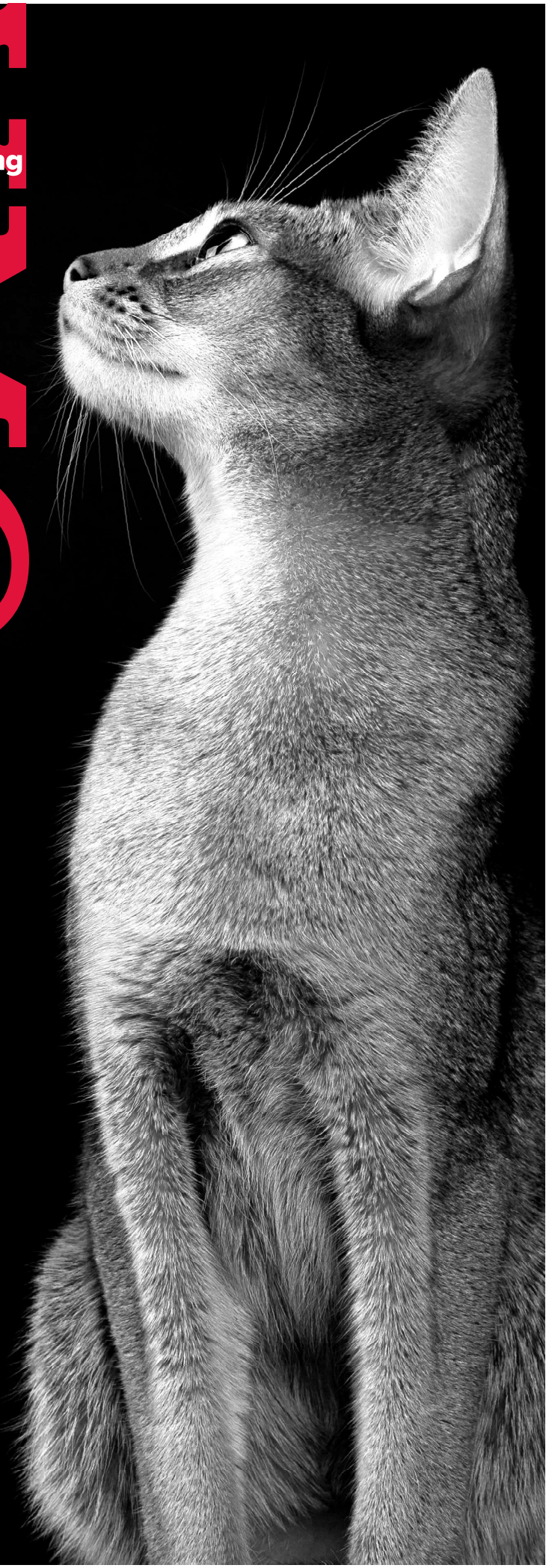

Soften the Blow or Weather the Storm?

Should You Invest Now to Protect Your Building Against a Natural Disaster?

by Constance Hardesty

Small businesses that don't reopen within 90 days following a natural disaster will probably fail, according to the US Small Business Administration (SBA).

To help them bounce back, the SBA offers disaster loans that cover physical and economic damage. The physical damage loans are based on assessed damage.

For the "once bitten, twice shy," the SBA allows a 20% increase in the basic loan amount to cover improvements meant to protect the building against future disasters.

That's a big advantage. If property damage insurance restores your building to its pre-disaster condition, the SBA loan will fund building improvements. If your building is older, that could mean the difference between windows with single-pane glass or with reinforced glass and hurricane shutters. Note: The SBA will not fund costs that are covered by insurance.

Public Safety Canada also offers disaster assistance to small businesses, including loans that allow for property improvements. Loans are available through the Canada Small Business Financing Program.

But why wait? Why not protect your building *before* disaster strikes? On the other hand, why invest in precautions against something that may never happen?

Dynamic Graphics/liquidlibrary via Getty Images Plus

To sort through the benefits and drawbacks, *Trends* brought together veterinary consultants including an insurer, a financial consultant, and a real estate broker.

Understanding the Risks

Every square inch of the United States is subject to some kind of weather- or climate-related disaster, though some areas are at much higher risk than others. It's easy to tick off the riskier states: California for earthquakes, Oklahoma for tornadoes, Florida for hurricanes. But did you know that Texas and Colorado top the states for hail? On the flip side, Minnesota and Montana are among the least likely to be hit by any natural disaster.

The Federal Emergency Management Agency (FEMA) publishes a National Risk Index that reflects the economic impact of natural disasters for every county in the United States. Because population is a key factor in the risk calculation, the riskiest areas are the heavily populated ones, like Southern California and Florida. But that doesn't mean your building in Enid, Oklahoma, won't be flattened by a tornado.

You can use the National Risk Index to learn how many times per year on average various natural disasters occur in your county (go to https://bit.ly/3qC4kr5 for an interactive map of US counties, then scroll through data in the column on the left).

In some high-risk areas, governments, insurers, or lenders may mandate protective measures. In other cases, it's up to you to figure out what to do and how to do it.

Land use controls, product and installation standards, and building codes are often used together to enforce public standards for safety, according to a policy paper published in the *Journal of Insurance Regulation*. Even where the law doesn't require disaster mitigation, insurers and lenders might.

HUB International, an insurance broker that serves veterinary practices, provides natural disaster modeling to help clients understand local risks and how disaster-related losses may affect their insurance costs. (HUB is also an AAHA Preferred Business Provider.)

"We have recommended flooding emergency response plans, water-intrusion mitigation plans, wildfire emergency planning, and business continuity planning to help impact the severity of a disaster," Ryley Georgitsis, associate risk consultant at HUB, explained. "While this may not be directly considered mitigation, some preplanning can raise awareness of the potential for natural disasters and leadership support for additional measures that may decrease the frequency of loss."

Some solutions may be very expensive, such as adding drainage, reinforcing roofing or changing roofing materials, and installing storm-resistant windows, Georgitsis said. Other precautions come at a more reasonable cost, like installing window film to help prevent injuries from broken glass.

HUB also offers incentives to encourage preventive measures. "We partner with carriers to require certain coverages (glass, shutters) to mitigate the damage from disasters," Georgitsis said. "At the end of the day, mitigation measures are meant to encourage owners to be profitable because it affects their premiums."

In one case, mitigation measures saved a business that was in danger of losing its insurance through nonrenewal, Georgitsis said. The owner had invested in bracing the building's steel frame to protect it against earthquakes. When HUB property specialists toured the building, they found it had the requisite protections in place, and they were able to negotiate the renewal at an $18,000 cost savings.

Invest in the Future

Taking precautions can also increase a property's value, according to Shawn Henriksen, a licensed real estate broker with PS Broker. Investments in mitigation measures can increase the likelihood of a sale or obtaining a mortgage, she said.

"State laws vary, but in our experience, improvements are negotiable. Most lenders will insist on a Phase 1 Environmental Study and a building inspection," Henriksen explained. "If items are discovered during the Phase 1 or the building inspection, remedies are usually suggested. These tend to be negotiated between buyer and seller as to which items must be addressed and who is going to pay for the improvements," she added.

In some cases, the sale of a building prompts the need for mitigation improvements. That's because, in many

jurisdictions, when a building is significantly renovated or altered or there is a change in its use, the building must be brought up to code.

But what if you are not selling or renovating your building? What if you rent, not own? When does it make sense to invest in disaster prevention for its own sake?

That's an individual business decision based on local threats, the likely consequences—financial and otherwise—and your tolerance for risk.

"What might be right for a building located on the Florida coast that is hit by hurricanes every year may not be right for those of us here in Texas who had the Great Freeze in February," says Karen Felsted, MS, CVPM, CPA, president of PantheraT.

That said, at least one mitigation measure is affordable and quite broadly useful.

"The most common disaster mitigation measure I've seen recently was the installation of generators in Texas practices after the February power outages," Felsted noted. "Not everyone who thought about it actually went through with it, but those who did seem happy with having covered that risk."

Besides generators, hurricane shutters and fire-resistant roofing offer a return on investment. As real estate broker Henriksen pointed out, they not only help to protect the building but can enable business continuity.

"We have represented several practices in the country, particularly Florida, New Jersey, Mississippi, and California, that have gone through hurricanes, flooding, and out-of-control forest fires," said Henriksen. "Because our clients had invested in generators, hurricane shutters, or removing trees close to the veterinary facilities, their buildings not only survived these natural disasters, but most continued to provide boarding and medical attention to pet owners and displaced animals."

"Each situation needs a cost-benefit analysis," Felsted added. "A loan is helpful in that it provides upfront money to pay for the work, but it has related costs, most notably interest. Certainly, the costs will be deductible as a business expense, but the practice will spend much more than it saves in taxes."

How to Apply for Disaster Loans

You *must* register with FEMA before applying for SBA assistance.

To get started, after a federal disaster has been declared, register online with the Federal Emergency Management Administration at disasterassistance.gov (click on Apply Online) or call 800-621-3362.

For more information about the loans and how to apply, see the SBA's disaster assistance page disasterloanassistance.sba.gov/ela/s/ and FEMA's business disaster loans page https://bit.ly/3w4fRAz.

Act quickly because both FEMA and SBA deadlines are tight.

What's in Your Policy?

Insurance can help to cover building damage and even interruption of service, but be sure you understand your policy's coverage.

You may be insured against damage from loss of income due to power interruption, but only if it occurs off-premises. You may be protected against damage due to rainfall or even water that backs up through sewers or drains, but what about rising rivers?

Also check on limits on coverage and the scope of an incident. You could be covered for a wildfire this summer, but what about next year's mudslides that result from the deforested landscape?

Whether you rent or own your practice building, you need flood insurance. Never, ever assume your property damage insurance covers flood. Purchase flood insurance separately. The National Flood Insurance Program works through about 60 insurance companies. To get started, talk to your insurance broker or agent.

As part of the analysis, Felsted recommends considering the following:

- What disaster might happen? There is always the possibility of some totally unforeseen thing, but certain kinds of natural disasters are common in certain areas so one can make some reasonable assumptions.
- How likely is it that something may happen? Is this an annual possibility or a 100-year event?
- What is the risk to the practice? Besides physical damage to the property, think about business continuity, impact on employees and the community, and other consequences.
- What is your individual risk tolerance? Some people are willing to take some chances; others want to be as fully protected as possible.
- What are the various ways of protecting yourself? Will you rely on insurance and personal savings instead of or in addition to mitigation measures?
- What are the costs of protection?

Once you've been affected by a disaster, the SBA can help. As mentioned, you can increase your SBA disaster assistance loan up to 20% of your verified physical damage to make mitigation improvements.

Generally, you have two years after your initial loan approval to request an increase not only for mitigation measures and code-required upgrades but also for higher rebuilding costs.

To be eligible for SBA disaster assistance, your practice must have been affected by a federally declared disaster.

Conversations about property protection typically center on property damage and restoration, but the impacts for veterinary practices go much deeper. As you weigh the risks, be sure to consider the effects on patients, staff, clients, and your practice's reputation. ※

Constance Hardesty, MSc, has survived catastrophic hail, -30° weather, floods, ice storms, two tornadoes, and a hurricane.

AAHA's Disaster Preparation Standards

- AAHA has thousands of standards related to many different aspects of veterinary practice. Here are just a few of the dozens of disaster preparation–related standards. Neighborhoods change over time. Natural disasters can occur. A practice should review changes in their surroundings and potential threats at least annually and update security needs.
- Practices should have a written disaster and emergency management plan. This plan needs to include:
  - An evacuation plan for people and animals
  - An assembly area or meeting place (so everyone can be accounted for)
  - Emergency contacts list
  - Location of gas shut-off and electrical breakers
  - Options for the containment of patients and the continuation of life-sustaining care
  - A content list and location of a kit containing essential supplies such as a flashlight, mask, respirator, and tools.
- Practices should have adequate emergency lighting. Battery-operated lights or alternate power sources should be maintained, tested, and inspected monthly.
- Practices should keep a source of back-up lighting and power, such as a generator. This must be maintained and tested regularly in case of emergency.
- Written instructions and/or diagrams are posted for the practice team and client evacuation in case of fire or other danger.

For more information log on to your accreditation evaluation tool at eval.aaha.org.


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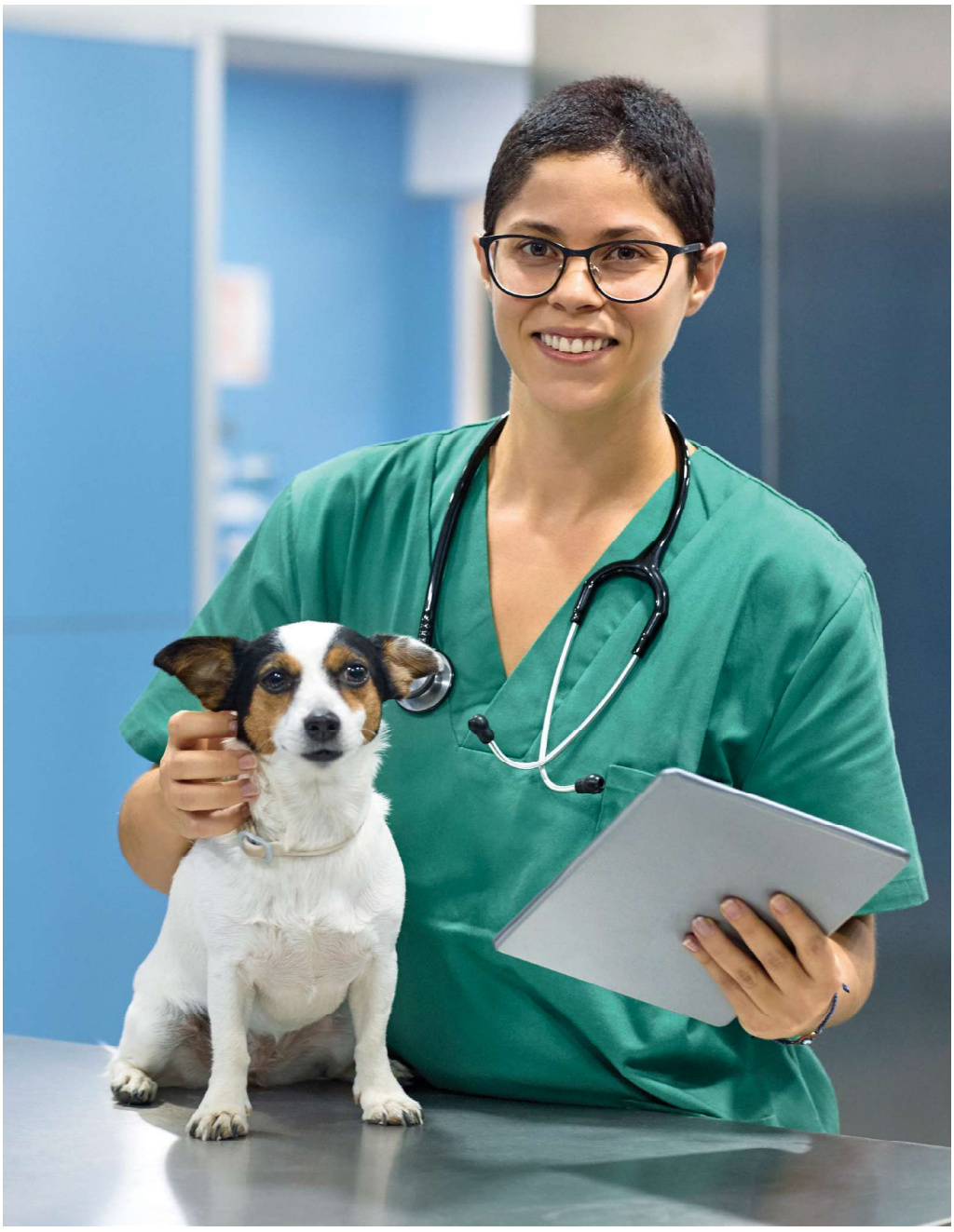

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> "You can have an audio/video live feed, and the tech can remind the client of what they learned while in the hospital and watch them do it step by step while virtually holding their hand."
>
> —LORI M. TELLER, DVM, DABVP, TEXAS A&M UNIVERSITY

Using Technicians as a Way to Ease into Telehealth

by Tony McReynolds

Nobody has to tell you how crazy it's been.

Veterinarians and practice staff, overwhelmed by an unexpected flood of pandemic pet adoptions, have spent the last year struggling to juggle new safety protocols with implementing curbside service while trying to field the seemingly nonstop onslaught of phone calls, texts, and emails from desperate pet owners looking for appointments.

As many practices discovered during the early days of the pandemic, implementing elements of telehealth could help.

But for practices already overwhelmed with trying to keep up with exigencies of keeping their doors open during the pandemic, launching full tilt into telehealth was one too many things on the plate.

But easing into telehealth might be simpler than you think.

Trust in Your Techs

That's the advice of telehealth expert Lori M. Teller, DVM, DABVP, an associate professor of telehealth in the College of Veterinary Medicine and Biomedical Sciences, Texas A&M University, and vice chair of the American Veterinary Medical Association (AVMA) board of directors.

Teller says veterinary technicians can

be the champions of telemedicine for the practice: "They can educate clients about what telemedicine is and what can be done with it," she says. They can also help clients decide if their pet really needs an in-practice visit by facilitating a telemedicine visit first.

"Almost anything you can do during [an in-office] tech appointment, especially an educational tech appointment, you can do in a virtual visit."

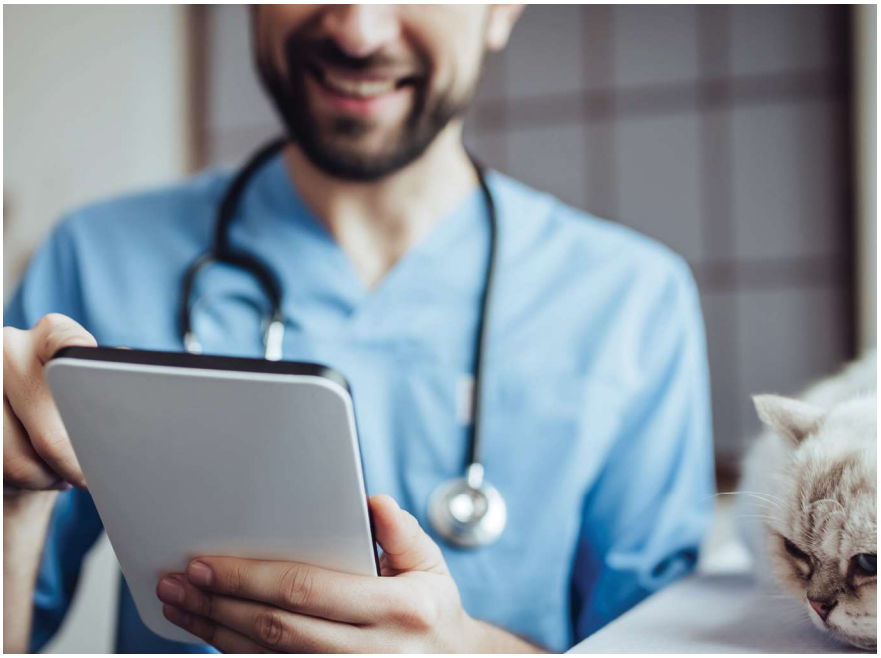
Teller says that though virtual appointments obviously don't include collecting blood or tissue samples, they could include taking histories, going over home care instructions, and basic triage.

"Let's say you as the doctor have recently diagnosed a patient with diabetes or a cat with chronic kidney disease," Teller says. "And you've explained to the owner during the office visit that you want them to administer insulin injections and how to do it."

But all too often, Teller says, they'll have forgotten everything you've told them as soon as they get home, "and now they're terrified they're going to hurt their pet."

That's where telemedicine and the tech come in, Teller says.

"You can set up an appointment with the client via telemedicine, and the technician is right there. You can have an audio/video live feed, and the tech can remind the client of what they learned while in the hospital and watch them do it step by step while virtually holding their hand."



"Techs can message me and say 'Hey, can you please look at this case and let us know what you want us to do?"

—SHLOMO FREIMAN, DVM

Teller says that can really boost the client's confidence in their ability to provide whatever home care they need to be doing. "And that's true whether they're administering fluids, giving allergy injections, or taking readings with a continuous glucose monitor."

Perhaps more importantly, that virtual visit with your tech really bonds the client to your practice—and staff.

"I think we all know that clients come to see the veterinarian, but it's really the technicians who seal the deal," Teller says.

This isn't surprising since techs are the ones who spend the most time with the client, taking histories, having conversations, and prepping both the client and patient for their visit with the veterinarian.

Teller says that if the techs are doing the same things virtually as they'd be doing in person, then telemedicine can be a tremendous way for the technicians to take some of the burden off the veterinarians: "Just knowing that someone's there to hold your hand, even if it's in a virtual manner, can inspire great confidence."

Shlomo Freiman, DVM, co-owner of AAHA-accredited Animal Hospital of Factoria in Factoria, Washington, is a passionate proponent of veterinary telemedicine, and he says using techs to help implement it is key.

Freiman got interested in telemedicine a few years ago when he was trying to address the impact the internet was having on how veterinarians practice medicine. "As

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a source of information," he says, "the internet was increasingly coming between me and my clients in an exceedingly significant way." Dr. Google was just one example.

But when Freiman discovered he could use the internet to his advantage, enabling him to communicate better with his clients, increase efficiency, and improve the workflow in the clinic, he cofounded Petriage, a pet health technology company that provides telehealth services for veterinarians and their clients, in 2015.

Freiman says that while a lot of people associate telemedicine with video chat, he believes the real strength lies in the way it can combine synchronous and asynchronous communication, especially through text. "It's really a game changer," Freiman says.

When Freiman talks about text, he doesn't mean SMS messages sent by phone, although that can be a part of it. He's talking about a written record where all communications between veterinarians, CSRs, techs, and clients—whether by phone, email, text, or video—are recorded in a central online location that all staff can access. Freiman calls it a combination of synchronous and asynchronous communication.

Freiman says that having everything available in a single location, easily accessible by techs on smartphone or tablet, eliminates the potential confusion of multiple phone calls, garbled verbal messages, and multicolored trails of sticky notes: "When it's text-based, I can see what the client said, I can see what the tech said, and I can jump in and add my own input."

Freiman says that kind of transparency means far less stress on everyone.

"Techs can message me [and] say 'Hey, can you please look at this case and let us know what you want us to do? Or do you want to talk directly to client?'"

Or the tech can message the client and relay a question from the veterinarian, Freiman says: "When's the last time your dog vomited, for example." If the client is on their phone, they can answer right away and you can move to the next step. If they don't answer right away, you know they'll get an alert that you've sent a message and at some point, they'll respond. Meanwhile, you can move on to another patient where all the information is in and you're ready to proceed.

And everything goes into the written record, with techs updating the information as it comes in. Which, Freiman says, really beats waiting on hold for an answer.

Adding Value

Jenica Veley, RVT, has spent her share of time on hold.

Veley, founder of VirtualVetTechs, an online veterinary support service, literally grew up answering phones in a veterinary practice—her mom was a vet in Ontario, Canada, and Veley started working at her practice by answering phones, scheduling appointments, and just generally learning everything there was to know about how to run a veterinary practice.

Including how key technicians are to the process.

Veley left her job at an Ontario practice to found VirtualVetTechs in mid-2020, right as the pandemic was ramping up, and she found a ready market for her services. She clearly sees the value of telemedicine from a tech's point of view, having been one herself.

The biggest value is how much time techs can save the veterinarian.

As an example, Veley imagines a pet owner who calls her, worried about a bump that appears on the surgical site after a recent spay. As an experienced tech, Veley says she knows that if the client takes a photo of the area and sends it her, she'll likely know by looking at the photo if the bump is something serious that needs to be seen immediately or more likely just a suture reaction that can wait a couple of days.

And Teller agrees that frequently, technicians are already doing that initial triage.

But Teller is careful to point out that even experienced techs shouldn't look at a photograph some client sent in because they're worried about a rash and say, "That looks fine, you don't have to bring him in." Teller says it may look fine, and may in fact be fine, but the tech can't legally make that call: "That would be making a diagnosis, which is something the veterinarian would have to do." By law, technicians can't make a diagnosis or prescribe a treatment plan.

Either way, the tech would run it by a veterinarian at the practice, who makes the actual call. Then they can relay the information to the client, and say, "[the vet says] it looks fine—let's see how things go, and send a photo if you see any changes; we'll review in a day or two." Or, if the vet sees something worrisome, "[the tech] can tell the client to bring the pet in right now."

By using techs to help triage cases virtually, Veley says "you won't have people showing up with a pet with a torn toenail that stopped bleeding an hour ago."

Karen Bradley, DVM, owner of AAHA-accredited Onion River Animal Hospital in Berlin, Vermont, says her practice has had great success using techs to ease into telemedicine.

"We approached it from the concept of connected care," Bradley says. She'd been looking at telemedicine platforms before the pandemic and just happened to sign with one in December of 2019. While she found it a tremendous help during COVID-19, she thinks it's something the profession has needed for a long time: "Having a way to stay connected with clients while their pets are in the clinic is very valuable."

The Client Connection

Bradley uses telemedicine to stay connected with clients who drop off their pet for a surgery or any kind of dental or inpatient procedure. The particular platform Bradley uses has a portal that allows owners to be in continuous remote contact with the practice if they want to be.

"Our technicians have tablets, and they can take pictures of the pet in recovery or send the owner a picture of the bad tooth." The portal allows techs to exchange texts with clients and send them updates the whole time. Bradley says clients love it. "They feel more up-to-the-minute connected."

Bradley adds that virtual connection can eliminate the fear some clients have when staff take their pet into what she calls "the dreaded back" for a procedure.

In at least one respect, Bradley says, curbside wasn't new to clients with the pandemic. They've always dropped their pets off for procedures and picked them up again at the end of the day. "But with telemedicine, they can drop off their pet and leave without feeling disconnected or like they don't know what's going on."

An added bonus: Bradley says if the veterinarian notices something while the patient is in the hospital, the techs can message the client about it. "They're able to say, 'Hey, we noticed a new lump since the last time you were in' and send them a picture of it asking, 'Have you noticed this?' The techs can get real-time answers from the client much more efficiently than if we had to pick up the phone, call them, leave a message, and wait."

Her younger techs especially have taken to telemedicine; as Bradley notes: "It's a way they're used to communicating anyway. They text and send pictures all the time. They spend a lot of time on social media. And so do more and more of our clients." Bradley says telemedicine makes sense for both clients and staff. "Communication is our strong suit, and [telemedicine] has really made it efficient for them."

Bradley says it's very painless for the client, too, especially the tech-savvy ones. "They feel very connected to the process and like they have their own personal nurse on their pet's case." Her techs sign each message with their name to personalize it.

"When the client gets a photo of the actual technician who's taking care of their pet, signed with their name, and a message like, 'Oh my gosh, Charlie is so cute, when he woke up he was doing such and such,' plus personal details, that shows that the tech really does have a history with the pet."

Bradley says that at a time when owners usually feel anxious and isolated from their pet, a personalized message can make a huge difference.

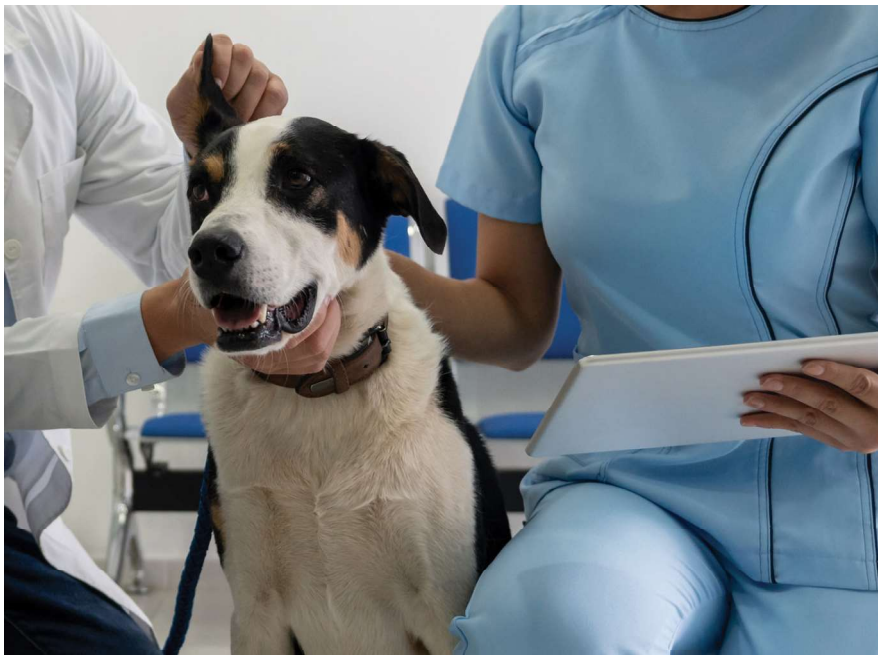
"Clients really love that and feel connected."

Synergies

Freiman says a combination of techs and telehealth provides for better outcomes and means less stress on the staff: "There's much less friction in the whole workflow." Plus, it allows the veterinarian to see more patients, "especially these days when it can take weeks to schedule an in-hospital visit."

Freiman adds that while there's no substitute for a hands-on physical exam, there's a clear need for telehealth. "It's [becoming] an essential part of what we do." And once you add elements of telehealth to your practice, you're actually expanding your business model—and that grows your practice.

"I see telemedicine working hand in hand with the brick-and-mortar



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> The more that practices make use of the various aspects of telehealth, the easier it gets.

practice," Freiman says. He uses the term "brick and click" to describe the hybrid model of hands-on and virtual. "Because that's the new reality. Our clients want to be able to communicate with us easily and effectively." As far as services go, Freiman adds, "I'm going to provide them with whatever's appropriate in the brick-and-mortar [model] and whatever's appropriate virtually."

While a lot of practices report that they've been relying on some aspects of telemedicine to help ease the burden during the pandemic, Lori Teller says there hasn't been any substantive research done yet to prove that telemedicine has made a definite difference to practices. So it's too soon to say whether or not the pandemic has ushered in a new age of veterinary medicine.

"There was a tremendous surge of interest [in telehealth]. Then curbside became a thing and that interest leveled off." Teller believes that veterinary practices are using telemedicine to a greater extent than they were before the pandemic, but not at the same levels as we saw early in the pandemic.

She also doesn't think we'll see a huge uptick in the number of practices adopting telemedicine as result of the pandemic. But she does think the pandemic gave it a boost. "I think people are learning how they can better utilize it in their day-to-day workflows."

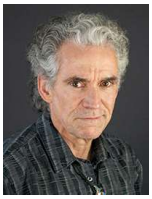
The more that practices make use of the various aspects of telehealth, the easier it gets. "It just becomes a part of everything that you do. I do think that veterinarians who are willing to try it will get better at monetizing it."

If practices still shy away from telehealth, lack of emotional bandwidth is likely part of the reason. "Veterinarians and their staff have been incredibly busy during the pandemic," Teller notes. Most are still feeling a little shellshocked, others as though they're just treading water. A few are trying to step back and figure out how telemedicine can best be incorporated into their workflows.

The upshot is, thinking about how to adopt telehealth isn't top of mind for most veterinarians right now. But it also doesn't have to be, especially if practices trust their technicians to help them ease into it.

Teller says that once things return closer to normal and in-clinic appointments replace curbside service, "it'll actually be easier to take a deeper dive into what those workflows look like and find the balance between the telemedicine visits and the brick-and-mortar visits."

Jenica Veley's mom passed way in 2010, but Veley calls her a "visionary" who would have been quick to adopt telemedicine. "She believed that care should be given where people were ready to receive it," Veley says. And for Veley, that describes telemedicine perfectly. "If somebody is reaching out to you over the phone, they're ready to receive care right there." ※



Tony McReynolds is AAHA's *NEWStat* editor.

Telehealth Guidelines

Did you know that AAHA has guidelines for telehealth? Check out the *2021 AAHA/AVMA Telehealth Guidelines for Small-Animal Practice* on the web at aaha.org/telehealth

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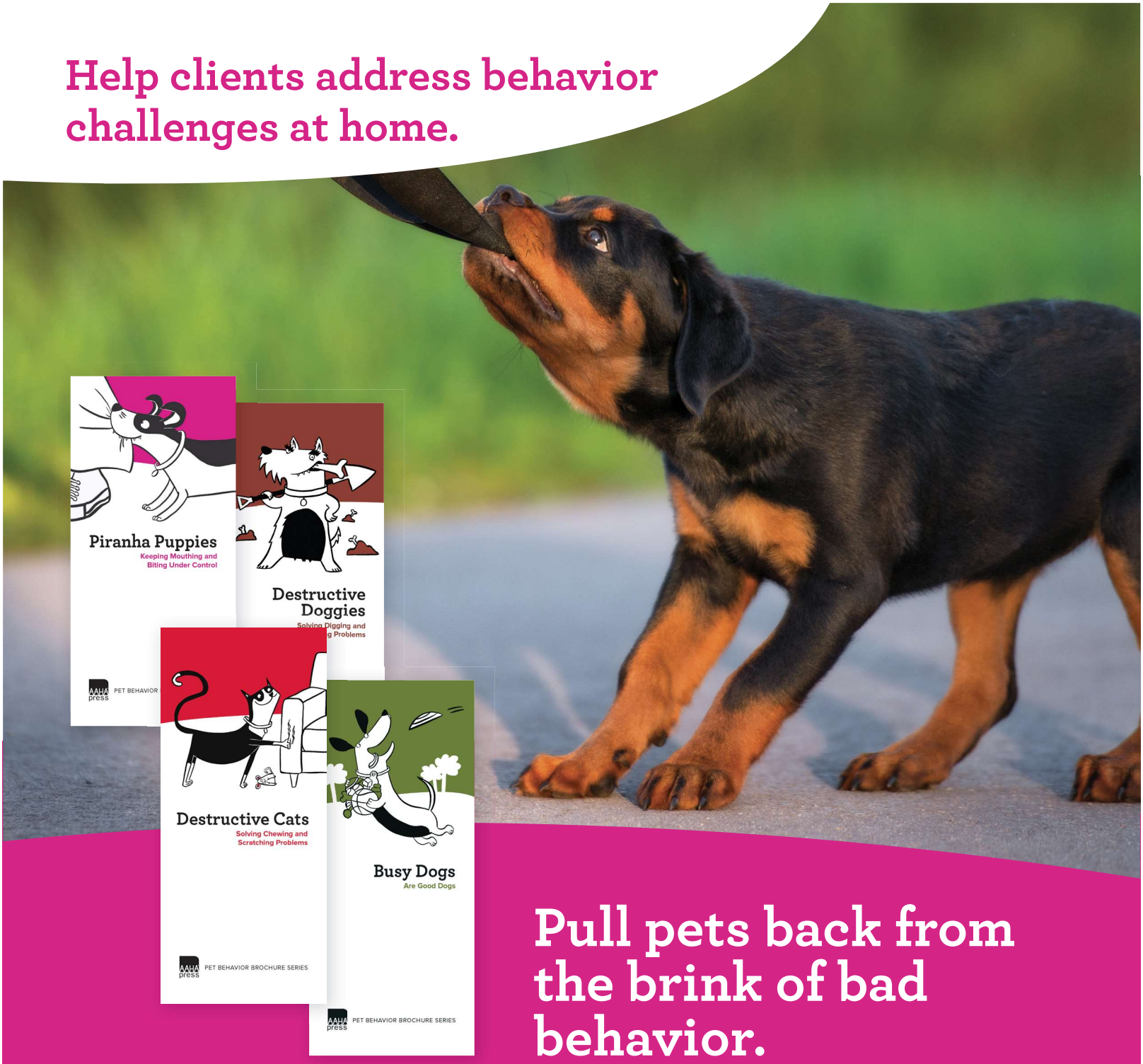

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The Gamed Universe

Here's How to Play to Win

by M. Carolyn Miller

The depth of the behavior change is dictated in large part by the type of gaming experience you create.

During the pandemic, as many industries' revenues plummeted, gaming grew in popularity and dollars. And it is only expected to grow more. In 2020, gamers spent $159.3 billion on games. By 2023, revenue is expected to top over $200 billion, according to NewZoo, a games market analytics company, in its 2020 Global Games Market Report.

What does that mean for veterinary practices? It's time to get in the game. And there are valid business reasons to do so.

Do you want employees to take more ownership in boosting practice revenue? Would you like to encourage more telehealth appointments? Do you want customers to be more responsive to surveys? All of these goals can be reached more easily if you "game" them.

That's because gaming experiences are anchored in emotions. And it is those emotional anchors where the learning—and behavior change—occurs. Called "accelerated learning" in the training industry, these types of emotional experiences enable employees and customers alike to adopt new behaviors almost effortlessly, in large part because, well, it's so much fun.

Games and gaming are everywhere today, and the landscape they are situated in has only expanded. So rather than fight the sea of change that is upon us, why not ride the waves?

An Aerial View of the Gaming Landscape

Traditionally, we think of games as social events. But increasingly—as they are used in the workplace, in marketing programs, and in other business applications—they are more serious. Indeed, they are being used to emotionally and behaviorally manipulate those who play.

Luckily, this manipulation offers opportunities for positive behavior change. For instance, if you lead a staff activity on how to resolve conflict in a way that makes both parties learn and grow and "game" it with points, scoring, and rewards, in effect, everyone wins, including the practice.

That said, the depth of the behavior change you seek to create in customer responses and staff learning is dictated in large part by the type of gaming experience you create.

To identify that, it's helpful to "locate" your desired experience and ideal outcome in the larger gaming landscape to understand the limits and possibilities.

At the center of the gaming landscape are gaming features universal to all games, like points and scoring. Those features radiate out to permeate all types of gaming experiences to greater or lesser degrees.

Next are the gaming experiences themselves. These include two broad categories: games and gamification. Although often used interchangeably, the words "game" and "gamification" are, in fact, two different ways in which gaming features are applied.

What Are Games?

A game adds structure to play. Think *Monopoly* or golf. A game has a set of rules that outline what is and is not allowed to reach the goal and win. Scoring, competition, challenges, and rewards are also involved.

Games are also "events," separate from life. In other words, you step out of your life and into the game space to play. This can involve sitting in front of a computer to "play through" a safety scenario and take a quiz. It can also involve gathering around a conference room table to learn a new process via a board game.

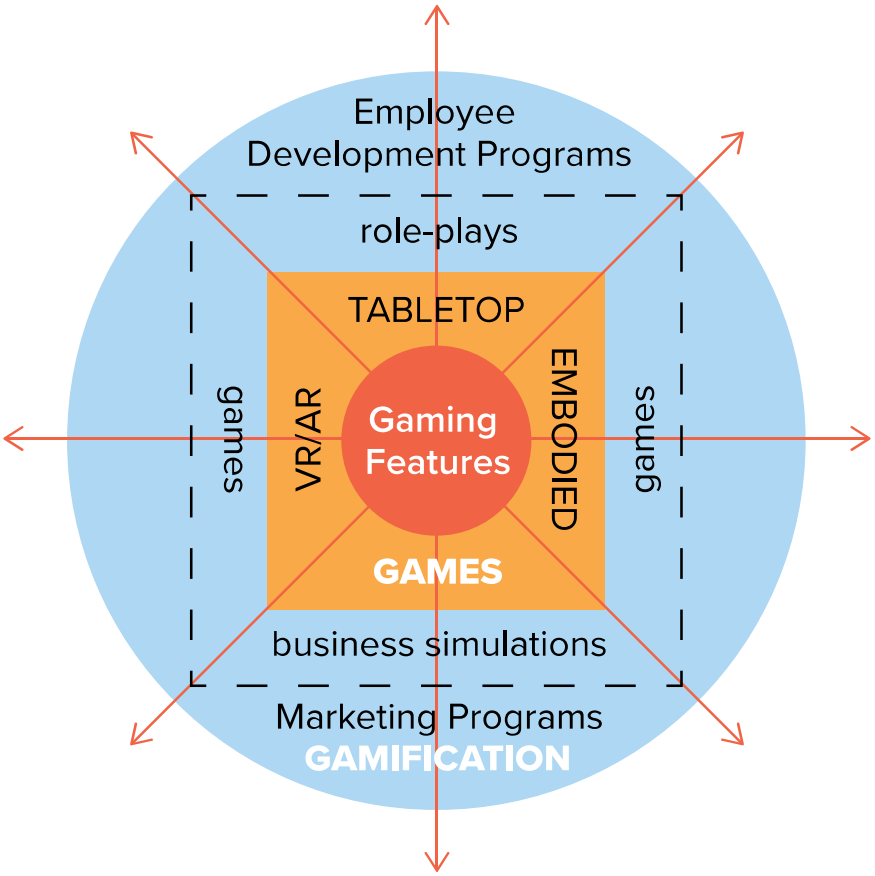
Games often utilized in employee development and training include several types.

Tabletop Games are just what they sound like. They include board games, card games, and other games traditionally played around a table. These types of games can introduce new attitudes, beliefs, or behaviors. These types of games are also excellent to reinforce what was previously learned (and may have been forgotten).

Embodied Games are games that you "act out," or embody. They can include sports such as softball or bowling that can be used to build team relationships. Embodied games can also be played in meeting rooms, such as a dart-style game used as a content review game.

Virtual Reality (VR) Games are games played online. They involve entering a virtual world and donning a role in that world. The player then takes actions in that space that allow them to win.

This game design underpins many employee development programs, with the "win" being learning new



Gamification is the use of gaming features in non-game contexts.

information. For instance, a VR customer service gaming experience may offer scenarios a player must respond to correctly to garner points.

Alternative Reality Games (ARGs) are played both online and in real life. ARGs can be sophisticated, with real-world impacts such as World Without Oil, which asks players to make lifestyle changes. ARGs can also be simple, and simply designed, such as a system you set up in your practice and document online to promote friendly staff competition.

What Is Gamification?

Gamification is the use of gaming features in non-game contexts. There are generally two types of contexts—event-specific experiences and real-life experiences. As you might guess, the latter is more effective in fostering real behavior change.

Event-specific gamification threads gaming features into a stand-alone training session. For instance, you may have staff practice customer service role-plays that include competition, prizes, and more. You may also elect to have embodied games, board games, and other strategies as part of the training session.

Simulations are also an event-specific form of gamification. These can take place online or in person. Built around a story or case study that mimics a "day in the life" of an employee player, simulations include a plot and subplots. They also include conflicts and challenges to navigate that are specific to the behavior you want to change. Often, teams compete against each other. When the simulation is over, players discuss what they learned.

Real-life experiences, also known as non-event gamification experiences, blur the line between the game and life. They thread new attitudes, beliefs, and/or behaviors into practice operations. Over time, these new ways of thinking and working become standard operating procedure.

In a sense, real-life, or non-event gamification, experiences are business ARGs. They incorporate both real-life and online actions. For example, you may initiate a "frequent flier program" for your wellness program that includes both in-person visits and an online tally. A benefit or small prize can be the result of accruing a certain number of points.

Where to Begin: The Design

Once you identify the type of gaming experience you want to create—a game or gamification experience—your next step is to draft a design for it.

All game and gamification experiences have an underlying design and gaming features that are in service to that design. Graphic

elements and other branding strategies are also used to visually anchor what you're communicating.

In addition, there are two parts to creating a gaming experience. The first part involves drafting the underlying design that will guide the gaming experience. The second part is developing all the parts and pieces, or gaming features, that will bring that design to life.

Step 1: Identify the goal of the gaming experience.
The purpose of a business game or a gamification experience is to positively impact your bottom line. So, your first task is to decide what area of your practice you want to impact. Is it better inventory efficiency? Is it more personalized customer service?

Once you identify the area, your next task is to identify where the gap is between "what is" and "what is desired." For instance, if your wellness appointment numbers are low—the "what is"—then what would be the desired or ideal number?

Step 2: Identify the route you'll take to accomplish your goal.
Once you identify the area, you can then strategize on the route you'll take to reach your goal: employees or customers (or both). If it is employee behavior that needs improvement, exactly what kind of behavior is ideal? And how can a gaming experience accomplish that?

If the route you'll take is customer focused, you may consider a more game-based marketing approach, such as a reward program for product purchasing. In the example about low wellness appointment numbers, an option would be to initiate a reward-based system where the customer receives points toward free gifts or discounts when they come in for wellness appointments.

See past *Trends* magazine articles for specific how-tos:

"Get Your Game On: Motivate employees and trigger problem-solving with games," August 2011.

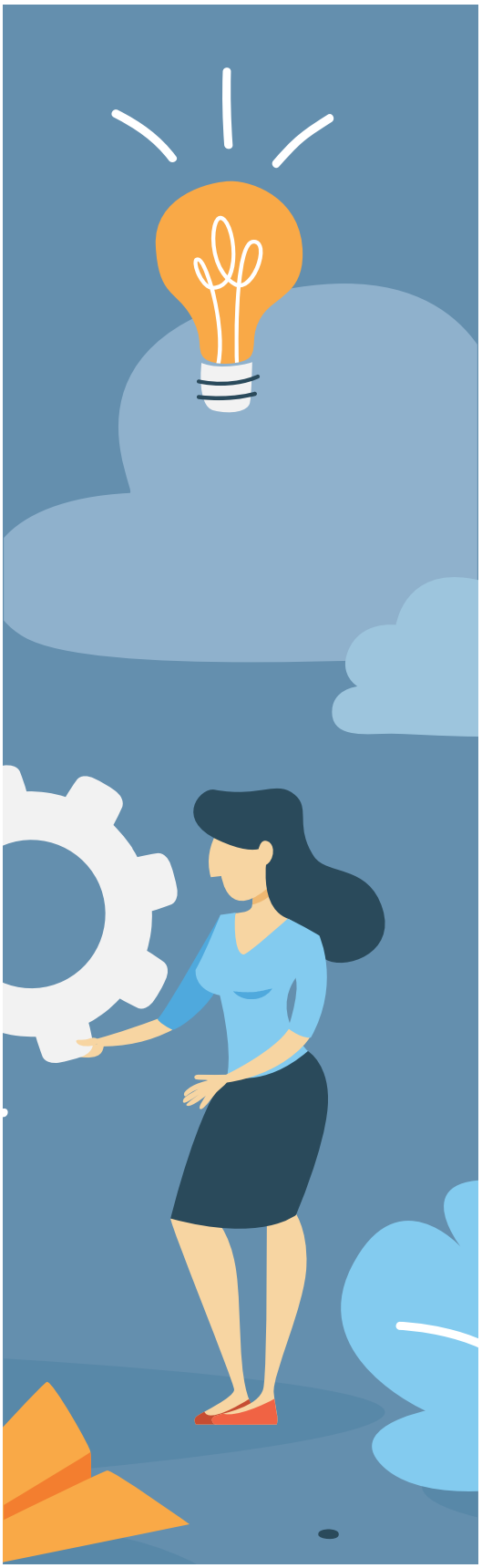
"You Win!: Game-based marketing programs build customer loyalty," November 2017.

"Game On!: Tired of presentations? Design your own game board instead," December 2019.

Step 3: Compare your commitment in time, dollars, and energy with your goal.
The challenge with all behavior change is how to take what was learned back to the workplace and make it part of normal practice operations. That's where your investment level comes in.

Sure, it's a lot easier to create a simple card game instead of a simulation or game-based marketing program. But the return on your investment follows suit.

Step 4: Sketch out a design.
Game designers hold meetings to map out preliminary gaming designs. They also have a keen awareness of the target audience, that is, those who are targeted to become involved in the



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> Games and gamification share some similar gaming features. Each type of context also has gaming features unique to it.

gaming experience. They also have a sense of that audience's technology skills, amount of previous knowledge about the content area, and more.

Take some time with the design. Involve staff in the process. Use a white board or flip chart and brainstorm to map the gaming experience. There are no right or wrong ways to do this. Every design is unique based on what you want the experience to accomplish. So enjoy the process and the creativity it engenders. Once you've done that, you will have a viable design road map to bring to life.

Step 5: Identify the gaming features you'll employ. Games and gamification share some similar gaming features. Each type of context also has gaming features unique to it. What follows are some of the features both types of gaming experiences share.

How to win. "What is the goal of the game? How do I win?" These are some of the first questions a player will ask. Your first task is to identify this.

Rules of play. Rules outline the parameters for winning. They also create a sense of ease and assure players there will be a common starting place and that play is fair.

Challenges and rewards (and penalties). Challenges enable gamers to play, and learn, at the edge of their skills. They test a player's understanding, often through trial and error.

Points and scoring. Scoring answers the question, "How am I doing?" It rewards "correct" behaviors—those in service to the game's goal—and adds competitive fun.

Once you have fleshed out the design and all the gaming features, you're ready to develop all the parts, be it game cards or marketing materials.

Finally, when you have your first draft of the gaming experience, take the time to test it out with your staff and refine it to ensure success. ※

M. Carolyn Miller is a senior instructional designer and professional writer. Her 30-year career includes designing and developing narrative, game, and gamification experiences for adult learners.

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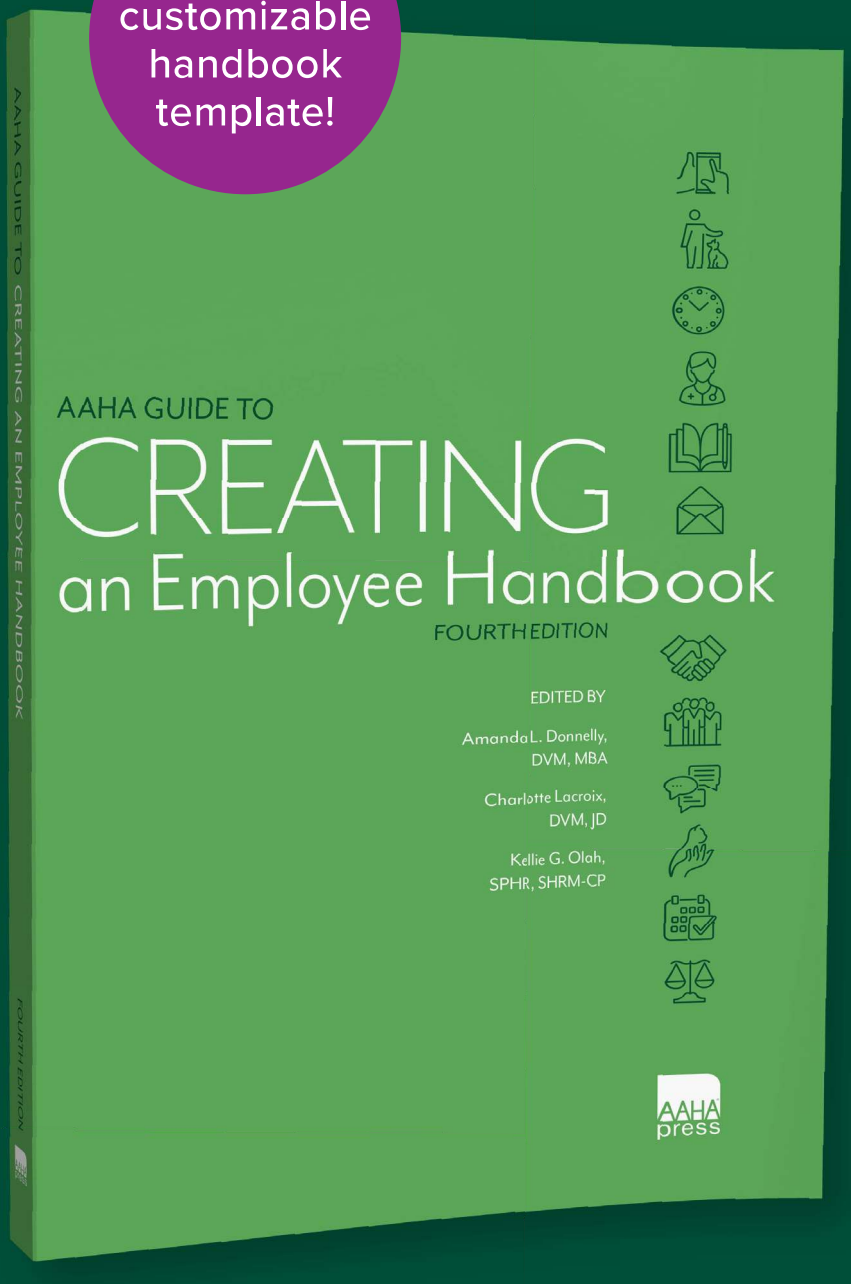

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AAHA press

Pain Management Case of the Month: Patch

Regional Analgesia for Eye Enucleation

by Michael C. Petty, DVM, CCRT, CVPP, DAAPM

In animals we need to rely on direct palpation, distant observation of the animal, and grimace scales.

An eye enucleation is one of the more painful procedures that might be performed in private practice. Often, great lengths are taken to prevent self-mutilation after the surgical procedure: e-collars and "boxing glove" style bandages on feet are not uncommon. However, with proper pain control, no additional barriers or precautions need to be taken.

In human medicine, persistent postoperative pain is reported in 47% of patients undergoing an enucleation. No such statistics exist for our veterinary patients, but I would expect it to be as high, if not higher, because in people, pain is self-reported and subsequently controlled. In animals we need to rely on direct palpation, distant observation of the animal, and grimace scales. Additionally, I am not aware of any grimace scale that has been validated for any kind of facial surgery. In either people or our animal patients, if pain is not properly controlled in the postoperative procedure, hyperalgesia and allodynia (see sidebar) are common sequalae with a poor prognosis for resolution.

This case is about a dog named Patch who needed to undergo an enucleation. Patch is a male Australian cattle dog mix and at the time of surgery was 8 months old and weighed 15.5 kg. Patch was born with bilateral micro ophthalmia. He was

Photos courtesy of Michael Petty, DVM

completely blind in his right eye, and debris tended to accumulate within the orbit of the right eye causing discomfort unless the owner could flush it out. Additionally, the small eye caused an entropion issue as the lids were not supported and turned into the orbit, rubbing the eye. The decision was made to remove the nonfunctioning eye to improve the comfort level for Patch. This case utilizes a retrobulbar block prior to surgery and a block using bupivacaine liposome injectable suspension (Nocita) during closure.

Premedication, Induction, and Anesthesia

Hydromorphone 2 mg/mL was dosed at 0.9 mL and dexmedetomidine was dosed at 0.6 mL and combined in the same syringe and given intramuscularly. At 20 minutes after injection, Patch was heavily sedated, so a 22-gauge indwelling catheter was placed, and propranolol was injected to effect allowing for intubation. At that point, Patch was maintained on sevoflurane at varying concentrations of 0.5–1.5%. The following is a description on how to do a retrobulbar block followed by a Nocita block as it was done in Patch, but this procedure can be done in any dog or cat.

Retrobulbar Block

Retrobulbar injections are relatively easy to perform. No special equipment is needed: a 3cc syringe, a 1.5-inch 22-gauge needle with a minor modification, and lidocaine. Retrobulbar needles are available; however, they are an unnecessary expense.

The needle needs to be modified by putting an approximate 20-degree

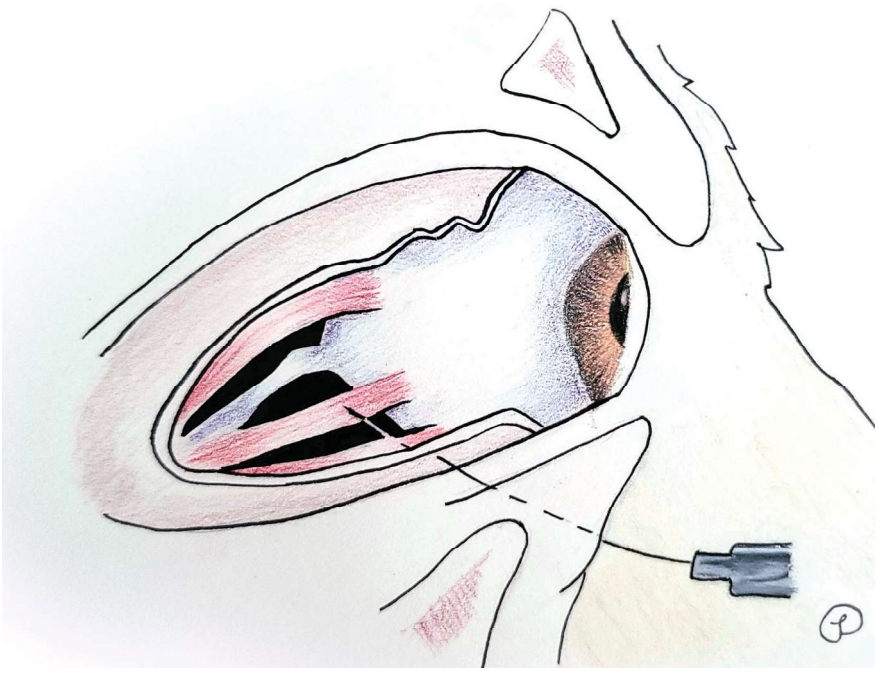


Illustration showing the needle's path while performing a retrobulbar injection of anesthetic. (Illustration by Lauren Petty)

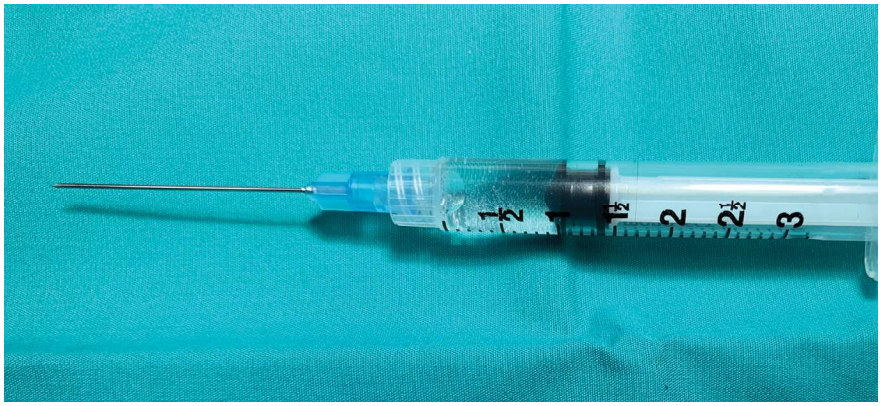


Figure 1: A 3cc syringe with the maximum dose of lidocaine, 1.5ccs.

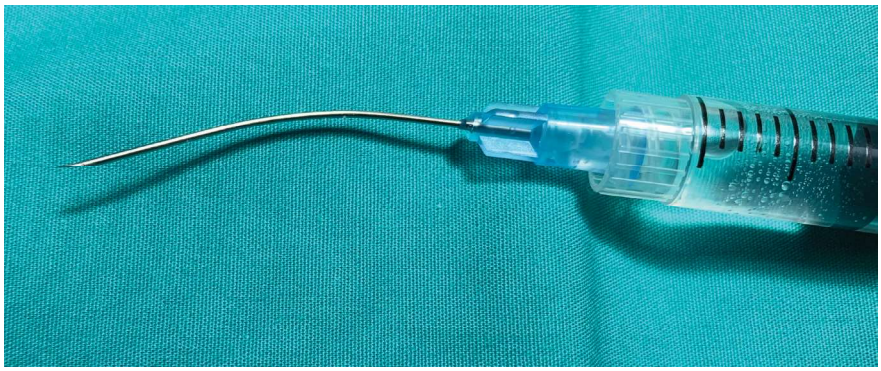


Figure 2: Modified needle with an approximate 20-degree bend.

Photos courtesy of Michael Petty, DVM

bend in it. Prior to bending the needle, you should draw up lidocaine at a maximum dose of 1.5ccs, keeping in mind the maximum may be less depending on the total body weight (Figure 1). Then, using aseptic technique, manually bend the needle to a 20-degree angle (Figure 2).

The next step is to insert the needle into the orbit, avoiding the eye, until it is positioned at the level of the optic nerve. The landmarks for the insertion point are the lateral canthus and the middle of the lower eyelid: choose a point halfway between the two of them at the level of the orbital rim. See Figure 3 and notice the needle between the two red dots.

Needle insertion and injection of anesthetic

- Insert the needle at this landmark and direct it along the floor of the orbit until you are past the globe of the eye, then redirect dorsally and toward the midline to reach the apex of the orbit. It is OK to "skid" the needle along the bone of the orbit to increase your confidence that you are keeping the tip of the needle away from the globe.
- You may or may not encounter a slight "popping" sensation as the needle passes through the fascia within the orbit.
- Aspirate to make sure you are not injecting into a blood vessel.
- Slowly inject the anesthetic.
- There should be no resistance during the injection. If you feel resistance, withdraw slightly, and try again. You want to inject around the optic nerve, not directly into it.

At this point you just need to wait a few minutes for the lidocaine to take effect prior to starting the surgical procedure.

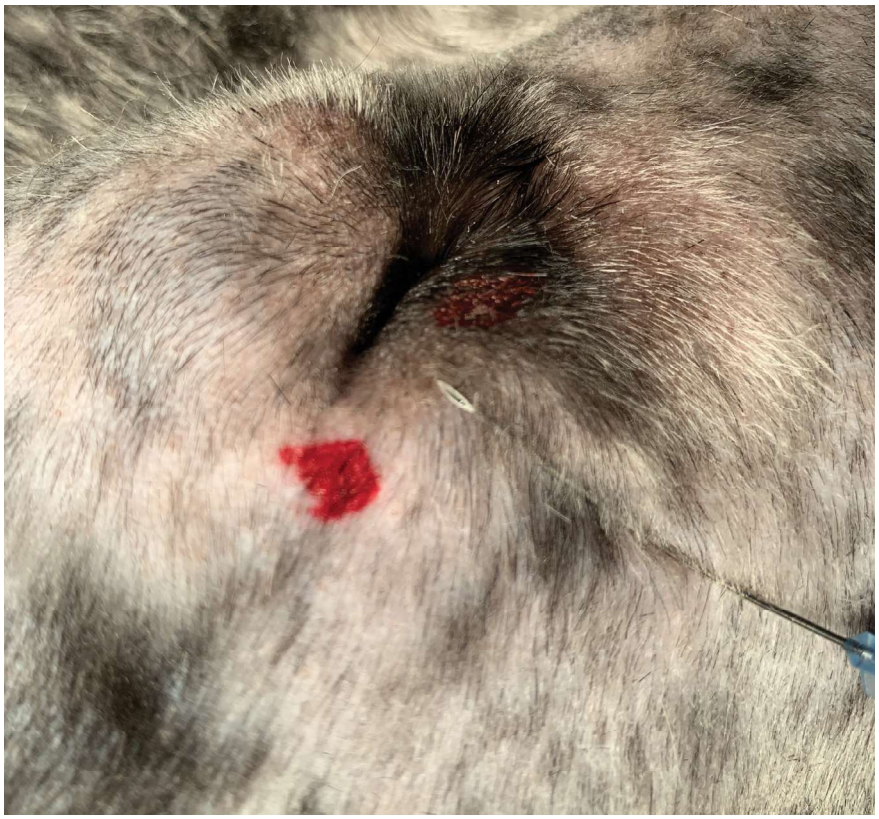


Figure 3: The red dots indicate landmarks for the retrobulbar injection insertion point.

Complications

The biggest complication is penetration of the globe. However, since you are using this for an enucleation, it only makes the surgical removal a bit more difficult with no other consequences. You can also hit a blood vessel, obscuring the surgery site if bleeding occurs. And finally, pay close attention to the amount of resistance as you don't want to inject the drug in the optic nerve, which could allow for intrathecal uptake.

Nocita

Once the eye has been surgically removed, it is time to use Nocita. Nocita is a liposome encapsulated bupivacaine product from Elanco that allows for up to three days of local anesthesia. There is a slow release of the bupivacaine as the liposomes break down. Nocita should not be used in the same spot as lidocaine; however, this is not an issue as the injected portion of the ocular structure is removed. As an additional caution, the eye socket can be swabbed with a gauze sponge to remove any residual lidocaine.

Draw up the Nocita based on the animal's weight and according to manufacturer's direction. Inject the Nocita into the subcuticular layers prior to closure in the same technique you would use for a line block but on both sides of the surgical wound. Before suturing the site closed, use some of the Nocita as a splash block. If there is any Nocita left after suturing

Photos courtesy of Michael Petty, DVM

the site closed, you can insert the needle through the sutured skin and deposit the remaining volume.

Pain Assessment

Gentle palpation of the surgical site is the best method for evaluation of pain control. It takes a few hours for Nocita to reach full effect. In the case of Patch, there was enough overlap between the lidocaine injection and when the Nocita took effect to control his pain. If need be, I could have injected additional hydromorphone and dexmedetomidine as a single bolus or as part of a constant rate infusion.

Discussion

In the case of Patch, these two methods were used to control the pain of an enucleation. However, these same methods can be used for any eye surgery requiring analgesia. As simple as you might find the technique, it is best to do your first several procedures on an enucleation procedure where any "mistake" will be eliminated with the removal of the eye. If you want to read more on this procedure, I recommend the excellent text *Small Animal Regional Anesthesia and Analgesia*, edited by Luis Campoy, LV CertVA, DECVAA, MRCVS, and Matt Read, DVM, MVSc, DACVA (Wiley-Blackwell, 2013). ※

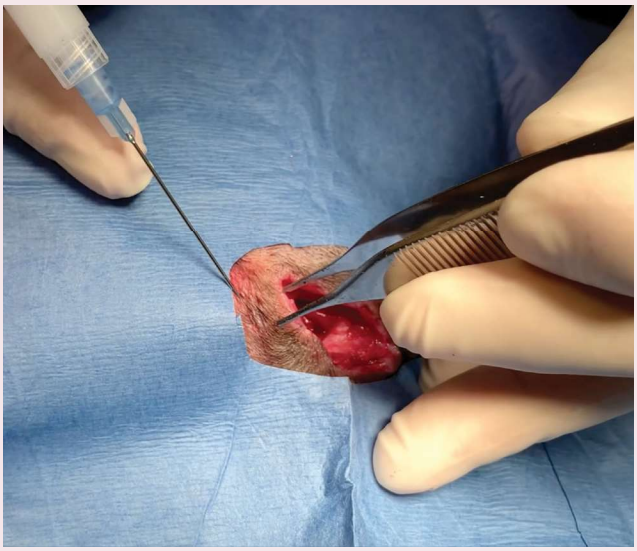
Michael C. Petty, DVM, CCRT, CVPP, DAAPM, is in private practice in Canton, Michigan. He is a frequent national and international lecturer on topics related to pain management. Petty offers commentary on each Pain Case of the Month (and occasionally writes one himself). He was also a member of the task force for the *2015 AAHA/AAFP Pain Management Guidelines for Dogs and Cats.*

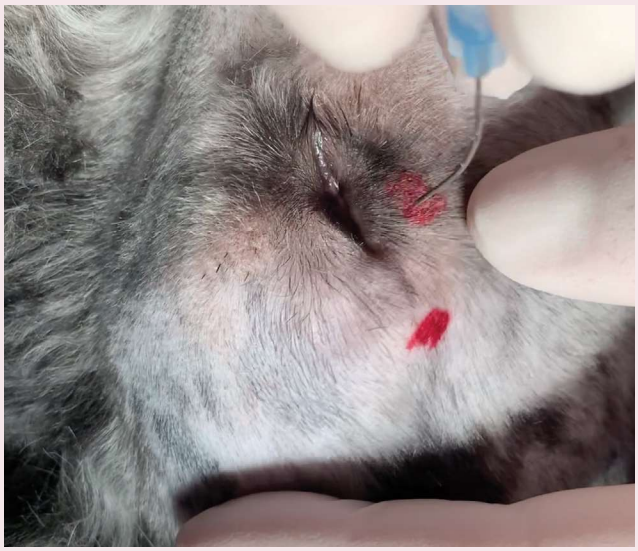
Hyperalgesia and Allodynia

Hyperalgesia and allodynia are abnormal conditions wherein there is an increased amount of pain secondary to neuropathic changes. Hyperalgesia is when a painful condition hurts more than expected. Allodynia is when a nonpainful stimulus causes pain to be felt. Allodynia is sometimes called light-touch pain.

Online Bonus Content

To see videos of this procedure, head to **trends.aaha.org**.





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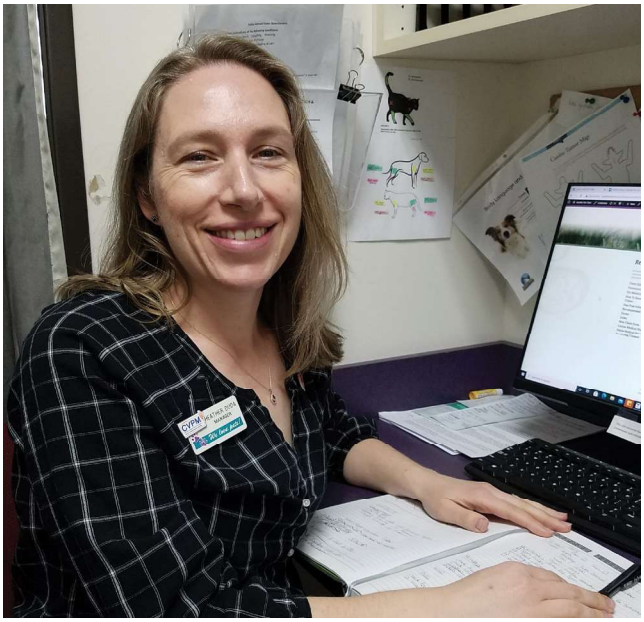
Employee of the Month



NAME:
Heather R. Duda

PRACTICE NAME:
Gamble Pet Clinic, Fort Collins, Colorado

OCCUPATION:
Practice Manager

SPECIALTIES/CERTIFICATIONS:
CVPM

YEAR STARTED IN VET MEDICINE: **2004**

YEARS WITH PRACTICE: **17**

Each month in *Trends*, we will spotlight a team member from an accredited practice.

Nominate Your Employee of the Month!!
Have a great story to share for In the Community?
Let us know at trends@aaha.org.

Why Is She So Awesome?

Heather is dedicated to making sure clients and patients have the best experience possible each and every time they interact with the practice. Heather has been an integral part of growing and developing the practice from the first day it opened with only a couple of clients, to the patient- and client-centered practice that it is today. Heather understands that in order to provide excellent care, the team needs to be cohesive, well trained, caring, and dedicated to doing the best they can. She has an ability to "see" the potential in others and to coach to excellence. Heather encourages others to continually seek to improve themselves and she set an example for others to follow by setting a goal to become a Certified Veterinary Practice Manager. She worked hard to obtain that goal while working a full-time schedule and being mom to two young children, a loving wife, and a pet parent to two cats and a dog.

How Does She Go Above and Beyond?

Heather works in the practice every day while also working on the practice to ensure a smooth operation with seamless care, regardless of which team members the clients and patients interact with. She is a receptionist, an exam room assistant, an anesthesia assistant, a supervisor, and a manager. She checks in with the team (including the associate veterinarians and practice owner!) to make sure they are able to do their job, helps them when they struggle, and motivates them to be the best they can be.

In Her Own Words

Why do you love your job? I love the ability to problem solve every day. The people I work with and the many awesome clients we have also make me want to go to work every day and do my very best.

Favorite celebrity: Robert Downey Jr.

Pets at home: Two elderly cats named Bobbie and Captain Morgan and a shepherd dog mix named Sam.

What brought you to the profession: I was offered an opportunity to help start a veterinary practice and was excited by the challenge. I stayed because I learn something new every day.

Hobbies outside of work: Reading, cooking, landscaping projects.

Favorite book/show: Favorite book, *All the Pretty Horses*; favorite series, *Grey's Anatomy*. ※

Photo courtesy of Gamble Pet Clinic

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