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¹Hall JA, Jewell DE, Vanchina MA, et al. When fed foods with similar palatability, healthy adult dogs and cats choose different macronutrient compositions. *J Exp Bio*. 2018;221.
²Badri DV, Cochrane C-Y, Jackson MI, et al. Feeding Fiber-Bound Polyphenol Ingredients at Different Levels Modulates Colonic Postbiotics to Improve Gut Health in Cats. *Animals*. 2022;12(5):1654.
Badri DV, Cochrane C-Y, Jackson MI, et al. Feeding Fiber-Bound Polyphenol Ingredients at Different Levels Modulates Colonic Postbiotics to Improve Gut Health in Dogs. *Animals*. 2022;12(5):627.
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Trends[®] magazine

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Canine Search and Rescue **26**

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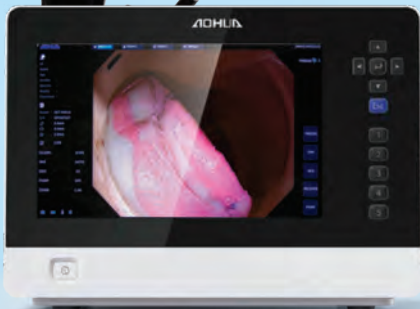


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Trends magazine provides timely perspectives on the art and business of companion animal veterinary practice to all members of the practice team. trends.aaha.org

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CLARO[®] (florfenicol, terbinafine, mometasone furoate) Otic Solution for use in dogs only

Do Not Use in Cats.

Antibacterial, antifungal, and anti-inflammatory
For Otic Use in Dogs Only

See full product insert for complete prescribing information, a summary of which follows.

CAUTION: Federal (U.S.A.) law restricts this drug to use by or on the order of a licensed veterinarian.

DESCRIPTION: CLARO[®] contains 16.6 mg/mL florfenicol, 14.8 mg/mL terbinafine (equivalent to 16.6 mg/mL terbinafine hydrochloride) and 2.2 mg/mL mometasone furoate. Inactive ingredients include purified water, propylene carbonate, propylene glycol, ethyl alcohol, and polyethylene glycol.

INDICATIONS: CLARO[®] is indicated for the treatment of otitis externa in dogs associated with susceptible strains of yeast (*Malassezia pachydermatis*) and bacteria (*Staphylococcus pseudintermedius*).

DOSAGE AND ADMINISTRATION:

CLARO[®] should be administered by veterinary personnel.

Wear eye protection when administering CLARO[®]. (see **Human Warnings, PRECAUTIONS, POST APPROVAL EXPERIENCE**).

Splatter may occur if the dog shakes its head following administration. Persons near the dog during administration should also take steps to avoid ocular exposure.

Shake before use.

Verify the tympanic membrane is intact prior to administration. (see **CONTRAINDICATIONS, PRECAUTIONS, POST APPROVAL EXPERIENCE**).

Administer one dose (1 dropperette) per affected ear.

1. Clean and dry the external ear canal before administering the product.
2. Verify the tympanic membrane is intact prior to administration.
3. Remove single dose dropperette from the package.
4. While holding the dropperette in an upright position, remove the cap from the dropperette.
5. Turn the cap over and push the other end of the cap onto the tip of the dropperette.
6. Twist the cap to break the seal and then remove cap from the dropperette.
7. Screw the applicator nozzle onto the dropperette.
8. Insert the tapered tip of the dropperette into the affected external ear canal and squeeze to instill the entire contents (1 mL) into the affected ear.
9. Gently massage the base of the ear to allow distribution of the solution. **Restrain the dog to minimize post application head shaking** to reduce potential for splatter of product and accidental eye exposure in people and dogs (see **POST APPROVAL EXPERIENCE**).
10. Repeat with other ear as prescribed.
11. The duration of the effect should last 30 days. Cleaning the ear after dosing may affect product effectiveness.

CONTRAINDICATIONS:

Do not use in dogs with known tympanic membrane perforation (see **PRECAUTIONS**). CLARO[®] is contraindicated in dogs with known or suspected hypersensitivity to florfenicol, terbinafine hydrochloride, or mometasone furoate.

WARNINGS:

Human Warnings: CLARO[®] may cause eye injury and irritation (see **PRECAUTIONS, POST APPROVAL EXPERIENCE**). If contact with eyes occurs, flush copiously with water for at least 15 minutes. If irritation persists, contact a physician. Humans with known hypersensitivity to any of the active ingredients in CLARO[®] should not handle this product.

PRECAUTIONS:

For use in dogs only. Do not use in cats (see **POST APPROVAL EXPERIENCE**).

Wear eye protection when administering CLARO[®] and restrain the dog to minimize post application head shaking. Reducing the potential for splatter of product will help prevent accidental eye exposure in people and dogs and help to prevent ocular injury (see **DOSAGE AND ADMINISTRATION, Human Warnings, POST APPROVAL EXPERIENCE**).

Proper patient selection is important when considering the benefits and risks of using CLARO[®]. The integrity of the tympanic membrane should be confirmed before administering the product. CLARO[®] has been associated with rupture of the tympanic membrane. Reevaluate the dog if hearing loss or signs of vestibular dysfunction are observed during treatment. Signs of internal ear disease such as head tilt, vestibular signs, ataxia, nystagmus, facial paralysis, and keratoconjunctivitis sicca have been reported (see **POST APPROVAL EXPERIENCE**) with the use of CLARO[®]. Do not administer orally.

Use of topical oral corticosteroids has been associated with adrenocortical suppression and iatrogenic hyperadrenocorticism in dogs (see **ANIMAL SAFETY**).

Use with caution in dogs with impaired hepatic function (see **ANIMAL SAFETY**).

The safe use of CLARO[®] in dogs used for breeding purposes, during pregnancy, or in lactating bitches, has not been evaluated.

ADVERSE REACTIONS:

In a field study conducted in the United States (see **EFFECTIVENESS**), there were no directly attributable adverse reactions in 146 dogs administered CLARO[®]. **POST APPROVAL EXPERIENCE (2019):** The following adverse events are based on post-approval adverse drug experience reporting for CLARO[®]. Not all adverse events are reported to FDA/CVM. It is not always possible to reliably estimate the adverse event frequency or establish a causal relationship to product exposure using these data.

In humans, accidental exposure leading to corneal ulcers and other ocular injuries such as eye irritation and redness has been reported. Exposure occurred when the dog shook its head after application of CLARO[®]. Skin irritation has also been reported. In dogs, the adverse events reported are presented below in decreasing order of reporting frequency: Ear discharge, head shaking, ataxia, internal ear disorder (head tilt and vestibular), deafness, emesis, nystagmus, pinna irritation and ear pain, keratoconjunctivitis sicca, vocalization, corneal ulcer, cranial nerve disorder (facial paralysis), tympanic membrane rupture.

CLARO[®] is not approved for use in cats. The adverse events reported following extra-label use in cats are presented below in decreasing order of reporting frequency: Ataxia, anorexia, internal ear disorder (head tilt and vestibular), Horner's syndrome (third eyelid prolapse and miosis), nystagmus, lethargy, anisocoria, head shake, emesis, tympanic rupture, and deafness.

To report suspected adverse drug events and/or obtain a copy of the Safety Data Sheet (SDS) or for technical assistance, contact Elanco at 1-800-422-9874.

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

Information for Dog Owners:

Owners should be aware that adverse reactions may occur following administration of CLARO[®] and should be instructed to observe the dog for signs such as ear pain and irritation, vomiting, head shaking, head tilt, incoordination, eye pain and ocular discharge (see **POST APPROVAL EXPERIENCE**). Owners should be advised to contact their veterinarian if any of the above signs are observed. Owners should also be informed that splatter may occur if the dog shakes its head following administration of CLARO[®] which may lead to ocular exposure. Eye injuries, including corneal ulcers, have been reported in humans and dogs associated with head shaking and splatter following administration. Owners should be careful to avoid ocular exposure (see **PRECAUTIONS, POST APPROVAL EXPERIENCE**).

Manufactured for

Elanco US Inc

Shawnee, KS 66216

Made in Germany

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(florfenicol, terbinafine, mometasone furoate)
Otic Solution

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Proven Efficacy

Effective against your most common cases of OE¹

One-Dose Convenience

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Eliminates concerns of missed
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Choose Claro[®], the trusted market leader in OE treatment.²

Claro[®] is indicated for the treatment of otitis externa in dogs associated with susceptible strains of yeast (*Malassezia pachydermatis*) and bacteria (*Staphylococcus pseudintermedius*).

CAUTION: Federal (U.S.A.) law restricts this drug to use by or on the order of a licensed veterinarian. PRECAUTIONS: For use in dogs only. Do not use in cats. (See POST-APPROVAL EXPERIENCE.) CLARO[®] has been associated with rupture of the tympanic membrane. Reevaluate the dog if hearing loss or signs of vestibular dysfunction are observed during treatment. Signs of internal ear disease such as head tilt, vestibular signs, ataxia, nystagmus, facial paralysis, and keratoconjunctivitis sicca have been reported (see POST-APPROVAL EXPERIENCE) with the use of CLARO[®]. **Wear eye protection when administering CLARO[®]. (See Human Warnings, PRECAUTIONS, POST-APPROVAL EXPERIENCE.)**

¹Angus JC. Otic cytology in health and disease. VCSA. 2004;34:411-24.

²Elanco Animal Health. Sales data on file.

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by Emily Singler, VMD

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by Jen Reeder



Correction: In the October issue of *Trends*, in the 2023 AAHA Technician Utilization Guidelines, the credentials for Alyssa Mages were listed incorrectly. The correct credentials should have read, "Alyssa Mages, BSc, CVT." *Trends* apologizes for the error.

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from the editor's desk

It takes a certain type of person to do search and rescue work. You have to be willing to put in the hours of training and work that it takes to prepare your dog, and you must be willing to jump up at a moment's notice to go and do grueling, sometimes satisfying—sometimes not—work at any time of day or night. But most of all, you need a drive to help others and to create a strong bond with your canine partner. Peggy Wilson is such a person, and this month's cover feature profiles her work with search and rescue teams over the past decade and a half.

Some of the photos for this article were taken by our very own senior graphic designer, Robin Taylor. Robin is an awesome designer and photographer, and is also an experienced scuba diver who occasionally volunteers to be a “victim” for the search dogs to locate while she is hanging out at the bottom of a lake. We super appreciate Robin's volunteerism and also her fantastic photos.

Our second feature is on the much-anticipated AAHA-Accredited Practice of the Year Award winner, Upper Arlington Animal Hospital! This amazing practice was already celebrated at AAHA Con in September, but if you missed that, this will be your first glimpse of this top-notch veterinary clinic located in Upper Arlington, Ohio.

Our podcast roundup this month is a conversation with Elizabeth Maxwell, DVM, MS, DACVS (Small Animal), CVPP, and Candice Manganaro, DVM. The conversation is all about the Collaborative Care Coalition, a nonprofit made up of general practitioners, specialists, academics, and industry partners who are committed to improving the idea of collaboration in the veterinary profession.

NEW! NOMINATE AN EMPLOYEE OF THE MONTH AND WIN \$\$\$!

Now, when you enter our monthly Employee of the Month drawing, the nominator will win a \$100 gift card, and the winner will receive a \$400 gift card from Amazon! This is your chance to shine the spotlight on one of your best employees and win some loot for doing so. If you don't win, don't worry, you can enter again the next month! Enter today at aaha.org/EOTM.

COMING NEXT MONTH

What, is it already the end of the year? Yes, next issue is December! In it we'll tackle some of the nitty-gritty topics of vet med, namely, finances and inventory. But don't worry, our expert writers will make even these dry topics interesting to read about. We will also have an executive summary of the highly anticipated *2023 AAHA Management of Allergic Diseases Guidelines*.

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

—Ben Williams, Editor

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(velagliflozin
oral solution)

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for feline diabetes*



**Simplify feline diabetes treatment for cats and their owners
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- Minimal risk of clinical hypoglycemic events¹⁻³
- Well accepted by most cats¹



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3 Months' Supply*

*Based on average cat weight of 11 lbs

1. Data on file at Boehringer Ingelheim.

2. SENVELGO® (velagliflozin oral solution) [Freedom of Information Summary; NADA 141-568]. St. Joseph, MO: Boehringer Ingelheim Vetmedica, Inc.; 2023.

3. SENVELGO® (velagliflozin oral solution) prescribing information.

IMPORTANT SAFETY INFORMATION: SENVELGO® (velagliflozin oral solution) is indicated to improve glycemic control in otherwise healthy cats with diabetes mellitus not previously treated with insulin. **Before using this product, it is important to read the entire product insert, including the boxed warning.**

Cats treated with SENVELGO may be at an increased risk of diabetic ketoacidosis or euglycemic diabetic ketoacidosis, both of which may result in death. Development of these conditions should be treated promptly, including insulin administration and discontinuation of SENVELGO.

Do not use SENVELGO in cats with diabetes mellitus who have previously been treated with insulin, who are receiving insulin, or in cats with insulin-dependent diabetes mellitus. The use of SENVELGO in cats with insulin-dependent diabetes mellitus, or the withdrawal of insulin and initiation of SENVELGO, is associated with an increased risk of diabetic ketoacidosis or euglycemic diabetic ketoacidosis and death.

Sudden onset of hyporexia/anorexia, lethargy, dehydration, or weight loss in cats receiving SENVELGO should prompt immediate discontinuation of SENVELGO and assessment for diabetic ketoacidosis, regardless of blood glucose level. SENVELGO should not be initiated in cats with ketonuria, ketonemia, pancreatitis, anorexia, dehydration, or lethargy at the time of diagnosis of diabetes mellitus, as it may indicate the presence of other concurrent disease and increase the risk of diabetic ketoacidosis.

Keep SENVELGO in a secure location out of reach of children, dogs, cats, and other animals to avoid accidental ingestion or overdose. For more information, please refer to the enclosed package insert or visit SENVELGOclinic.com.



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Senvelgo[®]

(velagliflozin
oral solution)

15mg/ mL

For oral use in cats only

Sodium-glucose cotransporter 2 (SGLT2) inhibitor

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

WARNING: DIABETIC KETOACIDOSIS/EUGLYCEMIC DIABETIC KETOACIDOSIS

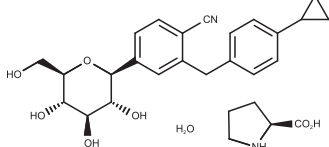
- Cats treated with SENVELGO may be at an increased risk of diabetic ketoacidosis or euglycemic ketoacidosis (see Adverse Reactions). As diabetic ketoacidosis and euglycemic ketoacidosis in cats treated with SENVELGO may result in death, development of these conditions should be treated promptly, including insulin administration and discontinuation of SENVELGO (see Monitoring).

- Due to the risk of developing diabetic ketoacidosis or euglycemic ketoacidosis, do not use SENVELGO in cats with diabetes mellitus who have previously been treated with insulin, who are receiving insulin, or in cats with insulin-dependent diabetes mellitus (see Contraindications).

- SENVELGO should not be initiated in cats with anorexia, dehydration, or lethargy at the time of diagnosis of diabetes mellitus or without appropriate screening tests (see Animal Safety Warnings).

Description: SENVELGO[®] (velagliflozin oral solution) equal to velagliflozin L-proline H₂O 20.051 mg/mL, is a clear, colorless to slightly yellow, to slightly brown, liquid multi-dose preparation consisting of 1.5% w/v velagliflozin in an aqueous mixture of propylene glycol and ethanol intended for oral use in cats. SENVELGO is an orally active, sodium-glucose cotransporter 2 (SGLT2) inhibitor.

The chemical name of velagliflozin is 2-(4-cyclopropylbenzyl)-4-((2S,3R,4R,5S,6R)-3,4,5-trihydroxy-6-hydroxymethyltetrahydropyran-2-yl)-benzonitrile. It forms a co-crystal with L-proline ((S)-pyrrolidine-2-carboxylic acid) as a monohydrate and velagliflozin, L-proline and H₂O are in 1:1:1 ratios. Its empirical formula is C₂₃H₂₅NO₅ x C₅H₉NO₂ x H₂O, its molecular formula is C₂₈H₃₅N₂O₈, and its structural formula is:



Indication: SENVELGO is indicated to improve glycemic control in otherwise healthy cats with diabetes mellitus not previously treated with insulin.

Dosage and Administration: Always provide the Client Information Sheet with each prescription.

Dosing instructions:

The SENVELGO dose is 0.45 mg/lb of body weight (1 mg/kg), once daily regardless of blood glucose level. The dose may be administered directly into the mouth or with a small amount of wet food. Do not mix into food. The solution should be given at approximately the same time every day. If a dose is missed, it should be given as soon as possible on the same day. If the cat vomits within 30 minutes of dosing, the dose can be repeated.

SENVELGO should be administered using the dosing syringe provided in the package. The dosing syringe fits onto the bottle and has a body weight scale with increments per pound of body weight. The dose should be rounded down to the nearest pound. After administration, close the bottle tightly with the cap. If needed, the syringe can be cleaned with a clean, dry cloth.

Prior to initiation of treatment:

Prior to initiation of SENVELGO, the veterinarian should ensure the cat is alert, active, eating, and drinking. The veterinarian should conduct a physical examination, obtain a medical history, CBC, serum chemistry, serum fructosamine, and urinalysis including evaluation for ketonuria (see Animal Safety Warnings).

If there is a delay of more than a week between diagnosis of diabetes mellitus and initiation of SENVELGO, the veterinarian should re-evaluate the cat with a full physical examination and updated history to ensure the cat still meets the criteria described above. A delay of more than a week between diagnosis and starting SENVELGO may increase the risk of developing diabetic ketoacidosis.

Monitoring of cats receiving SENVELGO:

Sudden onset of hyporexia/anorexia, lethargy, dehydration, or weight loss in cats receiving SENVELGO should prompt immediate discontinuation of SENVELGO and assessment of diabetic ketoacidosis, regardless of blood glucose level.

• Evaluate for ketonuria 2 to 3 days after initiation of treatment and approximately 7 days after initiation of treatment and anytime the cat shows signs of illness. If ketonuria is present, discontinue SENVELGO and promptly treat with insulin, even if blood glucose is normal.

• During the first 4 weeks after initiation of SENVELGO, glycemic control and clinical improvement should be evaluated.

- A physical examination, blood glucose curve, serum fructosamine, and body weight should be assessed at 1 and 4 weeks after initiating SENVELGO.

- SENVELGO should be discontinued, and initiation of insulin considered, in cats demonstrating poor glycemic control (weight loss, average blood glucose from a glucose curve > 300 mg/dL or fructosamine values suggesting poor control (> 450 µmol/L) after 4 weeks of treatment).

• During ongoing treatment with SENVELGO, blood glucose, fructosamine, urinary ketones, serum chemistry, body weight, hydration status, and clinical signs of diabetes mellitus should be routinely monitored.

- Presence of ketonuria should prompt discontinuation of SENVELGO and transition to insulin.

- Cats with increasing or persistently elevated triglyceride or cholesterol levels may have declining glycemic control or pancreatitis, and may be at risk of developing diabetic ketoacidosis or euglycemic diabetic ketoacidosis (diabetic ketoacidosis with normal blood glucose levels). Consider further evaluation and discontinuation of SENVELGO in these cats.

- Increasing or persistently elevated feline pancreas-specific lipase (fPL) should prompt further evaluation for pancreatitis and consideration of discontinuation of SENVELGO.

- Initial mild weight loss may be seen with SENVELGO associated with its mode of action (glucosuria and caloric wasting). Unintentional weight loss which doesn't improve or stabilize within 7 days may indicate the need to evaluate for concurrent disease and consideration of discontinuation of SENVELGO (see Adverse Reactions).

- If clinical signs of illness occur, evaluate the cat as soon as possible to ensure it is not at risk for diabetic ketoacidosis or euglycemic diabetic ketoacidosis (see Animal Safety Warnings).

- SENVELGO should be discontinued if the cat's clinical condition declines and/or glycemic control worsens after initial improvement.

• Cats may present with diabetic ketoacidosis and a normal blood glucose concentration (euglycemic diabetic ketoacidosis). Delay in recognition and treatment of diabetic ketoacidosis and euglycemic diabetic ketoacidosis may result in increased morbidity and mortality.

• Development of diabetic ketoacidosis or euglycemic ketoacidosis requires the following actions:

- Discontinuation of SENVELGO

- Prompt initiation of insulin therapy

- Administration of dextrose or other carbohydrate source, regardless of blood glucose concentration

- Appropriate nutritional support should be promptly initiated to prevent or treat hepatic lipidosis.

Contraindications: Do not use SENVELGO in cats with diabetes mellitus who have previously been treated with insulin, who are receiving insulin, or in cats with insulin-dependent diabetes mellitus. The use of SENVELGO in cats with insulin-dependent diabetes mellitus, or the withdrawal of insulin and initiation of SENVELGO, is associated with an increased risk of diabetic ketoacidosis or euglycemic diabetic ketoacidosis and death.

Warnings:

User Safety Warnings: Not for use in humans. Keep out of reach of children.

Wash hands after use. This product may cause mild eye irritation. Avoid contact with eyes. If the product accidentally gets into the eyes, rinse eyes immediately with plenty of water; if wearing contact lenses, rinse the eyes first then remove contact lens(es) and continue to rinse for 5-10 minutes. If eye irritation continues or accidental ingestion occurs, seek medical advice and provide this product information to the physician. Exposure to product may induce local or systemic allergic reaction in sensitized individuals. Oral exposure to velagliflozin may cause transient effects such as increased renal glucose excretion, increased urine volume, and hypoglycemia.

Animal Safety Warnings:

• SENVELGO should not be initiated in cats with:

- Anorexia, dehydration, or lethargy at the time of diagnosis of diabetes mellitus as it may indicate the presence of other concurrent disease and increase the risk of diabetic ketoacidosis.

- Ketonuria, ketonemia, or suspected diabetic ketoacidosis or a history of the same

- Clinical suspicion of pancreatitis within the last month based on clinical signs, serum fPL > 12 mcg/L, and/or diagnostic imaging consistent with pancreatitis.

- Chronic or unresponsive diarrhea

- Cachexia

- Bilirubin > 0.5 mg/dL

- Creatinine > 2 mg/dL

• SENVELGO may cause a mild increase in serum creatinine, blood urea nitrogen (BUN), phosphorus, and sodium in cats with or without chronic kidney disease within weeks of starting therapy, followed by a stabilization of values.

• Cats with baseline creatinine between 1.6 and 2 mg/dL when SENVELGO treatment is started should be closely monitored for signs of volume depletion/dehydration and body weight loss. Renal function should be monitored within the first week of treatment initiation and then according to standard chronic kidney disease guidelines. SENVELGO has not been evaluated in cats with baseline creatinine > 2 mg/dL.

• Cats should be screened for urinary tract infections and treated, if indicated, when initiating SENVELGO. Cats treated with SENVELGO should be monitored for urinary tract infections and treated promptly.

• Cats should be evaluated for concurrent disease including pancreatitis, infectious disease, urinary tract infection, neoplasia, and hypersomatotropism (acromegaly) before initiating and while receiving SENVELGO as these conditions may increase the risk of developing diabetic ketoacidosis.

• Persistently low or worsening serum chloride values compared to the pre-treatment value may indicate the development of diabetic ketoacidosis or euglycemic diabetic ketoacidosis.

• SENVELGO may cause increased serum calcium and persistent elevations may require additional diagnostics. Persistent elevated calcium has been associated with increased risk of calcium-containing urolith formation in other SGLT2 inhibitors.

• Cats should be closely monitored for development of diabetic ketoacidosis or euglycemic diabetic ketoacidosis (for example, ketonuria or anorexia) after stopping SENVELGO. Euglycemia may persist for 2 to 3 days after stopping SENVELGO.

• Keep SENVELGO in a secure location out of reach of dogs, cats, and other animals to avoid accidental ingestion or overdose.

Precautions:

• Consider temporarily discontinuing SENVELGO during times of decreased caloric intake, such as surgery or decreased appetite, as continued administration of SENVELGO may increase the risk of diabetic ketoacidosis.

• SENVELGO contains propylene glycol. When cats are administered SENVELGO at the 1 mg/kg/day dose, cats receive 40 mg/kg/day of propylene glycol. Exceeding 80 mg/kg/day of propylene glycol may result in excess hepatic glycogen stores. Use caution when administering SENVELGO to cats receiving other products that contain propylene glycol.

• Glucosuria may persist for 2-3 days after stopping SENVELGO. In cats receiving SENVELGO, glucosuria is not a reliable indicator for monitoring glycemic control.

• The safety and effectiveness of SENVELGO has not been evaluated in cats with chronic kidney disease (IRIS (International Renal Interest Society) Stages 3 and 4).

• The concurrent use of volume depleting drugs in cats treated with SENVELGO has not been evaluated.

• SENVELGO has not been evaluated with concurrent use of insulin or other blood glucose lowering treatments.

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

Adverse Reactions:

Two hundred fifty-two (252) cats with diabetes mellitus were enrolled in a 180-day multicenter field study. Safety data were evaluated in 252 cats treated with at least one dose of SENVELGO. Regardless of blood glucose level, cats received SENVELGO at a dose of 0.45 mg/lb once daily. The most common adverse reactions were diarrhea or loose stool, weight loss, vomiting, polyuria, polydipsia, and elevated blood urea nitrogen (BUN). The table below summarizes the adverse reactions reported in the study.

Adverse Reactions	Frequency (N=252) Number (%)
Diarrhea (including loose stool)	132 (52.3%)
Weight loss*	111 (44%)
Vomiting	92 (36.5%)
Polyuria	46 (18.3%)
Polydipsia	42 (16.7%)
BUN†	39 (15.5%)
Anorexia or hyporexia	34 (13.5%)
Hypersalivation and/or gagging	33 (13.1%)
Urine specific gravity > 1.060	29 (11.5%)
Dehydration	28 (11.1%)
Lethargy	20 (7.9%)
Polypagia	19 (7.5%)
Urinary tract infections/cystitis	18 (7.1%)
Diabetic ketoacidosis or euglycemic diabetic ketoacidosis‡	18 (7.1%)
Hypercalcemia	16 (6.3%)
Ketonuria§	14 (5.6%)
Inappropriate urination	14 (5.6%)
Death or euthanasia	13 (5.2%)
Elevated AST and/or ALT**	12 (4.8%)
Hypertriglyceridemia††	12 (4.8%)
Hyperphosphatemia	12 (4.8%)
Elevated fPL	11 (4.4%)
Pancreatitis	10 (4.0%)
Elevated creatinine	9 (3.6%)
Hepatic lipidosis	6 (2.4%)
Urinary incontinence	3 (1.2%)

* Approximately 80 cats had weight loss during the first week of treatment, likely due to dehydration and/or caloric wasting from glucosuria.

† Most cats had elevations \leq 1.5X upper limit of normal (ULN).

‡ All but 5 cases occurred within 2 weeks of starting SENVELGO. Twelve of these cats had euglycemic diabetic ketoacidosis.

§ These cats did not progress to diabetic ketoacidosis and all but one developed ketonuria within a week of starting SENVELGO. The cats discontinued SENVELGO and transitioned to insulin.

** Four of these cats had AST (aspartate aminotransferase) and/or ALT (alanine aminotransferase) > 2X ULN.

†† These cats sometimes also had elevated cholesterol.

The following adverse reactions were seen in the study with < 1% frequency: elevated creatine kinase (> 3X ULN), hypoglycemia without clinical signs (glucose \leq 50 mg/dL), anemia, abnormal behavior, bradycardia, and dermatitis.

Ketonuria and diabetic ketoacidosis: Thirty-two (32) cats developed ketonuria, diabetic ketoacidosis or euglycemic diabetic ketoacidosis and were removed from the study. Twenty-six (26) of these cats developed ketonuria, diabetic ketoacidosis, or euglycemic diabetic ketoacidosis within the first 7 days of treatment with SENVELGO. Thirteen (13) of these cats developed ketonuria without further progression to diabetic ketoacidosis or euglycemic diabetic ketoacidosis and were transitioned to insulin. An additional thirteen (13) cats developed diabetic ketoacidosis or euglycemic diabetic ketoacidosis. Nine cats recovered after hospitalization and intensive treatment. Three of the 9 cats had concurrent conditions: hepatopathy (1), hepatic lipidosis (1), and pancreatitis and hepatic lipidosis (1). Four of the 13 cats were euthanized; three because the owners declined treatment and one cat was euthanized after not responding to hospitalization and intensive treatment.

Six cats developed ketonuria, diabetic ketoacidosis or euglycemic diabetic ketoacidosis after the first 7 days of treatment. One cat developed ketonuria without progression to diabetic ketoacidosis or euglycemic diabetic ketoacidosis after more than 4 months on SENVELGO. Five cats developed diabetic ketoacidosis or euglycemic diabetic ketoacidosis. Two cats (one with concurrent pancreatitis and hepatic lipidosis) were treated and recovered. One with concurrent pancreatitis was treated and recovered but died several days later. Two of the five cats were euthanized; one cat was euthanized after poor response to hospitalization and intensive therapy; and one was euthanized due to declining condition unrelated to diabetic ketoacidosis.

Thirty-eight enrolled cats had been previously treated with insulin. Of those 38 cats, 12 (32%) developed ketonuria, diabetic ketoacidosis, or euglycemic diabetic ketoacidosis during the first week and were removed from the study. These 12 cats are included in the 26 cases reported above and represent 46% of the cases removed in the first week of treatment due to ketonuria or ketoacidosis.

Death and euthanasia: Nineteen cats died (3) or were euthanized (16) during the study, or shortly following removal from the study, with thirteen possibly related to SENVELGO use or declining glycemic control. In addition to 6 of the cases associated with diabetic ketoacidosis described above, euthanasia was associated with the following conditions (number of cats): acute renal failure within a week of starting SENVELGO (1), worsening or emergent urinary incontinence associated with poor glycemic control (2), worsening polyuria/polydipsia and inappropriate urination (1), progressive signs of diabetes mellitus (1), declining condition and suspected pancreatitis (1), azotemia and lack of effect within a week of starting SENVELGO and possible concurrent hypersomatotropism (1).

Contact Information: To report suspected adverse drug events, for technical assistance, or to obtain a copy of the Safety Data Sheet (SDS), contact Boehringer Ingelheim Animal Health 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 www.fda.gov/reportanimalae.

Information for Cat Owners: Please provide and review the Client Information Sheet with cat owners to ensure they understand the entire contents before SENVELGO is administered. The Client Information Sheet contains important information regarding the use of SENVELGO. Owners should be advised to discontinue SENVELGO and contact a veterinarian immediately if their cat develops anorexia, lethargy, vomiting, diarrhea, or weakness.

Clinical Pharmacology:

Mechanism of Action:

Velagliflozin is an inhibitor of sodium-glucose cotransporter 2 (SGLT2), the renal transporter responsible for reabsorption of glucose from the glomerular filtrate back into the circulation. By inhibiting SGLT2, velagliflozin reduces the reabsorption of filtered glucose and lowers the renal threshold for glucose, thereby increasing urinary glucose excretion.

Pharmacokinetics: In a laboratory study conducted to determine the prandial state of maximum exposure, systemic exposure for velagliflozin was greater in the fasted state than in the fed state by 170% for the mean maximum observed plasma concentration (C_{max}), and by 45% for the mean area under the plasma concentration versus time curve (AUC) from dosing (time 0) to the last quantifiable concentration (AUC_{0-12h}), respectively.

In a well-controlled, laboratory margin of safety study in healthy, adult cats (see **Target Animal Safety**), after repeat daily oral dosing for six months, a slight to moderate increase in exposure to velagliflozin was observed. In addition, a tendency for a less than dose proportional increase of maximum plasma concentration (C_{max}) and exposure (AUC) over the tested dose range was noted.

Following oral administration of SENVELGO in cats at 1 mg/kg, velagliflozin was rapidly absorbed with a median time to maximum concentration of 0.25 hours. The velagliflozin mean (\pm standard deviation) C_{max} was 1030 (\pm 361) ng/mL and the mean AUC_{0-12h} to the last quantifiable plasma concentration was 3295 (\pm 1098) day*ng/mL. The elimination half-life of velagliflozin was 3.68 (\pm 0.34) hours.

Effectiveness: Two hundred and fifty-two (252) cats diagnosed with diabetes mellitus were enrolled in a 180-day multicenter field study. The cats included various purebred and mixed breed cats ranging in age from 4 to 18 years and in weight from 5.7 to 26.5 lbs (2.6 to 12 kg). Cats were administered SENVELGO at a dose of 0.45 mg/lb (1 mg/kg) orally, once daily, regardless of blood glucose level, beginning on Day 0. Cats were evaluated at Days 2 or 3, and Days 7 and 30 and then monthly.

Treatment success was evaluated on Day 30 and was defined as improvement in at least one clinical sign of diabetes mellitus (polyuria, polydipsia, unintended weight loss, polyphagia, or diabetic neuropathy) and improvement in at least one blood glucose variable (blood glucose curve mean or serum fructosamine).

Of 198 cats included in the effectiveness-evaluable population:

- 175 cats (88.4%) were considered a treatment success on Day 30 (lower bound of the two-sided 90% confidence interval was 84%).
- Mean blood glucose decreased from 446.4 mg/dL (single fasted sample) prior to Day 0 to 169.8 mg/dL (blood glucose curve mean) on Day 30
- Mean fructosamine levels decreased from 551.4 μ mol/L prior to Day 0 to 332.0 μ mol/L on Day 30.
- Improvements in the clinical signs of polyuria, polydipsia, body weight, polyphagia, and diabetic neuropathy on Day 30 were observed in 125/177 (71%), 128/176 (73%), 133/167 (80%), 33/80 (41%), and 7/30 cats (23%), respectively.
- 157 cats completed the 180-day study

Target Animal Safety: In a well-controlled laboratory margin of safety study, SENVELGO was administered orally to fasted, healthy, 8 to 9 month old cats at 0, 1, 3, or 5 mg/kg body weight (corresponding to 1X, 3X or 5X the intended labeled point dose of 1 mg/kg) once daily for 26 weeks (6 months). Control cats (0 mg/kg) received saline at a volume equal to the 5 mg/kg dose. There were eight cats per group (4 females, 4 males). All cats survived the study and there were no SENVELGO-related effects on ophthalmic examinations, indirect systolic blood pressure measurements, and blood coagulation parameters. Hypersalivation and vomiting after dose administration occurred infrequently and was only observed in the groups that received SENVELGO.

During physical examinations on Days 14 and 28, there was a drug-related decrease in heart rate (< 140 bpm) in the cats that received SENVELGO compared to the control cats. There were no other drug-related effects on physical examinations.

Polydipsia, glucosuria, decreased urine creatinine, and diarrhea were reported more frequently in cats that received SENVELGO than in control cats.

Reddish, mucoid feces were observed in three instances in the 1X group cats. One cat in the 5X group had decreased activity, vomiting, and reduced feed consumption for one day, and reddened rectal mucous membranes were observed over the next 5 days. Two cats (3X and 5X groups) were each observed to have a reddened prepuce with white-yellow discharge twice during the study that was not associated with abnormal urinalyses.

Food consumption was higher in the cats that received SENVELGO compared to the control cats. The rate of body weight gain was lower in the 5X group cats compared to cats in the control, 1X and 3X groups.

There were drug-related increases in reticulocyte count, mean corpuscular hemoglobin, mean corpuscular volume, and Heinz body percentage, and a decrease in mean corpuscular hemoglobin concentration in the cats that received SENVELGO compared to control cats. None of the cats showed any clinical signs of anemia and the number of erythrocytes, hemoglobin, and hematocrit values were normal. There was no effect of SENVELGO on white blood cells and platelets.

There were drug-related increases in serum magnesium, albumin, cholesterol, and triglycerides in the cats that received SENVELGO, with some magnesium, serum albumin and triglyceride values above the reference range. There was a drug-related decrease in mean BUN in the cats that received SENVELGO. There were no other treatment-related changes in serum chemistry parameters, including serum glucose and symmetric dimethylarginine (SDMA).

A reticular pattern was observed on the surface of the liver of one control, three 1X, four 3X, and three 5X group cats.

How Supplied: SENVELGO (velagliflozin oral solution) 15 mg/mL, 30 mL nominal fill volume is supplied in a 45 mL plastic bottle with dosing syringe.

NDC 0010-4614-01

Storage Information: SENVELGO can be stored at or below 77°F (25°C) with excursions permitted up to 104°F (40°C). Once the bottle is opened, use the contents within six months.

Approved by FDA under NADA # 141-568

Marketed by:

Boehringer Ingelheim Animal Health USA Inc.
Duluth, GA 30096

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Revised 06/2023

View from the Board

Are You Thriving?

The time I have spent on the AAHA Board of Directors has been one of the best experiences of my life. I have met a lot of great individuals who are leaders in our profession. In addition, I have had the opportunity to serve on all AAHA's committees. One of the surprising things I learned was that not all practices are thriving. Thriving at work means the person is energized to grow and develop, creating a positive work environment. Everyone may have different gauges to measure their level of thriving, but in general, vitality and learning are considered the key markers of thriving at work. The first marker, vitality, is the feeling of excitement one has for their work. The second thriving marker is learning; it is the feeling of getting better at work and acquiring new knowledge. The balance between how energized a person is and their feeling of self-improvement is key to improving the level of thriving at work.

There are many strategies to support employees to thrive at work. Practices can help people thrive at work by providing opportunities to make decisions that affect their work, by sharing information about the organization and its strategies, by decreasing inconsiderate or uncivil interactions, by offering performance feedback, and by encouraging diversity.

In my practice, I implement the first strategy of offering my employees the ability to make decisions. It gives them a powerful sense of control and ownership of their work. For example, we use our AAHA accreditation to help people know what is expected and empower them to be an active part of patient and client care. Using the AAHA accreditation standards, we are able to share information about the organization and strategize to align the goals of everyone in the practice. In addition, an environment that encourages positive relationships between people will increase the feeling of value in an organization. We regularly have performance evaluations, reducing the uncertainty and stress, as well as reinforcing goals to maintain our high standards.

Finally, we openly support diversity to promote a culture of trust and respect.

Practices should want a thriving workplace because it has been shown to increase the mental and physical health of the employee. One study found that employees are 32% more committed to the organization, 46% more satisfied with their job, and 125% less burned out within a thriving workplace. Also, their physical health improved, reporting fewer doctor visits, fewer physical complaints, and 74% fewer missed workdays. Therefore, an organization can improve their productivity and profitability.

Related to the topic of thriving, a deep concern I have is when I hear that clinics use AAHA as a once every three-year evaluation that the team must endure. I choose to use our standards of accreditation as a tool to improve our practice every single day. This growth mindset for us has made our evaluation process a way for the staff to showcase what we do every day. If you truly "walk the walk" of AAHA accreditation every day, you and your staff can thrive.



AAHA President-elect Mark Thompson, DVM, CCRP, is owner of Country Hills Pet Hospital in Wisconsin.

**This month in AAHA's
Publicity Toolbox . . .**

Here are the downloadable social media images available for AAHA-accredited members at aaha.org/publicity this month:

Pet Cancer Awareness Month

Pet Diabetes Month

Daylight Saving Time

November 5

Veterans Day

November 11

Happy Thanksgiving

November 23



What are some of the most effective ways to communicate with staff?

We currently use Slack for staff communications. Do any of you have a good way of knowing whether employees have read/received messages without everyone responding or annoying everyone with all the messages? Any help is greatly appreciated.

A: Each staff member at my practice has chosen a unique emoji to serve as their "signature." When they have read a post, they react to it with their emoji, and I know they've seen it.

A: We do written or posted memos that everyone has to sign along with designating department leads that are responsible for their teams.

A: We use a text thread for all team members. If some aren't responding on the thread, some of the other team members will poke at them on thread for them to respond.



Community

AAHA members: Log in to see the full discussion at community.aaha.org. Questions about your membership? Email community@aaha.org.

Collaboration with Specialists Expands Spectrum of Options in General Practice

Veterinary specialists are often sought out when a client wants to pursue advanced levels of care, including diagnostics or treatments that may not be available in a general practice setting. The vast knowledge that specialists have in their respective fields can bring great value to a case and improve patient outcomes.

But this positive impact is not isolated to cases where patients are physically seen by specialists. Opportunities for collaboration between specialists and generalists are growing in the virtual world where we now live.

Collaboration Can Expand the Spectrum of Care

Often when generalists are reaching out for virtual or phone consultations from specialists, it is because the owners can't or don't want to pursue referral. Barriers to referral are multifactorial and may include finances, the availability of a specialist, and the ability or willingness of the client to travel to a specialty hospital.

Kate Baker, DVM, MS, DACVP (Clinical Pathology), founder of VetHive (vethive.com), has spent the last several years exploring ways to collaborate with and educate general practice veterinarians about cytology. "While it would be wonderful to send all of your [cytology] to a pathologist, that's not reality," she said.

As a specialist herself, Baker understands that specialists may have concerns about making recommendations outside of the traditional "gold standard."

"Sometimes you might ask yourself, am I doing [the general practitioner] a disservice by telling them to do something that's not gold standard?" she stated, mentioning that some veterinarians may have concerns about their own liability.

"Sometimes, it's hard to take yourself out of your norm of what you're able to do and put yourself into another situation. "I get it," Baker said, "But I think we have to, as a profession, move past that."

She encourages specialists to educate their colleagues on what the ideal is, but also share recommendations of "Here's what I would do if I were in your position."



Baker noted that "there's nothing wrong with answering that question."

In other cases, an owner may be willing to pursue advanced options but wants their primary veterinarian to perform a particular procedure or test. This could lead to a generalist questioning, "Is somebody going to criticize me for even trying this?" said Baker. "And that is where that support from colleagues, including specialists, is so important. Because GPs can do so much," she continued. "We all have that ability to grow in our own knowledge and skills in any area we want. And that's such a unique, really cool thing about vet med."

When generalists and specialists work together, new diagnostic and treatment options may become available for patients whose owners are unable to pursue referral.

Meet VetHive

Baker has loved teaching since her residency. While working at a diagnostic laboratory, she started an online forum through Facebook—the Veterinary Cytology Coffeehouse. As she explored ways to educate in a virtual environment, she felt called to create a community that would provide multispecialty, practical resources for generalists.

“There needed to be something different,” she said. “There needed to be something where people really felt comfortable coming and saying, ‘I need help on this.’ And really establishing those relationships, not just these one-off consults.” This idea sparked the founding of VetHive, which launched early in 2023.

VetHive is a virtual community available through a website and app that offers continuing education (CE) and access to specialists in 17 disciplines. While most are specialists in small animal disciplines, there are avian, exotics, large animal, and equine specialists available.

The same specialists who respond to case questions on the message boards provide CE lectures and resources for users, allowing the opportunity for more interaction and relationship building.

The community is founded on four pillars that include creating a culture of support, rejecting the ivory tower mentality, being authentic selves, and viewing veterinary medicine as a team sport. Baker knows that these are strong statements, but, she noted, “What we’re trying to do is not say ‘just refer.’ That’s just not helpful.”

Instead, specialists might say why a referral would be ideal but go beyond that sentiment and provide recommendations within the limitations of a given case. “All our specialists that are part of [VetHive] feel that way,” said Baker, “They will help as much as they can. Sometimes all of our hands are tied, but it’s that feeling of ‘I want to help.’”

“When you create that safe space and people do feel comfortable [asking questions], then what happens is that everybody gets to benefit from learning from that case,” said Baker. “It is so powerful, the collective learning that happens when people are sharing cases. ... There’s so much opportunity for knowledge sharing. Not just specialists and vets, but vets to specialists and vets to vets.”

Nonjudgmental Collaboration is Key

When general practitioners approach specialist colleagues with case questions, they may be concerned about the potential to receive judgment. “Brand new graduate to seasoned veterinarian to specialist, we all ask ourselves, ‘should I know this?’” said Baker. She stressed the importance of nonjudgmental, empathetic communication on the part of specialists who are advising generalists on a case, regardless of how the communication occurs.

Baker encourages specialists “to be mindful of your words and your tone.”

For example, instead of saying “Why didn’t you run that test before calling me?,” a specialist might say, “Did you get a chance to do this?” or “Would they allow this?” Or “Did you think about this?” suggested Baker. “There’s a way to communicate those things without sounding [judgmental],” she said.

She encourages specialists to consider how a generalist might feel when asked a question about their case management and try to present things in a nonjudgmental way. Communicating in this way “takes more mental energy. But it’s so important,” Baker said. “It creates safety in that conversation.”

Respectful communication must go both ways. This mutual safety and respect are essential to the VetHive community. Seeing the collaboration in real time through VetHive excites Baker.

“It makes me hopeful that we can have this better experience in our own professional lives,” she said, “that we can really feel comfortable doing our jobs and knowing that we’re not alone in doing those jobs. And that goes for everybody. Not one particular subset of us.” ✨



Kate Boatright, VMD, is a small animal veterinarian, speaker, and author in western Pennsylvania. She graduated from the University of Pennsylvania in 2013 and has worked in rural small animal general practice and emergency clinics ever since. She is passionate about inciting positive change in the profession through mentorship and servant leadership in organized veterinary medicine. She writes a monthly column for *NEWStat* on the role of the spectrum of care in improving outcomes in clinical practice.

7 Rules for a Gossip-Free Practice

Gossip and rumors might seem thrilling and juicy, but they plant negativity in your practice that can take over your mood, your staff's morale, and the vibe you create around yourself. Here are some rules to keep the gossip at bay.

1 Lead by example. When people see others refraining from gossiping, they are more likely to follow suit. I have two phrases in my toolbelt for this one. If you want no part of the idle gossip and just want to move on with your day, I recommend, "I have no opinion about that." It stops the conversation, it's a refusal to get involved, and it's over.

If it sounds like a genuine problem is the root cause of the gossip, and you feel like you can genuinely help the person, I recommend asking, "Can I help you come up with what to say to them?"

This redirects the conversation in the most productive direction.

2 Enforce clear expectations in a code of conduct. Incorporate clear guidelines and policies about gossip in the workplace's code of conduct. Ensure that employees are aware of the consequences of engaging in this kind of behavior. Setting expectations creates a sense of responsibility and accountability among your team members.

And, if an employee has been repeatedly spoken to about their behavior and refuses to change, it's time to vote them off the island.

3 Foster a positive environment. A workplace that promotes positivity reduces the likelihood of gossip taking root. Celebrate the heck out of achievements and acknowledge your team's hard work openly. Encourage employees to appreciate each other's contributions and build a sense of camaraderie. When employees feel valued and supported, gossip is less likely to find fertile ground.

4 Talk, talk, talk. Often, gossip arises from miscommunication or a need for more information. Encourage open communication where employees feel comfortable discussing their concerns or seeking clarification. Establish regular team meetings and one-on-one sessions to address issues promptly and transparently.

5 Offer conflict resolution training. Providing conflict resolution training equips employees with the necessary skills to handle disagreements and disputes constructively. When employees are confident in their ability to address conflicts directly, they are less likely to resort to gossip as an outlet for their frustrations.

6 Provide channels for anonymous reporting. While open communication is vital, some employees will never feel comfortable coming forward with issues. Accept and embrace this by implementing anonymous reporting channels for employees to share their concerns.

7 Give them empathy training. Organize team-building activities to strengthen bonds among employees. These activities encourage collaboration, empathy, and understanding among team members, reducing the likelihood of them speaking negatively about one another. ✨



Jenn Galvin owns and manages Advanced Animal Care, a companion animal hospital located in Arizona. She has been in the veterinary industry for over 25 years, and she is a true nerd at heart, with a passion for staff development, inventory, and veterinary financials.

Once-a-day
Mometamax[®]
 (GENTAMICIN SULFATE, MOMETASONE FUROATE
 MONOHYDRATE, AND CLOTRIMAZOLE, OTIC SUSPENSION)

DOGGONE EFFECTIVE FIRST-LINE OTITIS EXTERNA TREATMENT

A convenient once-daily, triple-combination treatment applied for 7 days for mild to moderate cases of otitis externa associated with susceptible strains of yeast and bacteria in dogs.



ANTI-INFLAMMATORY ACTION Mometasone Furoate Monohydrate

- Reduces discomfort and irritation¹
- Mometasone rapidly controls inflammation without adrenocortical suppression²

ANTIFUNGAL ACTIVITY Clotrimazole

- Effective against dermal infections caused by susceptible strains of yeast (*Malassezia pachydermatis*)¹

ANTIBACTERIAL EFFECT Gentamicin

- Effective against a wide variety of gram-negative and gram-positive bacteria¹



Available in 7.5 g, 15 g, 30 g,
 and 215 g plastic bottles.

IMPORTANT SAFETY INFORMATION:

Do not use MOMETAMAX[®] Otic Suspension in pregnant dogs. The use of these components has been associated with deafness or partial hearing loss in a small number of sensitive dogs (e.g., geriatric), although it is usually temporary. If hearing or vestibular dysfunction is noted, discontinue use immediately and flush the ear canal thoroughly with a non-ototoxic solution. If hypersensitivity to any of the components occurs, treatment should be discontinued and appropriate therapy instituted. Concomitant use of drugs known to induce ototoxicity should be avoided. Do not use in dogs with known tympanic perforation. Administration of recommended doses beyond 7 days may result in delayed wound healing. Avoid ingestion. Keep out of the reach of children. For complete safety information, refer to the product label.

See prescribing information for full information including side effects, precautions, warnings, and contraindications.

¹ Mometamax[®] Otic Suspension [gentamicin sulfate, mometasone furoate monohydrate, clotrimazole] [Product Information]. Madison, NJ: Intervet Inc.; 2021.

² Reeder CJ, Griffin CE, Polissar NL, et al. Comparative adrenocortical suppression in dogs with otitis externa following topical administration of four different corticosteroid-containing medications. *Vet Ther.* 2008;9:111-121.

Approved by FDA under
NADA # 141-177

MOMETAMAX[®]

(GENTAMICIN SULFATE,
MOMETASONE FUROATE
MONOHYDRATE, AND
CLOTRIMAZOLE,
OTIC SUSPENSION)

VETERINARY For Otic Use in Dogs Only

CAUTION Federal law restricts this drug to use by or on the order of a licensed veterinarian. Keep this and all drugs out of the reach of children.

DESCRIPTION Each gram of MOMETAMAX Otic Suspension contains gentamicin sulfate, equivalent to 3 mg gentamicin base; mometasone furoate monohydrate equivalent to 1 mg mometasone furoate; and 10 mg clotrimazole, in a mineral oil-based system containing a plasticized hydrocarbon gel.

PHARMACOLOGY

Gentamicin: Gentamicin sulfate is an aminoglycoside antibiotic active against a wide variety of gram-negative and gram-positive bacteria. *In vitro* tests have determined that gentamicin is bactericidal and acts by inhibiting normal protein synthesis in susceptible microorganisms. In clinical trials, gentamicin was shown to have a range of activity against the following organisms commonly isolated from infected canine ears: *Pseudomonas* spp. (including *P. aeruginosa*), coagulase-positive staphylococci, *Enterococcus faecalis*, *Proteus mirabilis* and beta-hemolytic streptococci.

Mometasone: Mometasone furoate monohydrate is a synthetic adrenocorticoid characterized by a novel (2) furoate 17-ester having chlorine at the 9 and 21 positions, which have shown to possess high topical potency.

Systemic absorption of mometasone furoate ointment was found to be minimal (2%) over 1 week when applied topically to dogs with intact skin. In a 6-month dermal toxicity study using 0.1% mometasone ointment on healthy intact skin in dogs, systemic effects typical of corticosteroid therapy were noted.

The extent of percutaneous absorption of topical corticosteroids is determined by many factors including the integrity of the epidermal barrier. Topical corticosteroids can be absorbed from normal, intact skin. Inflammation can increase percutaneous absorption. Once absorbed through the skin, topical corticosteroids are handled through pharmacokinetic pathways similar to systemically administered corticosteroids.

Clotrimazole: Clotrimazole is a broad-spectrum antifungal agent that is used for the treatment of dermal infections caused by various species of dermatophytes and yeast. The primary action of clotrimazole is against dividing and growing organisms.

In vitro, clotrimazole exhibits fungistatic and fungicidal activity against isolates of *Trichophyton rubrum*, *Trichophyton mentagrophytes*, *Epidermophyton floccosum*, *Microsporum canis*, *Candida* spp., and *Malassezia pachydermatis*. Resistance to clotrimazole is very rare among the fungi that cause superficial mycoses. In an induced otitis externa study using dogs infected with *Malassezia pachydermatis*, 1% clotrimazole

in the vehicle formulation was effective both microbiologically and clinically in terms of reduction of exudate, odor, and swelling.

In studies of the mechanism of action, the minimum fungicidal concentration of clotrimazole caused leakage of intracellular phosphorus compounds into the ambient medium with concomitant breakdown of cellular nucleic acids and accelerated potassium efflux. These events began rapidly and extensively after addition of the drug. Clotrimazole is very poorly absorbed following dermal application.

Gentamicin-Mometasone-Clotrimazole: By virtue of its three active ingredients, MOMETAMAX Otic Suspension has antibacterial, anti-inflammatory, and antifungal activity. In clinical field trials, MOMETAMAX Otic Suspension was effective in the treatment of otitis externa associated with bacteria and *Malassezia pachydermatis*. MOMETAMAX Otic Suspension reduced discomfort, redness, swelling, exudate, and odor.

INDICATIONS MOMETAMAX Otic Suspension is indicated for the treatment of otitis externa in dogs caused by susceptible strains of yeast (*Malassezia pachydermatis*) and bacteria (*Pseudomonas* spp. [including *P. aeruginosa*], coagulase-positive staphylococci, *Enterococcus faecalis*, *Proteus mirabilis*, and beta-hemolytic streptococci).

CONTRAINDICATIONS If hypersensitivity to any of the components occurs, treatment should be discontinued and appropriate therapy instituted. Concomitant use of drugs known to induce ototoxicity should be avoided. Do not use in dogs with known perforation of eardrums.

WARNINGS The use of these components has been associated with deafness or partial hearing loss in a small number of sensitive dogs (eg, geriatric). The hearing deficit is usually temporary. If hearing or vestibular dysfunction is noted during the course of treatment, discontinue use of MOMETAMAX Otic Suspension immediately and flush the ear canal thoroughly with a nonototoxic solution.

Corticosteroids administered to dogs, rabbits, and rodents during pregnancy have resulted in cleft palate in offspring. Other congenital anomalies including deformed forelegs, phocomelia, and anasarca have been reported in offspring of dogs that received corticosteroids during pregnancy.

Field and experimental data have demonstrated that corticosteroids administered orally or parenterally to animals may induce the first stage of parturition if used during the last trimester of pregnancy and may precipitate premature parturition followed by dystocia, fetal death, retained placenta, and metritis.

PRECAUTIONS Before instilling any medication into the ear, examine the external ear canal thoroughly to be certain the tympanic membrane is not ruptured in order to avoid the possibility of transmitting infection to the middle ear as well as damaging the cochlea or vestibular apparatus from prolonged contact.

Administration of recommended doses of MOMETAMAX Otic Suspension beyond 7 days may result in delayed wound healing.

If overgrowth of nonsusceptible bacteria or fungi occurs, treatment should be discontinued and appropriate therapy instituted.

Avoid ingestion. Adverse systemic reactions have been observed following the oral ingestion of some topical corticosteroid preparations. Patients should be closely observed for the usual signs of adrenocorticoid overdosage which include sodium retention, potassium loss, fluid retention, weight gain, polydipsia, and/or polyuria. Prolonged use or overdosage may produce adverse immunosuppressive effects.

Use of corticosteroids, depending on dose, duration, and specific steroid, may result in endogenous steroid production inhibition following drug withdrawal. In patients presently receiving or

recently withdrawn from corticosteroid treatments, therapy with a rapidly acting corticosteroid should be considered in especially stressful situations.

TOXICOLOGY Field and safety studies with MOMETAMAX Otic Suspension have shown a wide safety margin at the recommended dose level in dogs (see **PRECAUTIONS/ADVERSE REACTIONS**).

ADVERSE REACTIONS

Gentamicin: While aminoglycosides are absorbed poorly from skin, intoxication may occur when aminoglycosides are applied topically for prolonged periods of time to large wounds, burns, or any denuded skin, particularly if there is renal insufficiency. All aminoglycosides have the potential to produce reversible and irreversible vestibular, cochlear, and renal toxicity.

Mometasone: ALP (SAP) and ALT (SGPT) enzyme elevations, weight loss, anorexia, polydipsia, polyuria, neutropenia, and lymphopenia have occurred following the use of parenteral, high-dose, and/or prolonged or systemic synthetic corticosteroids in dogs. Cushing's syndrome in dogs has been reported in association with prolonged or repeated steroid therapy.

Clotrimazole: The following have been reported occasionally in humans in connection with the use of clotrimazole: erythema, stinging, blistering, peeling, edema, pruritus, urticaria, and general irritation of the skin not present before therapy.

MOMETAMAX Otic Suspension: In field studies following once daily treatment with MOMETAMAX Otic Suspension, ataxia, proprioceptive deficits, and increased water consumption were observed in less than 1% of 164 dogs. In a field study following twice-daily treatment with MOMETAMAX Otic Suspension, inflammation of the pinna and diarrhea were observed in less than 1% of 141 dogs.

DOSAGE AND ADMINISTRATION

The external ear canal should be thoroughly cleaned and dried before treatment. Verify that the eardrum is intact. For dogs weighing less than 30 lbs, instill 4 drops from the 7.5 g, 15 g, and 30 g bottles (2 drops from the 215 g bottle) of MOMETAMAX Otic Suspension once daily into the ear canal. For dogs weighing 30 lbs or more, instill 8 drops from the 7.5 g, 15 g, and 30 g bottles (4 drops from the 215 g bottle) once daily into the ear canal. Therapy should continue for 7 consecutive days.

HOW SUPPLIED MOMETAMAX Otic Suspension is available in 7.5 g (NDC 0061-1246-05), 15 g (NDC 0061-1246-04), 30 g (NDC 0061-1246-01), and 215 g (NDC 0061-1246-02) plastic bottles.

Store between 2° and 25°C (36° and 77°F). Shake well before use.

USE WITHIN 28 DAYS OF FIRST USE.

For patent information:
<http://www.merck.com/product/patent/home.html>

Intervet Inc (d/b/a Merck Animal Health)
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Made in Germany

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Rev. 02/2021



notebook

FDA Advisory Against Feeding Certain Lots of Darwin's Natural Pet Products Due to *Salmonella*

The US Food and Drug Administration (FDA) is cautioning pet owners not to feed their pets certain lots of Darwin's Natural Pet Products raw cat and dog food, made by Arrow Reliance Inc., after FDA samples from the lots listed below tested positive for *Salmonella*.

- Darwin's Natural Pet Products Natural Selections Chicken Recipe with Organic Vegetables for Dogs, Lot 9774, manufactured on June 13, 2023.
- Darwin's Natural Pet Products Natural Selections Chicken Recipe for Cats, Lot 9795, manufactured on June 28, 2023.
- Darwin's Natural Pet Products Natural Selections Chicken Recipe for Cats, Lot 9830, manufactured on July 19, 2023.

According to the FDA, the products are in white and clear plastic packages. The dog food has blue labeling, and the cat food has blue and green labeling. Each package weighs two pounds and consists of four separate units. The lot codes are printed on the front of the lower left unit of the package.

Study: Consumers Still Have a “Strong Appetite” to Spend on Pets

Vericast's annual 2023 Retail TrendWatch survey of more than 700 pet owners indicates that these consumers plan to increase their spending on food, treats, supplements, and hygiene products, in addition to birthday and holiday gifts.

Among consumer trends in spending on pets, Vericast found:

- 76% view their pets as their children, with 82% of Millennials reporting this information, followed by 75% of Gen X, 70% of Gen Z, and 67% of Baby Boomers.
- More than 62% of respondents consider quality time with pets equally (47%) as important or even more important (15%) than time with a partner.
- 32% of pet owners report they have a dedicated social media account for their pets.
- More than a third (37%) seek discounts for pet spending this year, and 28% are using loyalty programs.
- 60% shop for pet gifts and holiday treats, which is an 8% increase compared to 2022.
- More than three-quarters (78%) are willing to spend more on pet food and treats in 2023 than in 2022, indicating an interest in higher-quality products.
- 38% are willing to spend more on health products such as vitamins and supplements this year, and 38% will spend more on pet hygiene products.
- Roughly one-third (32%) shop for their pets at big brand specialty stores, while 30% make purchases at other big box shops.





Dog Brains Are Tuned to Dog-Directed Speech Spoken by Women

A new study in *Communications Biology* reports that dogs show greater brain sensitivity to the speech directed at them than to adult-directed speech, especially if spoken by women. The study shows that dog auditory brain regions responded more to dog- and infant-directed than to adult-directed speech, which they say is the first neural evidence that dog brains are tuned to the speech directed specifically at them.

Hungarian researchers at the Department of Ethology, Eötvös Loránd University, the Research Centre for Natural Sciences, and the Eötvös Loránd Research Network conducted an fMRI study on trained dogs and revealed similarities between infant and dog brains during the processing of speech with exaggerated prosody (stress and intonation in a language).

“Studying how dog brains process dog-directed speech is exciting because it can help us understand how exaggerated prosody contributes to efficient speech

processing in a nonhuman species skilled at relying on different speech cues (e.g., follow verbal commands),” Anna Gergely, PhD, co-first author of the study explained.

Researchers found that dog- and infant-directed speech sensitivity of dog brains was more pronounced when the speakers were women and was affected by voice pitch and its variation. These results suggest that the way we speak to our dogs does matter and that their brain is specifically sensitive to the exaggerated prosody typical to the female voice.

“What makes this result particularly interesting is that in dogs, as opposed to infants, this sensitivity cannot be explained by either ancient responsiveness to conspecific signals or by intrauterine exposure to women’s voices. Remarkably, the voice tone patterns characterizing women’s dog-directed speech are not typically used in dog–dog communication—our results may thus serve evidence for a neural preference that dogs developed during their domestication,” Gergely said.

Scarlett Magda Named Recipient of 2023 AVMA Global Veterinary Service Award

The American Veterinary Medical Association (AVMA) recently named Scarlett Magda, DVM, as the winner of the 2023 AVMA Global Veterinary Service Award.

The Global Veterinary Service Award was established by the 1934 International Veterinary Congress (former name of the World Veterinary Association), recognizing outstanding service by an AVMA member who has contributed to international understanding of veterinary medicine. It was renamed in 2019 in honor of the international leadership

exemplified by René Carlson, DVM, and Leon Russell, DVM, PhD, both past presidents of the AVMA and World Veterinary Association.

“Dr. Magda’s pioneering efforts and contributions to global veterinary service have left a remarkable impact worldwide,” said Lori Teller, DVM, DAVBP (Canine/Feline), immediate past-president of the AVMA. “Her extraordinary work in promoting the ideals of One Health—focusing on human, animal, and environmental health—and her instrumental role in establishing Veterinarians International and Vet Angels show her to be a true leader in the field.”

QUOTE OF THE MONTH

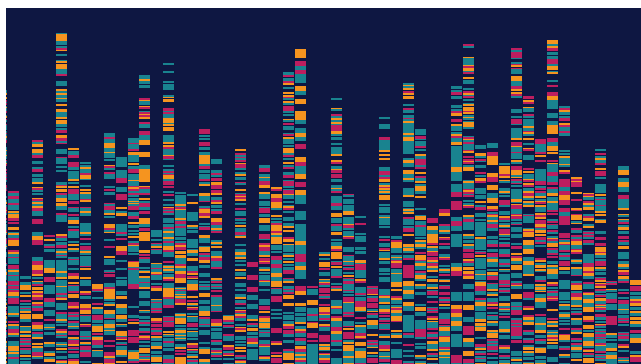
“Work takes on new meaning when you feel you are pointed in the right direction.” —Tim Cook, Apple CEO

Canine Tumor Genome Atlas Maps DNA in Pets to Help People with Cancer

The University of California-Davis recently launched a Canine Tumor Genome Atlas. They report it is the first genomic data bank of its kind outside of one developed by the National Cancer Institute and that it may eventually store hundreds of gene samples from companion dogs diagnosed with osteosarcomas, oral melanomas, and gliomas.

In a release, researchers stated that these three cancers are remarkably similar to the same cancers found in humans, and that these cancers can be uniformly fatal in both species. The UC Davis researchers relate that through comparative oncology, scientists seek to find cures that work in dogs in the hope that similar therapies may work in people. Canine clinical trials are underway at UC Davis to test an immunotherapy agent to fight cancer.

As part of its joint cancer research with the UC Davis School of Veterinary Medicine, UC Davis Comprehensive Cancer Center is building a genome catalog in order to map why certain canines are genetically predisposed to cancer. Researchers state that they hope that by helping find cures for pets with cancer, the atlas may also unlock similar breakthroughs for people with cancer. They state that the Canine Tumor Genome Atlas will be shared nationally with other cancer researchers.



New Listings Added to AVMA Animal Health Studies Database

Below are some of the new listings of veterinary clinical studies in the AVMA Animal Health Studies Database (AAHSD). Information about participation in the studies is available at the database site, at ebusiness.avma.org/aaahsd/study_search.aspx.

- AAHSD005636: “The effect of novel treatment with an oral medication on canine longevity,” Red Bank Veterinary Hospital, Hillsborough Township, New Jersey.
- AAHSD005638: “Probiotime trial—Addition of probiotic Escherichia coli Nissle 1917 to a vinblastine/piroxicam protocol for the treatment for urothelial carcinoma in dogs,” University of Missouri.
- AAHSD005639: “Evaluation of vinorelbine for the treatment of canine insulinoma,” University of Missouri.
- AAHSD005640: “EARL|paws–05CT,” University of Missouri.
- AAHSD005641: “Measuring iodide symporter as a surrogate of uptake of radioactive iodine in canine thyroid cancer,” University of Missouri.
- AAHSD005650: “Clinical trial for canine intranasal adenocarcinoma,” University of Florida; University of Illinois; Kansas State University; The Ohio State University; Iowa State University; and Southwest Veterinary Oncology, Tucson, Arizona.
- AAHSD005652: “Palliative radiation therapy with or without bisphosphonates or carboplatin for dogs with osteosarcoma,” Colorado State University.
- AAHSD005667: “Treatment of large skin melanoma or squamous cell carcinoma tumors in horses using H-FIRE,” North Carolina State University.
- AAHSD005719: “Comprehensive omics comparison of feline idiopathic inflammatory bowel disease (IBD) and low-grade intestinal T-cell lymphoma (LGITL): An exploratory study for biomarker discovery,” Virginia-Maryland College of Veterinary Medicine and Animal Cancer Care and Research Center, Roanoke, Virginia.

Man Bitten by Stray Cat Contracts Infection Unknown to Science

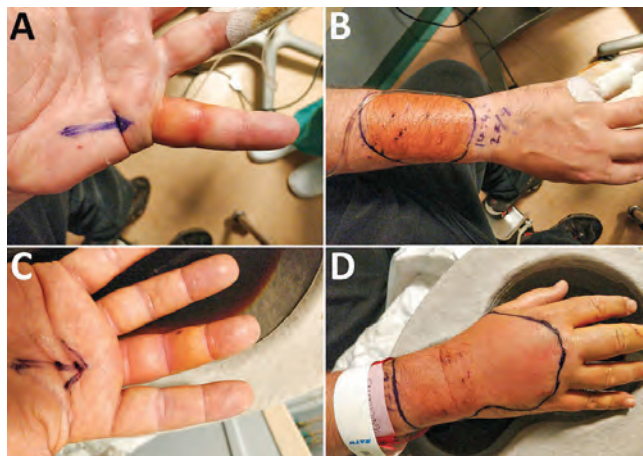
In a recent case study published in *Emerging Infectious Diseases*, a 48-year-old United Kingdom resident who was bitten by a stray feline ended up contracting a species of bacterium that scientists have never seen before.

Eight hours after receiving the bites, he presented at the emergency department with severely swollen hands. His puncture wounds were cleaned and dressed, and he was given a tetanus shot and antibiotics. The next day, his hands and forearms were red and swollen, and doctors surgically removed the damaged tissue around his wounds. He was also given three different antibiotics intravenously and was sent home with oral antibiotics. He went on to make a full recovery.

Doctors analyzed the microorganisms present in samples from his wounds and found an unrecognizable *Streptococcus*-like organism. When researchers sequenced part of this bacterium's genome, it did not match any strains on record. This was a new germ that scientists had never formally documented. As it turns out, the bacterium belongs to another genus of gram-positive bacteria, *Globicatella*.

Full genome sequencing of the bacterium suggests that it differs from other related strains, like *G. sulfidifaciens*, by around 20%, indicating, as they stated, a “distinct and previously undescribed species.”

“This report highlights the role of cats as reservoirs of as yet undiscovered bacterial species that have human pathogenic potential,” the authors of the case study wrote.



The UK man's infected hand and forearm. A) his left little finger, B) his right forearm, C) his right middle finger, and D) his right hand.



Hill's Partners with Harvard Researchers on Pet Microbiome Project

Hill's Pet Nutrition and the Harvard T. H. Chan School of Public Health are collaborating on the creation of the One Health Microbiome Resource (OHMR), a comprehensive reference database of human and companion animal microbiomes that will increase understanding of this segment of health and wellness in both pets and pet parents. In a release, the two organizations report that researcher Curtis Huttenhower, PhD, will lead the project, which, they say, will afford greater understanding of the health of both pets and pet owners.

“The OHMR provides a new way to improve both human and animal health through nutrition, better environmental exposures, and interindividual resource sharing on a day-to-day basis. We believe improving a pet's microbiome positively impacts a pet parent's well-being and vice versa,” said Huttenhower, who is the professor of computational biology and bioinformatics at Harvard Chan School and co-director of the Harvard Chan Microbiome in Public Health Center.

Hill's Pet Nutrition has supported the project through providing DNA sequencing resources that will enable new types of companion-animal microbiome analyses. The release states that OHMR resources and data will be available to the entire scientific community for the advancement of microbiome research in humans, pets, and beyond.

AKC Forms AKC Purebred Preservation Bank

The American Kennel Club (AKC) has formed the AKC Purebred Preservation Bank (AKCPPB), a 501(c)(3) not-for-profit canine genetic material repository with a primary focus on frozen semen to ensure the viability of purebred dogs, particularly in low-population breeds. There is no cost to owners, donors, or AKC Parent Clubs to donate genetic material.

In a release, the AKC stated that planning for the project began in 2021 at the recommendation of AKC president and CEO Dennis B. Sprung, who wished to explore the potential for the program to increase gene pools, ensure quality producers, and facilitate the process for each AKC Parent Club's breed. In addition to its preservation work, the AKCPPB will educate breeders, clubs, and the public regarding the importance of frozen semen preservation and protecting purebred dog breeds.

"The preservation of purebred dogs is at the core of the AKC's mission," said Charles Garvin, chairman of the AKCPPB. "Preserving the genetic materials of our dogs, via frozen semen, will undoubtedly prove valuable for breed



preservation, reducing the risk of extinction in breeds with lower popularity and allow us to do the important work of improving our breeds."

Arkansas' First Veterinary School Could Welcome Students by 2026

Arkansas State University (ASU) took another step toward bringing the first public veterinary school to the state, as the Arkansas Higher Education Coordinating Board approved its plan to establish the College of Veterinary Medicine and to offer a Doctor of Veterinary Medicine degree. There remain steps that need to be completed, such as approval from national regulatory organizations, but launching in the fall of 2026 remains a possibility, said Todd Shields, ASU chancellor. The program's enrollment is projected to be 120 students in each cohort, split evenly between Arkansans and non-Arkansans.

G20 Pandemic Fund Approves One Health Grants

The World Bank reports that the G20 Pandemic Fund's governing board approved its first round of grants in 37 countries across 6 regions. They state that the selected projects will receive funding to strengthen disease surveillance and early warning, laboratory systems, and the health care workforce.

Many of the projects involve cross-border and regional collaboration, considerations for gender equity, and One Health initiatives. For example, India received \$25 million for its proposal, "Enhancing Animal Health Security for Pandemic Preparedness and Response."

Established in September 2022, the Pandemic Fund is the first multilateral financing mechanism dedicated to providing multiyear grants to help low- and middle-income countries become better prepared for future pandemics. The Fund, which is hosted by the World Bank, has already raised \$2 billion in seed capital from 25 sovereign and philanthropic contributors.



VETERINARY PRACTICE GUIDELINES

2023 AAHA Management of Allergic Skin Diseases Guidelines

Julia Miller, Andrew Simpson, Paul Bloom, Alison Diesel, Amanda Friedeck, Tara Paterson, Michelle Wisecup, Chih-Ming Yu

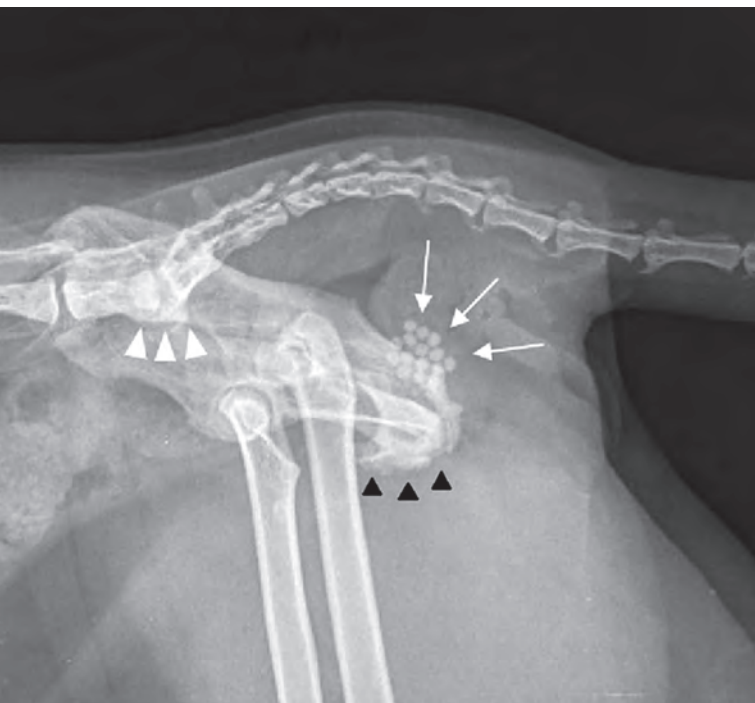
These guidelines present a systematic approach to diagnosis, treatment, and management of allergic skin diseases in dogs and cats. The guidelines describe detailed diagnosis and treatment plans for flea allergy, food allergy, and atopy in dogs and for flea allergy, food allergy, and feline atopic skin syndrome in cats. Management of the allergic patient entails a multimodal approach with frequent and ongoing communication with the client. Obtaining a comprehensive history is crucial for diagnosis and treatment of allergic skin diseases, and the guidelines describe key questions to ask when presented with allergic canine and feline patients. Once a detailed history is obtained, a physical examination should be performed, a minimum dermatologic database collected, and treatment for secondary infection, ectoparasites, and pruritus (where indicated) initiated. The process of diagnosing and managing allergic skin disease can be prolonged and frustrating for clients. The guidelines offer recommendations and tips for client communication and when referral to a dermatologist should be considered, to improve client satisfaction and optimize patient outcomes.

CASE REPORTS

Recurrent Perineal Hernia in a Female Cat Diagnosed by Positive-Contrast Vaginourethrocytogram

Jackie Hansen, Nicky Cassel, Mathew Stewart, Emily Klocke, David Biller

A 9 yr old female spayed domestic shorthair was presented with a 12-day history of stranguria. Six years previously, the cat had a bilateral perineal herniorrhaphy with cystopexy and pubic osteotomy. At presentation, survey radiographs and a positive-contrast vaginourethrocytogram were performed, which revealed cystolithiasis and recurrent bilateral perineal hernias with bladder retroflexion. A cystopexy was repeated, followed by bilateral perineal repairs using the internal obturator muscle flap transposition. To the authors' knowledge, this is the first reported case of a perineal hernia with recurrent bladder retroflexion after cystopexy diagnosed with positive-contrast vaginourethrocytogram in a female cat.



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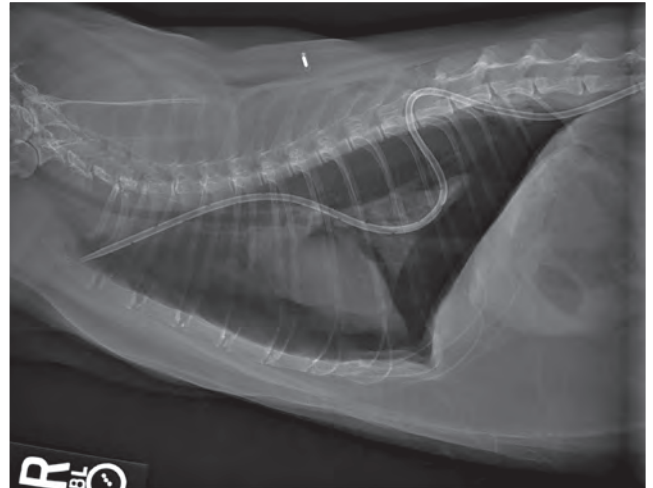
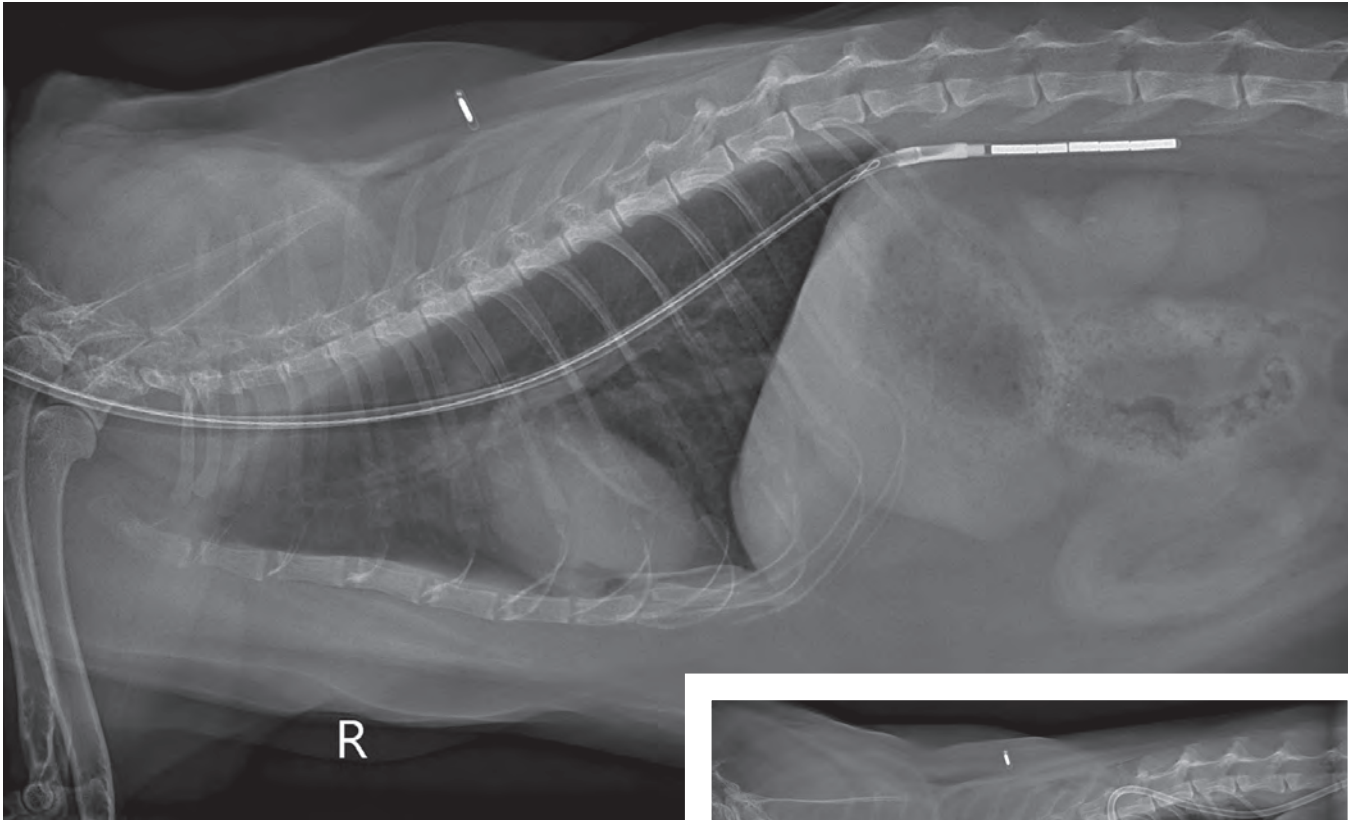
Managing Editor Ben Williams

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**CASE REPORTS**

Successful Medical Management of Bilateral Pneumothorax Due to Nasogastric Tube Misplacement in a Cat

Briana N. Lippert, Charles T. Talbot, Kelly E. Hall

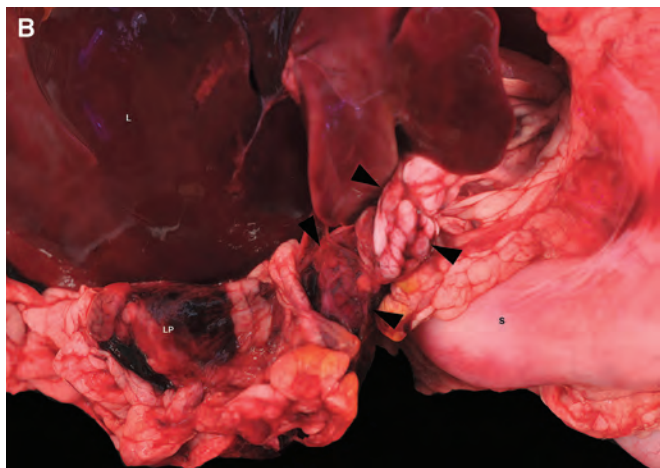
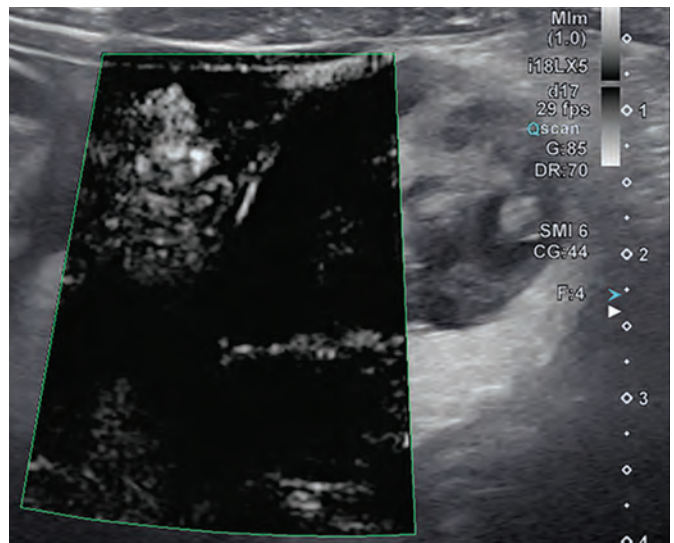
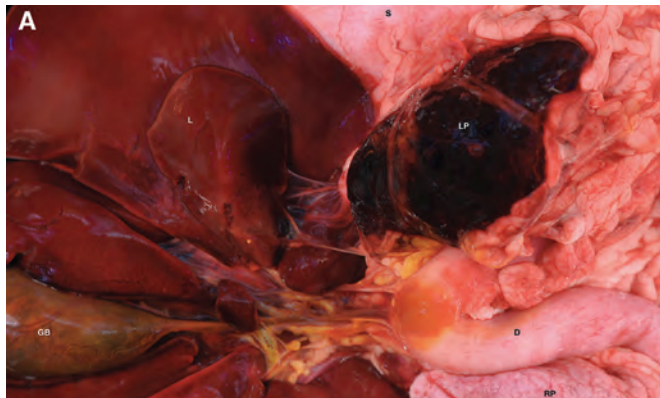
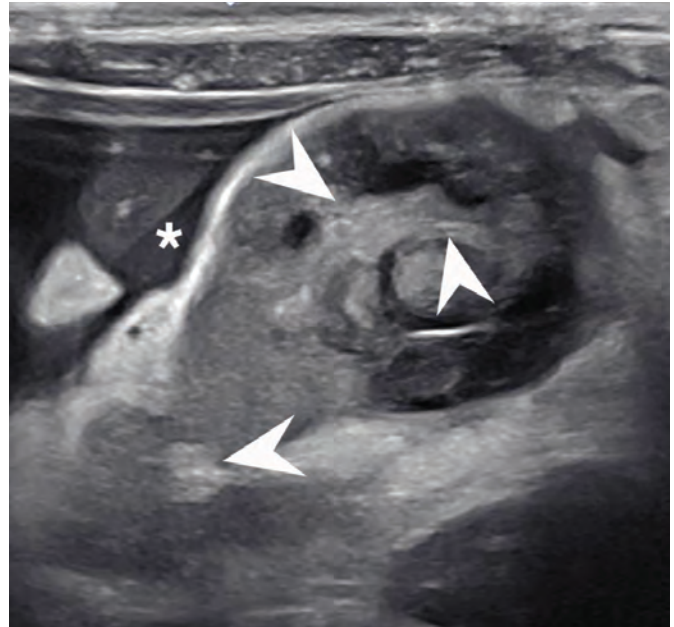
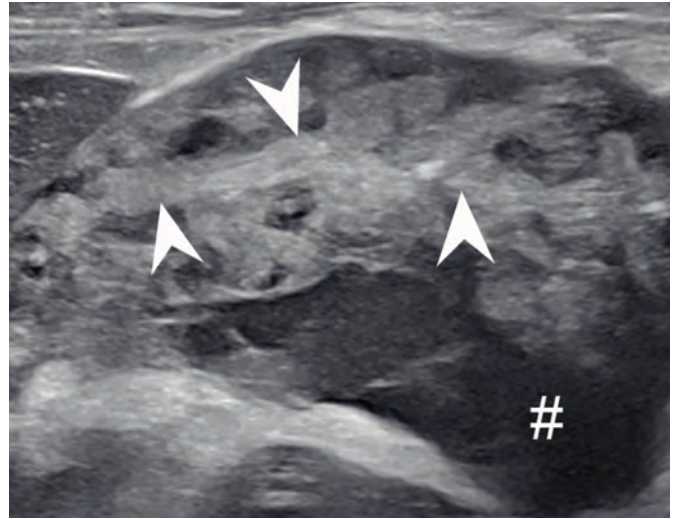
A 7 yr old female spayed domestic shorthair was evaluated for suspected lily ingestion and acute vomiting. The cat had vomited suspected lily plant material before presentation, and a nasogastric tube (NGT) was placed to continue to administer activated charcoal. The NGT was passed with sedation and limited restraint. To confirm placement, a single lateral radiograph was taken, which showed that the tube was in the trachea, bronchus, through the pulmonary parenchyma, and extending into the region of the craniodorsal retroperitoneal space. The tube was subsequently removed, resulting in a tension pneumothorax. Bilateral thoracostomy tubes were placed and attached to continuous suction. The pneumothorax resolved after 2 days, the thoracostomy tubes were removed, and the cat was discharged on day 3 after admission. To the authors' knowledge, this is the first described pneumothorax complication with successful medical management secondary to routine NGT placement in a cat. This case report underscores the importance of preparedness for thoracostomy tube placement before removal of any NGT that has been confirmed to be placed through the pulmonary parenchyma.

CASE REPORTS

Pancreatic Torsion Resulting in Acute Pancreatic Necrosis in a Young Dog

Rajdeep Multani, Eli B. Cohen, Jason Haas, Luke Borst, Mandy Womble, Sarah Musulin

We report a case of a 7 mo old French bulldog who was referred to North Carolina State University Small Animal Emergency and Triage Services because of acute abdomen, regurgitation, lethargy, and fever. The patient had a history of pulmonic stenosis, which was corrected by balloon valvuloplasty 3 wk before presenting for the current complaint. The patient had nonspecific changes noted on blood work at his referring veterinarian. An abdominal ultrasound examination showed pathological changes that were supportive of a left-limb pancreatic torsion that was confirmed postmortem.





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¹ Frantz NZ et al. Novel food with mixed soluble fiber promotes quicker resolution of acute diarrhoea in shelter kittens. *J Anim Physiol Anim Nutr.* 2020; 104:406. ² Frantz NZ et al. Novel food with mixed soluble fiber promotes stool improvements and resolution of acute diarrhoea in shelter puppies. *J Anim Physiol Anim Nutr.* 2020; 104:406. ³ Frantz NZ et al. Novel food with mixed soluble fiber promotes improved stool scores in cats with chronic diarrhea. *J Anim Physiol Anim Nutr.* 2020; 104:406.





A Passion for Serving Others

From Veterinary Medicine to Canine Search and Rescue

by Emily Singler, VMD

PEGGY WILSON HAS WORKED IN VETERINARY MEDICINE FOR MORE THAN 30 YEARS, including 20 years at Breeze Animal Hospital in Panama City Beach, Florida, where she is now the practice manager. Her love of dogs also carries over into her personal life. This has included training therapy dogs for work in hospitals, schools, and hospice care, as well as training dogs to run with her and compete in flyball (see sidebar).

About 15 years ago, she got involved in search and rescue, and it has been a passion of hers ever since.

“It is so great that I can intermingle it with my career,” Wilson said.

She volunteers for search and rescue missions both in conjunction with her local sheriff’s office and independently. Because of her extensive experience in the field, she is now the president of the National Organization of Community Search and Rescue (NOCSAR), where she also serves as an instructor and an evaluator. After having lost her original search and rescue dogs to old age, she is embarking on a new journey with two new search and rescue dogs in training.

Her Previous Dogs

K9 Cali, an American pit bull, was Wilson’s cadaver dog for many years, and she passed away in February of 2023. Cali was certified for human remains recovery work on both land and on the water. Wilson can recall cases where Cali was loaded into a boat on a river to find a loved one who had been involved in a boating accident. (Always showing compassion for the missing person and their family, Wilson prefers to use the term “loved one,” whether the individual is living or deceased and avoids terms like “body.”) When Cali alerted that she had found the scent she was looking for, divers found

the remains right where Cali had indicated they would. Cali also found murder victims who had been buried, and her discoveries have been used in court cases. Apart from cadaver work, Cali was Wilson’s running partner, a therapy dog, and a flyball competitor.

K9 Jack, a golden retriever, spent years going on searches for missing children and adults. He had a special ability to find children with autism. Apart from his search and rescue work, Jack also did therapy work, including visiting veterans in the hospital and at home. He served as Wilson’s running partner on many 5K runs and was a champion at flyball.



Peggy Wilson and Cali

Her New Dogs

Wilson’s two new dogs are rescues, and she met them both on the same day. Because she is so well known for the search and rescue work that she does, her coworkers and others in the community knew that she had recently lost her last working dog. So when Noodle, a one-and-a-half-year-old American Staffordshire terrier, came into her clinic, staff members immediately suggested the two might work well together.

Sherlock, also one-and-a-half, is a Labrador retriever/hound mix who was being trained through a program with the local prison and already had his Canine Good Citizen certificate. Both dogs were looking for their forever homes. At first, Wilson wasn’t sure about adopting new dogs. But it didn’t take her long to decide that she missed doing canine search and rescue work.

Wilson decided to have both dogs come to the hospital on the same day. It would be the first time they would meet each other, and the first time she would meet each of them. If they got along, she told herself, she would take

them both. She couldn't bring herself to take one and not the other. Luckily, they got along famously from the very beginning and are now best friends. It's been five months since the dogs went to live with Wilson, and they are starting to imprint on scent work. She is already seeing elements of their personality and interests that will likely make one of them a good candidate for cadaver work and the other one a good candidate for tracking and trailing.

How She Trains Them

Wilson has a lot of insight into how to best train her dogs for the work that they do. "The most important thing is learning your canine and listening to your canine," she said. "Dogs do speak to those who listen."

When doing search and rescue work, a dog is always trying to tell their handler something. Handlers who are not attuned to their dogs' behavior will likely miss some of their cues. Wilson considers positive reinforcement to be an essential part of her training philosophy. She reports that she's had fantastic results from this training technique and that she will never change it.

"Your dog works hard for you, so you should work hard for them," she explained. This means finding what motivates them, whether it's treats, toys, play, or just human affection and attention.

There is no firm timeline for training a dog for search and rescue work. Some take less than six months, while others take a year and a half or more. It also depends on how much time the handler has to devote to the training.

Once a handler feels their dog is ready, they can seek certification from a number of different organizations, including NOCSAR, National Association for Search and Rescue (NASAR), Federal Emergency Management Agency (FEMA), Search and Rescue Dogs of the United States (SARDUS), State Urban Search and Rescue Alliance (SUSAR), or National Narcotic Detector Dog Association (NNDDA), among others.

"The most important thing is learning your canine and listening to your canine."

PEGGY WILSON



What Is Flyball?

Flyball races match two teams of four dogs each, racing side-by-side over a 51-foot-long course. Each dog must run in relay fashion down the jumps, trigger a flyball box that releases a tennis ball, retrieve the ball, and return over the jumps. The next dog is released to run the course, but they can't cross the start/finish line until the previous dog has returned over all four jumps and reached the start/finish line. The first team to have all four dogs finish the course without error wins the heat.

For more information check out flyball.org.

When deciding which type of work would be best for a particular dog (or if any type of work is appropriate), Wilson tries to see what each dog enjoys and what they want to stay engaged in. She looks at their personality, and the dog tells her what they are happy doing. She wants her working dogs to be excited and engaged the whole time and never feel forced to do anything. Even though search and rescue work is very serious and arduous work, it's all a "big game" for the dogs, Wilson added, so it's important to make sure it's something they enjoy.

As part of their training, dogs and their handlers will decide together on a trained final response (TFR), which is the behavior the dog will use to show that they have found something of interest. Some dogs may sit or lie down, some may bark, some may run to their handler



Noodle



Sherlock

and give a high five. It's important to reward this behavior in the moment, although it may need to be quickly and quietly given the seriousness of the situation. Once the dog is taken away from the scene, Wilson added, it is important to shower them with praise, treats, toys, play, affection, or whatever they prefer and make a "big party" out of it.

Another important part of the training is "blank" training. In this type of training, dogs won't be able to find what they are looking for because it is not there. Handlers use this type of training to make sure dogs won't false alert just to get a reward. It also helps prepare the dog mentally for the disappointment of not always finding something, since they won't always find what they are looking for out in the field.

The Emotional Toll

It is easy to see how working in search and rescue can be very emotionally challenging for both handler and canine. The handler can experience the stress of trying to find a missing loved one quickly, sometimes in difficult conditions. They may personally know the individual they are trying to find or they may have to work under the watchful eye of distraught family members hoping for good news. In some cases, an area search and rescue sadly becomes a cadaver search. In other cases,

the loved one is never found, even after a long and exhaustive search.

As emotionally devastating as these outcomes can be for the handler, Wilson said that "every emotion the human has travels down the lead." That means both the humans and the canines need an outlet for all the feelings they experience. For the canine, this can mean getting away from the scene and having a fun, positive "search" game with an immediate, high-value reward. Their other

reward will be seeing their handler manage their own emotions and stress. This can involve debriefing with the rest of the search and rescue team and with their larger community for support. Both handler and canine also need to take time to unplug and spend time away from their search and rescue responsibilities to avoid burnout.

"Your dog works hard for you, so you should work hard for them."

PEGGY WILSON

How to Get Started

If you want to get involved in search and rescue, Wilson recommends reaching out to your local search and rescue organization. "Search and rescue nationwide is strictly volunteer," Wilson said, and there is always a need for more volunteers. Dogs can start training for search and rescue at any age, as long as they have the drive and interest and you can dedicate the time and energy to help them learn. Not all search and rescue work involves





“When you see that family and you’re the team that found their loved one, that’s when you’re hooked for life.”

PEGGY WILSON

It is clear that Wilson feels great compassion for both the dogs she trains and the humans she works to help. Her dedication to serving families in their hour of need, treating dogs with respect and understanding, and sharing her knowledge and experience with her community is truly inspiring.

She gives all the credit to the dogs she works with for their loyalty and devotion.

“All they want to do is work hard for you,” she said. “They don’t get as long on this earth as they deserve.” ❄

canine work, so you can still participate without having to train a dog to do it with you.

You do need to be prepared for difficult conditions (working in the middle of the night, long hours, hot weather, cold weather, swampy conditions, etc.), and you need to be willing to go on a moment’s notice. While it’s not an easy job, Wilson said the rewards can be great. “When you see that family and you’re the team that found their loved one, that’s when you’re hooked for life,” Wilson explained. Even if their loved one is deceased, giving the family closure is priceless.

Veterinary professionals have a lot of advantages in participating in canine work of this type. With their expert knowledge of canine health and behavior, they understand the importance of positive reinforcement and of observing dogs’ body language closely. Veterinary employers may be more understanding of the need to leave on short notice to assist in canine search and rescue efforts, and that has been Wilson’s experience. Those who have participated in other activities involving working dogs, such as canine therapy work, can transfer a lot of what they have learned to search and rescue work.

How to Help

As veterinary professionals, we can contribute to work like Wilson’s. By leveraging our expertise to promote positive training techniques and protect the health of search and rescue dogs in our communities, we can be a part of this important work. We can also help support our employees and colleagues who do participate in search and rescue efforts so that when duty calls, they feel empowered to drop what they are doing and go.

Get started with the *2021 AAHA Working, Assistance and Therapy Dog Guidelines* at aaha.org/workingdog.



Emily Singler, VMD, currently works as a veterinary writer, consultant, and mentor and enjoys writing for both pet owners and veterinary professionals. Her writing interests include public health, preventive medicine, the human–animal bond, and life as a working mom. She is the author of *Pregnancy and Postpartum Considerations for the Veterinary Team*. Find her at emilysinglervmd.com.

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All the Way Up

Upper Arlington Veterinary Hospital Wins 2023
AAHA-Accredited Practice of the Year



by Jen Reeder

SOMETIMES MARYLEE DUVALL WISHES HER DOCTORS provided her with the kind of outstanding care that her dogs receive at AAHA-accredited Upper Arlington Veterinary Hospital in Columbus, Ohio.

She and her husband, Chuck, have been loyal clients since early 2009, less than a year after the practice opened. They brought in their two Havanese puppies, Hannah and Haley, and were immediately impressed with the friendly, professional team.

Since then, Duvall has watched the practice grow from a “tiny” facility run by spouses Joanna Parson, DVM, and Adam Parson, DVM, into a team of eight veterinarians and 39 support staff working in a specially designed, state-of-the-art facility.

Many of the staff who welcomed Hannah and Haley are still at the practice. They currently care for Haley’s kidney disease—and helped the dog and family cope with grief after Hannah’s death—and delight in the family’s new dog, Gracie.

“AAHA became our platform to get all our systems in place, evaluate what we were doing and how we were doing things, and have our team evaluated and elevated based on those standards.”

—JOANNA PARSON, DVM

Duvall’s dogs are treated like “rock stars.”

“They make you feel like you are special, and your dogs are special,” Duvall said. “I think it stems from Dr. Joanna and Dr. Adam. They’re warm and caring... I can’t imagine a practice being any better.”

She doesn’t need to: Upper Arlington Veterinary Hospital is the 2023 AAHA-Accredited Practice of the Year.

This achievement is the culmination of a partnership that originated back in 1999, when two veterinary students at The Ohio State University met during a freshman mixer at a chicken wing joint.

“Opposites came together, I guess,” Joanna Parson recalled. “We started to talk, and it grew from there. My goal was to graduate and go back to my family (in New York), and he was going to go back to his hometown (of Mount Vernon, Ohio) to practice for his boss. Then all that culminated in a complete switch around, and here we are.”

A Shared Love

“Here we are” is happily married with three children and an award-winning practice built on AAHA standards. After graduation, Joanna Parson was working as an ER veterinarian at MedVet Columbus when that practice underwent AAHA accreditation, and she witnessed what goes into becoming a top-notch practice.

So when she and her husband opened their own practices—starting with Northstar Animal Care in 2006 and Upper Arlington Veterinary Hospital in 2008—they aspired to excellence.

“Initially all that drive that we had picked up from our previous mentors drove us and gave us that visceral grit to do it,” she said. “Once we started our own practices, it became, ‘How do we intentionally, formally do this?’ So AAHA became our platform to get all our systems in place, evaluate what we were doing and how we were doing things, and have our team evaluated and elevated based on those standards.”

In 2019, the couple merged their practices and constructed a new animal hospital with features that include six exam rooms with natural light thanks to floor-to-ceiling windows; automatic front doors; an elevator; exam tables that fold down to accommodate giant breeds; and a quiet break room for staff.

Adam Parson said they basically gutted an old commercial building to create today’s Upper Arlington Veterinary Hospital.

“It was great to really make it our own and turn it into a dream come true for us,” he said.



Upper Arlington CSRs pose for a social media post in honor of CSR Appreciation Week 2023.

“It’s a beautiful place to work. I’m very blessed to work here.”

—HEATHER GIATIS, DVM

He feels lucky to be in his wife’s presence every day—“She’s definitely my pillar and my rock. She’s strong and works really, really hard”—and is immensely proud of their team.

“I’m proud of the consistent standards we uphold day in and day out, and the communication that we have with each other as a group,” he said.

Every staff meeting ends with a “staff shout out” to recognize someone on the team who went above and beyond with a client, pet, or another staff member. A veterinarian might shout out an assistant or a technician might shout out a CSR, which boosts camaraderie.

“I’m so thankful every day that I work with special people and such talented people who are just nothing but goodness,” Joanna Parson said. “They work their hearts out and they care for each other so much.”

It’s a level of appreciation that’s reciprocated by the team. Medical Director Heather Giatis, DVM, believes the

Parsons are probably “the kindest, most giving, caring people you could ever want” as bosses.

“They are compassionate. They care about their employees as individuals, and they make a lot of accommodations for us as working parents or if you’re helping to care for a family member,” she said. “They’re very accommodating with our schedules and trying to master that work-life balance that we all desire.”

At work, she appreciates that team members can pursue areas of veterinary medicine they find interesting. For instance, Upper Arlington Veterinary Hospital can pursue abdominal ultrasounds to home in on diagnoses and treatment plans and offers minimally invasive laparoscopic surgeries for spays, liver biopsies, and pursuing gastric foreign bodies instead of having to do an open explore, Giatis noted.

“Those have been some really exciting advancements that we’ve been able to add in the past few years,” she said. “Creating those niches of medicine where we can focus on what we love and what we thrive on.”

It extends to the nursing staff, like a technician who thrives on palliative care and guiding clients through end-of-life decisions or employees who enjoy working on international health certificates.

The practice brings in specialists from The Ohio State University and MedVet to share specialty-level CE topics, posts online CE opportunities on the refrigerator in the break room, and invites speakers like drug reps to staff meetings—where the latest AAHA and AAFP guidelines are also discussed.

In fact, “intellectual curiosity” is a core value at Upper Arlington Veterinary Hospital, in addition to respect, integrity, and urgency. So each year, the practice closes on a Saturday and pays for all interested team members to attend the Midwest Veterinary Conference.



Brian Gorby, DVM, (left) poses with Jenna Bonfiglio, DVM, after her first foreign body removal with the practice’s new endoscopic unit.

“The cool thing is that during our following staff meeting, we have a round-table discussion where we go around individually and highlight a few things that we learned,” Giatis said. “Last year, behavior was a really exciting topic for the staff, and we were able to implement change based off of that continuing education.”

Ultimately, “It’s a beautiful place to work. I’m very blessed to work here,” she said.

Upper Arlington Veterinary Hospital is such a beautiful place to work that it doesn’t face the staffing issues currently plaguing the industry, according to Practice Manager Mandi Cooper, SHRM-CP, who has worked at the practice for 16 years.

“I am just really proud to say—and I knock on wood as I say this—that we are not short-staffed,” she said. “I think that does speak volumes to the culture.”

Team-building exercises also contribute to the culture. Activities range from goat yoga and eighties-themed pickleball outings to a staff volleyball team and an annual campout that welcomes the team’s children, significant others, and dogs.

“‘Intellectual curiosity’ is a core value at Upper Arlington Veterinary Hospital.”

“We get to see people outside of work, and then you get to know their spouses and their kids,” she said. “Because we do have such longevity on our staff, we’ve seen most of these kids go from second grade to college... We have literally all grown up together.”

The connectedness of the team paid off during the onset of the coronavirus pandemic. When Franklin County reached the highest level of transmission, the practice leadership decided to briefly close to protect the staff and quickly develop curbside protocols.



Group photo from a goat yoga team-building activity.

“It was clunky maybe for about 45 minutes, but then after that it was like, ‘Oh, this is how we’ve been running all along,’” Cooper recalled. “To watch your team just do a complete 360 to operate a business differently was just really amazing to watch.”

Supporting Staff and Community

Because the culture values family and wellness, Upper Arlington Veterinary Hospital funds an employee assistance program (EAP) hotline to help the staff—or anyone in their household, including children as old as 25, even if they’re away at college—speak to licensed therapist about anything on their minds. (As Adam Parson noted, “wellness” isn’t just a buzzword for AAHA or for his practice.)

“They’re always welcome to come to me, but having a licensed professional at your fingertips 24 hours a day, 365 days a year is really beneficial for them,” Cooper said. “It’s completely anonymous.”

That care for people extends not just to the staff and clients, but the community at large.

“I always tell my kids, ‘Try to help somebody today. Do something nice for somebody today,’” Adam Parson said.

To that end, the Parsons volunteer at vaccine clinics for the nonprofit Columbus Dog Connection, and the practice hosts fundraisers to support the rescue organization. Staff members get a paid day off to volunteer at the charity of their choice. When the practice upgraded its computer system a few years ago, the team donated equipment still in working order to low-income families and seniors in need.



“As Adam Parson noted, ‘wellness’ isn’t just a buzzword for AAHA or for his practice.”

Employees feel comfortable suggesting causes to support, according to Giatis. After her sister, Jessica Pettiti, saved the life of a stranger by giving him CPR when he suffered cardiac arrest in a Costco, Giatis asked the Parsons if the team could receive CPR training from the American Red Cross.

“It was like, ‘Yes, absolutely.’ No questions asked,” she recalled. “Not only are we employed here, but we go out into the world every day, and if our training can help us in our greater community, we want to be able to do that.”

The Parsons sponsored CPR/AED and basic first aid training for employees this past spring and ordered an AED device in case an emergency happens onsite.

The team has also supported lifesaving efforts by hosting a blood drive inspired by a local child named Brady, who needed multiple blood transfusions during cancer treatments. When an infant named Noah with a rare genetic disorder needed a bone marrow transplant, a dozen employees underwent training to host a Be the Match event, which garnered 39 potential donors.

“Baby Noah did find a bone marrow match,” Giatis said. “He was here in our building last year, and it brought so many of us to tears seeing him thriving and doing well.”

Giatis said the team gets to know clients fairly intimately, so when they learn about a client’s passion project, often “those become our passion projects, too.”

That proved true for Teri Morin, who’s been a client at Upper Arlington Veterinary Hospital since 2014. She and her family had just moved to Ohio from Kentucky, where her cat, Sushi, had recently had surgery for kidney stones.

When Sushi needed her stitches removed, positive online reviews led Morin to Upper Arlington Veterinary Hospital. Even though Sushi hadn’t been seen there before, the team welcomed her in and removed the stitches—and didn’t charge the new resident a cent.

“They said, ‘You don’t owe us anything for that,’” Morin recalled. “I was like, ‘I have found a new vet.’”

Over the years the team has cared for Morin’s numerous cats and dogs—plus her children’s hamster—while she became heavily involved volunteering with a local cat rescue’s trap-neuter-release (TNR) efforts. The busy team at Upper Arlington Veterinary Hospital takes time to offer free spay/neuter surgeries, vaccinations, and other care to feral cats Morin humanely traps—over 50 so far.

“Last summer I took in six cats a week from a big colony,” she said. “[Upper Arlington] gives me a safe haven for the cats... They always follow up with a call the next day to make sure everything’s okay. My feral cats are treated no differently than the paying clients.”

She’s worked with each of the veterinarians—all eight are graduates of The Ohio State University, incidentally—and is deeply impressed with not only the level of care they provide, but their genuine compassion.

“We have such a nice relationship,” she said. “The whole staff is just wonderful.”

Visit Upper Arlington Veterinary Hospital online at uavethospital.com. ✨



Award-winning journalist Jen Reeder is former president of the Dog Writers Association of America.

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Making It Stick

How to Improve Client Information Retention

by Stacey Santi, DVM

Within 1 hour, a person will forget 50% of what they were just told.

Within 24 hours, they will have forgotten 70%. Within a week, they will have forgotten 90%.
Houston, we have a problem.

I can't begin to tell you how many times I have told a client something and they either (1) claim I never told them, or (2) totally screw it up. Sometimes, I have to repeat everything to the spouse (my personal favorite!). When I was a newer vet, I wondered why they weren't understanding what I was telling them. But now I realize there are many things that affect a person's ability to retain information, and if we know what they are, we can set ourselves up for success.

Personally, I consider myself a good listener, and I would say those stats don't apply to me. But then this happened: I am currently learning Spanish. My goal is to become fluent in one year. In addition to the Babbel app and a workbook I bought on Amazon, I listen to stories on Spanish podcasts. One thing that I realized is that if I get hung up on a word or sentence, my brain freezes and tries to figure it out. While it is "stuck" the story keeps going and I get further and further behind until I have to stop and rewind. I wonder if this is what it is like for clients when we give them information and instructions?



If you really want something to stick, tell a story about it. Use a fellow patient that struggled with the same situation or even something you heard about.



| The more stressed the listener is, the less likely they are to understand what you are saying.

But First, Neuroscience

Most people speak at 125–150 words per minute. For reference, an auctioneer speaks at about 200 words per minute. People can listen at about 400 words per minute, which means they easily get bored and distracted when they are supposed to be listening. They start thinking of other things or what they might say next and stop listening.

Now when it comes to the presenter (you, the clinician), most people think at 900 words per minute. But, if you are only able to speak at 125 words per minute, that means the first words to come out of your mouth have about an 11% chance of being what you mean to say. You've probably heard the phrase "Let's talk through this." That is because as you get going with your story or information, you start getting to the good part. Because our brains work this way, the best outcomes for our listener are driven by preparation of the speaker. Think of it as a movie

you are about to show; the edited version is always best. Don't let your dismissal be the four-hour version of *Avatar*.

Since we have two sides of the conversation, each responsible for their part, let's look at strategies to optimize our listener, then our speaker.

Setting the Listener Up for Success

1. Decrease their stress

The more stressed the listener is, the less likely they are to understand what you are saying. Stress causes a number of challenges for the listener, such as distracted thinking. This can escalate to worst-case scenarios: overthinking, tongue stumbling (unable to form words), light-headedness, trouble thinking, and even a loss of touch with reality.

If your client is experiencing high levels of stress, then you need to delay communication until their stress

level lowers. For example, you just told the client their dog has a large splenic tumor that is life-threatening. They start sobbing. This is not the time to discuss options. This is the time to provide support, even step out of the room if necessary, and allow them to calm down.

It's easier said than done though, because they may start asking you lots of questions that they aren't ready to handle. They will come largely in the form of, "Is he going to die?" or, "How much is this going to cost?" Recognize these are loaded questions and not questions you should actually answer at that moment. While the emotions are running high, you need to respond with comforting answers like, "We will do everything to prevent him from dying" or, "We have some decisions to make, and I will be helping you." Whatever you do, do not give a quote at this moment. Realize they are emoting and you need to give them time to calm down.



Here are few other things you can do to lower their stress:

1. Offer them a glass of water
2. Ask if you can phone anyone for them so they can join for support
3. Give them a hug (if appropriate)
4. Let them see their pet if possible
5. Give them a quiet space to cry (and make sure they have tissues)

Eventually all crying stops, and when it does, and you see they are breathing slower and talking better, you can start presenting the information. Believe me, if you cut this corner, you will be entering no-man's land.

Now, there is one exception to this rule, and that is when you have a critical time-sensitive situation, like a GDV, where you need an answer ASAP. I find that most people can pull it together in five to 10 minutes, but

every now and then you will have a person who is just a wreck and can't seem to listen. In these situations, I recommend using the emergency phrase "I need you to stop crying so we can make a decision now." I've only had to say this a handful of times in my 20-year career, but when necessary, it works like a charm.

2. Invite them to record the conversation

The Voice Memo app is an amazingly helpful tool when you want to capture a conversation. My parents use this at the doctor's office so we can listen to it together again. That way when I ask Mom, "What is the exact medication they are injecting into your eyeball?" I can get the information versus, "I'm not sure, sweetie." Remind them this will be a great way to review the information later or share with their significant other in case they forget. (Heads-up—most people, such as

moi, consider themselves excellent listeners, but in reality, we all pretty much suck.)

3. Ask them to put their phone in silent mode

Getting a text message *ding* in the middle of an important conversation is like shocking a dog with a shock collar. It immediately disengages the listener. It is unavoidable.

Do remember after the conversation is over to remind the client to turn their sound back on. They will appreciate it!

4. Ask them about their schedule and how much time they have

You may have 10–15 minutes of information to review and discuss with the client, but if they need to leave in five minutes to pick up the kids, chances are high they aren't going to be listening well. Ask the client, "How

much time do we have together?” so you can tailor your presentation. If it’s five minutes, then plan to reschedule another time when they can come in for 15 minutes. This can also be a great use of telemedicine (phone or Zoom) where you can schedule a virtual appointment to go over the information.

5. Get them a glass of water and possibly a snack if they are hungry

Ever heard the saying, “My brain hurts,” after trying to comprehend information? That is the sign of a dehydrated brain. The brain is only 5% of your body mass, but it consumes 26% of blood sugars. The best way to get the most out of your brain is to keep it hydrated. And we all know how being hangry can affect listening. These are small steps that show the client you care about them and, more importantly, set them up for the best chances possible of comprehending the information you are about to deliver.

Setting the Speaker up for Success

1. Make a conversation plan

You can wing it, but do understand your chances of nailing it without being prepared are slim. Instead, create an arsenal of “conversation plans” for common topics so you won’t need to reinvent the wheel each time. Make sure you have a game plan for how to communicate information to clients, then train your technicians and nurses on the communication plans.

Our goal is to provide a balance between giving too little and too much information. We are shooting for Goldilocks here—just the right amount of information. Typically, this means three to five points for most people.

Decide what your top points are and spend your time talking about those. You can use your handouts for the smaller points.

For example, we have to go over instructions for diabetes. I am going to hit these five things:

1. How to store and rock the insulin bottle
2. How to draw up the insulin
3. How to administer the insulin
4. How to give the insulin on a regular schedule, and how to handle it if you miss a dose
5. The signs for too much insulin and what to do if it happens

That’s it. Yes, there are about 20 more things I need the owner to know, but blurting it all out on the first visit is going to result in (1) dilution of my top five, and (2) a waste of my time because they aren’t going to

remember it anyway. Instead, I will rely on my handout to deliver the additional points, which I will circle in a red pen. And I will rely on my follow-up with the owner in 24–48 hours to continue the conversation. Again, another great way to use telemedicine.

2. Speak clearly and confidently; pause frequently; and ask open-ended questions

Words matter. You want to try to speak on the same level as your client. Most people don’t understand technical words, and when you use them, their brain stops right there as they try to figure it out (much like my Spanish lesson).

Consider explaining a diabetes diagnosis. If you say something like: “The blood glucose in the CBC/Chem panel is 500. This means your dog



has diabetes mellitus,” the listener might have potential brain freeze points at words like: “glucose,” “CBC/Chem,” “500” (or any number out of context), “mellitus.”

Instead, say it like this: “The normal blood sugar level for a dog is 70–120. Your dog is at 500. That is very high, which means there is too much sugar circulating in his system. The technical name for this is diabetes mellitus, but you may have heard it by the name of diabetes, or even sugar diabetes.” Then, pause before asking an open-ended question: “What do you know about diabetes?” The answer could vary from “nothing” to “my daughter has diabetes.” Knowing this information will help you tailor your next talking points.

Asking frequent open-ended questions also helps keep your

listener engaged. If people think they are going to be quizzed or asked to give their opinion, they pay more attention. Use this to your advantage.

Drink water yourself. This does two things: (1) It forces you to pause and take a breath, which lets the listener’s brain catch up, and (2) it helps you stay hydrated for optimal performance. Win-win.

3. Avoid going on tangents

Creating and delivering a structured conversation is imperative for our listener, but they can’t help themselves from asking questions that will totally derail you. It might come in the form of this, “Oh no, diabetes? Will he have to eat special food? He only likes chicken.” When this happens, do this: Take a note so you can discuss it later. I usually say, “Great question, let me take a note, and we will cover this later. But don’t

worry, we will figure out something that works.” Or they might really derail you by saying, “Before we get started, can I ask you a quick question about my mom’s cat?” Same strategy, “Let’s take a note there, and we can review before you leave.”

If you find yourself going on tangents, pay attention to when that happens and work to keep the train on the track. It’s so easy to get derailed that we often don’t notice it. This is why I love having a conversation plan so I will know where the train track is going.

4. Minimize sound and visual distractions

When I was in practice, I had a video monitor in each exam room that would play a slideshow of pet selfies that our clients had sent in through our mobile app. I would find myself in a serious conversation about some dreadful disease, when



About 30% of people are auditory learners, while the rest do better with visual tools. |

suddenly the client would scream out, “There’s my dog!” I had to adapt by temporarily turning off the TV during “conversation time.” It is also important to not have distractions nearby, such as loud talkers, barking, music, or anything else that could interfere with your client’s ability to focus on the information.

5. Provide visual aids

About 30% of people are auditory learners, while the rest do better with visual tools. So, it is important to have visual aids. That may be a drawing, listing out the five key points in your own handwriting on a piece of paper, a photo, or a model. Generally, it is best if the listener can take the visual aids home with them. If you have handouts, use those during the conversation.

A great idea is to use a red pen to check off the topics you have discussed right in front of the client. I generally say it like this, “Let’s see if I forgot anything. We talked about the storage and rocking of the insulin (check), we talked about how to draw it up (check), we talked about how to give it (check), we talked about what to do if you miss a dose (check), and we talked about signs to watch for if they have too much insulin in their system (check).” That helps reinforce the information. I’m not sure who said it first, but three is the magic number. Anytime I watch a commercial or listen to a radio ad, the most important part they say three times. Try to do that.

6. Prescribe information to Google

Let’s be honest. The first thing the client is going to do when they get home is google everything you just told them (or the parts they can



remember). So why not include yourself in that part of the learning journey? If you have favorite websites with information, write them down and “prescribe it” much like an Rx. Also, own the fact that they are going to Google and ask to be included if they come across any information you haven’t discussed. Ask them to keep notes for discussion at the follow-up visit.

7. Tell stories

If you really want something to stick, tell a story about it. Use a fellow patient who struggled with the same situation or even something you heard about. For example, for my newly diagnosed diabetic, I would tell this story: “I want to tell you about Sheba. She is one of my cat patients and came down with diabetes when she was 10 years old. Her owner, Greta, was super scared of needles and traveled a lot so she was worried she wouldn’t be able to handle this.

Sheba is 14 years old now, and she is doing great, but more importantly, Greta is a pro! I’ll give you her number in case you want to reach out for extra support.” (I always had volunteers organized and ready to support other clients for complicated diagnoses.)

By telling a story like this, you are able to inspire our owner that they will be able to do this too, and there is a good chance everything will work out fine.

Hopefully by implementing some or all of these strategies, your clients (and maybe even your kids!) will be better listeners and you will become the master of information delivery. ✨



Stacey Santi, DVM, is a 1996 DVM graduate from Colorado State University and the founder of Vet2Pet, a technology client engagement platform for veterinary practices.

Teamwork and Disease Management

Getting Comfortable with Delegation

by Roxanne Hawn

Veterinary teamwork improves patient care, client support, and job satisfaction and growth. When each team member works to their strengths and everyone—including clients—values each role, disease management cases and clinical days themselves flow better.

Full utilization as described in *2023 AAHA Veterinary Technician Utilization Guidelines* requires full support for each role.

A client once refused to give Ann Wortinger, BIS, LVT, VTS (Emergency/Critical Care) (Small Animal Internal Medicine) (Nutrition), Elite FFCP, a patient's medical history. The veterinarian at the practice overheard the exchange, stepped into the exam room, and offered this choice: "You can give the history to my technician, or you can leave." Wortinger chuckled, "I came back into the room, and I got my history."

Some veterinary practices already implement team roles well. Jenny Fisher, RVT, VTS (Oncology), asked, "Should it be that way everywhere? Absolutely."

Fisher explained that when technicians provide additional expertise and access to clients during the management of chronic diseases, it frees veterinarians' time for diagnosing, prescribing, developing treatment plans, and performing surgery. It also gives practitioners time to think about cases and to collaborate with other veterinarians.



Communication strategies among the team can include quick verbal rounds throughout the day, alerts about incoming patients or cases taking a turn at home, and detailed electronic records notes so that everyone knows what's been said and done.

“I think my job as a technician is to make the doctor’s job easier, so delegation is a very big part of that,” Wortinger agreed.

That’s true too for veterinary assistants’ role in supporting veterinary technicians, client services professionals, and veterinary clients. Wortinger described intentionally stepping back to allow others to do important work and develop key skills. She added, “I think that way, nobody is trying to carry the entire load by themselves. It’s not ‘I’m the only one that can do that.’ Everybody wants to be the absolute best at something. That does not mean you’re the only one who can do that.”

More Than Tasks

Job descriptions certainly provide clarity. Consider as well, though, the emotional value of each team member’s place in veterinary experiences.

Customer Care/Client Service. That initial voice means everything to pet lovers seeking routine care or help for something worrisome. They provide:

- **Recognition:** Knowing people and pets builds connections and loyalty.
- **Information:** Providing details and connecting clients with accurate answers creates trust.
- **Enthusiasm:** Offering encouragement and support in good times and tough times makes people feel seen and important.
- **Gratitude:** Even in transactional tasks such as handling payments and paperwork, customer care folks have opportunities to express gratitude and even praise for clients’ pet care efforts.

- **Mitigation:** As often the recipients of the brunt of client frustrations, they also provide frontline de-escalation.

Veterinary Technicians. Technicians provide behind-the-scenes patient care, other technical tasks, and traffic-cop-like roles of overseeing drop offs and discharges. Yet, those contacts with clients in person and otherwise serve equally important purposes. “It’s truly almost 50/50, which is a weird split, because you feel like you do so much more in your clinical time,” Fisher said. “But when I step back and think about it, if I were to split my clinical day into hours, into time, and what time I spent answering questions, answering emails, responding to calls, things like that, it is a significant amount of time.”

On top of duties during surgeries, diagnostics, and procedures, including anesthesia administration

and patient monitoring, consider the efficiencies and feelings created by these roles:

- **Point person:** Serving as the primary contact for client questions and case follow-up and coordination keeps patients on track and leverages technicians’ clinical knowledge.
- **Buffer:** Whether it’s bedside manner or mismatched communication styles, technicians often step into the gap between clients and practitioners to answer questions and provide support when clients feel intimidated or overwhelmed by veterinarians.
- **Coaching:** Often clients need coaching and problem-solving with meds administration strategies or other at-home care needs.
- **Perspective:** Sometimes technicians also offer keen perspectives to worried clients. Particularly with seizure



“I think my job as a technician is to make the doctor’s job easier, so delegation is a very big part of that.”

—ANN WORTINGER, BIS, LVT, VTS (EMERGENCY/ CRITICAL CARE) (SMALL ANIMAL INTERNAL MEDICINE) (NUTRITION), ELITE FFCC

cases, Christine Kramer, CVT, VTS (Neurology) finds herself explaining avenues for combining medications or setting realistic expectations about seizure occurrences.

Veterinary Assistants. Veterinary assistants keep the action moving since so much clinical work requires an extra set of hands or help with these tasks:

- Patient movement within the facility
- Client and other phone calls
- Pharmacy and food orders
- Record keeping
- Diagnostic help, including some specially trained to run things like MRI machines

Example 1

Kramer took on the lead neurology technician role for a small, one-doctor service at a specialty practice in Pennsylvania after the passing of another longtime neurology technician. Kramer said of her mentor, “She didn’t

know anything when she started, but she took the initiative. She knew so much she trained me. . . . She passed away in January [2022]. So, yeah, at that point, that was when I really had to step up and be like, ‘Okay, I’m in charge now.’ And it was really hard.”

Kramer starts her 10-hour days by going through all the emails to see if anything needs immediate attention. “Because our phone lines get backed up and people will be on hold for like 45 minutes, we do everything through email,” she said. “I have our neuro email open all day, at my computer, so when something comes in, I see that right away.”

Often this includes setting appointments or approving drop-off appointments on tight days for patients needing urgent assessments. Kramer then divides the day’s appointments between the technicians and assistant for taking histories and bringing patients to the back for full neuro exams by the practitioner.

After those exams, the veterinary neurologist goes into the exam room to discuss the case with clients.

While he’s in the exam room, Kramer and the others start other appointments, handle client communications, work on meds refills, take care of hospitalized patients, connect with the ICU team about shared cases, and potentially prep other patients for diagnostics or surgery. They sometimes complete four MRIs in a single day, with some of those cases going directly to surgery.

The neurology technicians also see many post-op appointments and routine recheck appointments for long-term cases of inflammatory issues and seizures.

Example 2

Fisher pointed out that cases of lymphoma can stretch out over a couple of years for dogs and even longer for cats. “A lot of us in cancer medicine are really trying to change the perception of how we treat these patients,” Fisher said. “Because there are so many of our cancers that we treat long term now... these patients can be managed chronically like a diabetes patient, like a pancreatitis patient, just the same. These patients are at the hospital even more, especially if they’re undergoing therapy.”

She feels like technicians help people pick up the pieces after getting a tough diagnosis. “I think a lot of times, they’re also intimidated not to ask that question to the doctor, but a technician comes in, and they may feel more comfortable to ask more questions,” Fisher said. “Many times, throughout my clinical career, pet





Clients often struggle with preconceived notions about certain diseases such as diabetes or cancer from their experiences with the same diseases. This creates opportunities to educate clients about similarities and differences in companion animals.

parents might be on the fence about pursuing treatment or not pursuing treatment. After spending time with some of the technical staff, they certainly tend to be more swayed into pursuing treatment.”

Like Kramer’s example, oncology technicians often serve as the primary contact for clients when pets are onsite or at home, including answering questions, escalating cases that need urgent practitioner assessment, and coordinating in-treatment days along with administering chemotherapy.

Example 3

Wortinger took as much off doctors’ plates as possible, including many recheck appointments and most discharges. “If it was something that didn’t require the doctor, then I would

do the recheck,” she explained. “If something flagged with me, it wasn’t progressing the way it should, it didn’t look the way it should, or the owner is reporting side effects we weren’t used to seeing, then I would go get the doctor. He always knew what I was doing, so he was available if something turned up.”

Clients simply got used to Wortinger being their point person. The team even maintained SOPs for when and how to adjust medications so that Wortinger could alert the practitioner and promptly handle those situations for patients.

She also saved the veterinarians’ time by attending hospital rounds and giving quick updates and preparing each hospitalized patient’s flow sheet.

“Every once in a while when we would need to get blood or do radiographs, clients would say, ‘Well, are you going to do it?’ speaking to the doctor,” Wortinger recalled. “He’d say, ‘Well, not if you’re lucky. She’s much better at it.’ He was a very good advocate for technicians. He was an excellent doctor, but he was a really poor technician.”

Client Communication

Clients often struggle with preconceived notions about certain diseases such as diabetes or cancer from their experiences with the same diseases. This creates opportunities to educate clients about similarities and differences in companion animals.

Remember that people often feel shocked and overwhelmed, which lowers comprehension and communication skills, so be ready to repeat conversations, provide additional resources, and find new ways to explain common things.

Be careful as well with the level of detail provided in less direct communication options such as voicemail. “That’s exactly why I teach what I teach about grief communication,” Fisher said. “This was many, many years ago, but one of the oncology residents left a message for a pet parent about diagnosis of lymphoma in their dog. That pet parent listened to it driving down the road, was hysterical, and got into a car wreck. Survived, thank goodness.”

Taking on the primary contact role means technicians often receive the brunt of strong emotions from clients. Fisher recognizes technicians’ talent for balancing conversations where



people rightly feel upset about recent news or even the complicated nature of long-term treatment and case management, especially if/when any glitches happen.

Team Communication

Since only veterinarians can provide diagnoses, prognoses, prescriptions, and surgery, that leaves many clinical tasks plus client care and handling roles open to others. Think of practitioners focusing on the big picture and making the big decisions and recommendations plus doing high-level procedures. They also tend to deliver not-great news at the point of diagnoses or following surgeries. They likely spend more time with clients and patients earlier in the process.

As time goes on, though, then veterinary technicians and others can lighten the load with the flow of daily appointments and client communications. Sometimes that means being the voice of

quality-of-life issues or the first one to hear when patients start decompensating in long-term cases.

Communication strategies among the team can include quick verbal rounds throughout the day, alerts about incoming patients or cases taking a turn at home, and detailed electronic records notes so that everyone knows what's been said and done.

When team members speak up about taking on bigger roles, Wortinger suggested saying, "Would you like to delegate that task to me? I can do that task if you would like." She admitted, however, to it often coming out as "Here, give me that," when talking to the veterinarian with whom she worked a long time. Over time, she got more assertive "taking away" recheck appointments, discharges, updates for clients, and so on.

Kramer even said that it's a bit like being a veterinary resident or intern, except without the diagnosing, surgery, and such.

Focused Roles and Outcomes

Ultimately, Wortinger describes veterinary team roles as freeing up time and mental space so that veterinarians can focus on complicated cases without the pressure to do everything themselves.

While Kramer's turning point came upon the death of a beloved colleague, she describes the arc of careers for veterinary professionals as needing to bat away imposter syndrome and learning from others how to play a bigger role.

"The beneficiaries of full utilization are the patients. Period," said Fisher.

"At the end of the day, utilizing every staff member to their fullest potential improves everything for the patients. That should be the only reason any of us do anything." ✧

Diabetes Resources

As one of the most common chronic pet diseases, diabetes mellitus is something that owners and support staff should know about. See the two sidebars, "Helping Clients Get a Grip on Diabetes," and "Does Your Pet Have Diabetes?" after this article for some great handouts on diabetes—one for technicians and one for clients. These resources were produced with the generous support of Boehringer Ingelheim Animal Health and are available for download from the AAHA website at aaha.org/aaha-guidelines/diabetes-management/resource-center/new-top-tips-for-techs-and-pet-owner-resource.

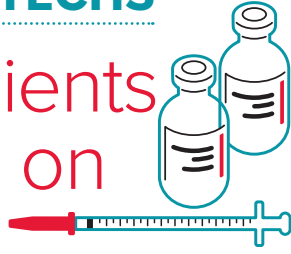
Roxanne Hawn brings over 25 years of experience writing about veterinary topics for professionals and consumers. She maintains an award-winning website called *Champion of My Heart* and is the



author of *Heart Dog: Surviving the Loss of Your Canine Soul Mate*. Based in the Colorado Rocky Mountains, Roxanne fosters litters of puppies until old enough for adoption as well as hit-by-car dogs needing time to heal and rehab injuries.

TOP TIPS FOR TECHS

Helping Clients Get a Grip on Diabetes



Diabetes mellitus is a common disease in both dogs and cats, but it can place a heavy burden on pet owners. Veterinary technicians should be aware of the commitment it takes to manage this disease in order to empathetically guide owners on how to care for their diabetic pet at home. The first stages of diagnosis and management, in particular, can be overwhelming for clients.

Here are some top tips for how you, as a technician, can be a valuable resource for your patients and their families during those first few weeks:

1 Be knowledgeable on the condition.

Every pet is unique, so diabetes for one patient may look a little different than it does for another one. Knowing the basics of diabetes is the first step.

Diabetes mellitus is a condition where the body cannot convert glucose into energy due to issues producing or regulating the hormone insulin.

In a clinically normal patient, blood glucose (BG) should be approximately: Dogs: 60-120mg/dL | Cats: 70-150mg/dL

When a patient has diabetes, glucose cannot be taken into cells to convert to energy, so it remains in the bloodstream, causing the BG to be elevated (hyperglycemia). Once the BG concentration reaches approximately 200 mg/dL in dogs or 250-300 mg/dL in cats, glucose will spill over into the urine (glucosuria).

THERE ARE TWO TYPES OF DIABETES MELLITUS

Insulin-dependent: These patients cannot produce their own insulin, so they require insulin therapy for life. Diabetic dogs are typically insulin-dependent, similar to type 1 diabetes in humans.

Insulin-resistant: These patients can produce insulin, but it does not have the desired effect. They usually require insulin at the start of therapy, but sometimes can go into remission and be managed with an appropriate diet. Most diabetic cats have insulin resistance, similar to humans with type 2 diabetes.

2 Know the clinical signs.

Most patients present with a combination of:

- Polyuria (PU, increased urination) and polydipsia (PD, increased thirst)
- Weight loss
- Polyphagia (increased appetite)
- Dehydration
- Sudden cataract formation in dogs
- Plantigrade posture in cats (walking on their hocks)

The most common signs of diabetes in dogs and cats are increased thirst and urination.

Diabetic pets may also show lethargy, weakness, vomiting, or anorexia. (These may be signs of diabetic ketoacidosis—see section 6!)

3 Know how diabetes is diagnosed.

Technicians take a big part in performing diagnostics. Knowing what tests are available and what each one is looking for allows you to understand what the doctor recommends—and helps you answer questions from anxious clients as they try to absorb information about their pet's illness.

Diagnostics:

- Clinical signs, physical exam, and thorough history
- Glucometer reading to check blood glucose level—**note that BG can be high in non-diabetic patients—especially cats—due to the stress of the vet visit**
- Urine dipstick to look for glucosuria—**note that even stress-induced elevated BG can lead to glucose in the urine**
- Serum chemistry to rule out other concurrent diseases
- Serum fructosamine—this reflects what the patient's BG has been over a period of weeks, so it can help rule out stress hyperglycemia

Diabetes mellitus is diagnosed based on clinical signs combined with persistently high blood glucose and persistent glucose in the urine.

4 Know treatment options.

Both types of diabetes will require insulin therapy at the beginning of treatment, but some patients with type 2 diabetes will go into remission and be managed with dietary restrictions alone.

Treatment:

- Know the types of insulin your practice recommends and how they're different.
- Some patients will require twice-daily (BID) insulin while others may do well on once-daily administration. Nearly all patients will need to start with BID insulin.
- Oral drugs do exist to help lower blood sugar, but they are not especially effective in companion animals and are not recommended for most patients.
- There are a variety of prescription diets made for diabetic cats and dogs, but not all patients will require or do best on a prescription diet. Diet recommendations will be determined by the veterinarian for each patient.

5 Know how to use insulin.

Patients will need to be given an injection either once or twice a day.

Insulin storage and handling:

- Insulin is stored in the refrigerator
 - Most types of insulin must be rolled gently between your hands rather than shaken (this will help thoroughly mix the bottle contents without damaging the insulin), but some brands do need to be shaken. Read the bottle directions carefully.
 - Use only the appropriate syringe. Insulin is administered with an insulin syringe only (measured in units, not milliliters). Each bottle of insulin will be labeled for a specific type of insulin syringe.
- To avoid over- or under-dosing, it's essential to check the bottle (and teach clients to check it as well) to be sure you've matched the right syringe to the right insulin.

Insulin administration:*

- Insulin can be given subcutaneously (SC) or intravenously (IV—in clinic only).
- SC administration will be used in most cases, such as hospitalized but non-critical patients and for at-home administration by owners. Insulin should only be given IV at the direction of a veterinarian for inpatient care of more critical cases.
- Showing pet owners how to handle and administer insulin is an important part of helping pet owners navigate the early days of a diabetes diagnosis. They are likely feeling overwhelmed, so be patient and give them a way to practice (such as using saline and an orange or a stuffed animal) before they try giving insulin to their pet.

***Never administer insulin if the patient has not eaten, unless directed by a veterinarian.**

6 Know what's an emergency.

Diabetic ketoacidosis (DKA) is a medical emergency!

This develops when a substance called ketone bodies build up during uncontrolled diabetes. The body starts breaking down fat for energy, resulting in a buildup of acidic ketones in the blood.

- Clinical signs (in addition to PU/PD and other signs of diabetes):
 - Lethargy
 - Weakness
 - Anorexia
 - Tachypnea
 - Vomiting
 - Odor of acetone on breath
- These patients will need to be brought in right away so you and your veterinary team can start taking action. Hospitalization, fluids, bloodwork, and insulin therapy will likely be required. 24-hour monitoring and care will need to be provided for severe cases.

Hypoglycemia is possible when patients are receiving insulin but may be going into remission, on too high a dose, or refusing food for any reason. Clients should always be warned of the possibility of hypoglycemia and be aware of the clinical signs to look for:

- Lethargy
- Weakness
- Inappetence
- If a pet owner notices possible hypoglycemia at home, they should have a protocol to follow from your veterinarian, such as giving a high-carbohydrate meal if the pet is conscious or rubbing corn syrup on their pet's gums if the pet is poorly responsive, while they call your office or the emergency clinic.
- If the pet does not respond to the protocol at home, or if they are profoundly lethargic and not responsive, they should be brought to a veterinarian immediately.

7 Know how diabetes is monitored.

- Serum glucose curve (serial monitoring)
 - Sample is taken before morning insulin, then blood samples are collected q2hrs for 12hrs.
 - Can be done in the hospital, although that can be stressful for pets and therefore increase their BG readings, or at home by owners if they have their own glucometer.
 - Many owners are interested in learning to do this at home and will need help learning good technique for sampling.
- A curve is usually done soon after insulin treatment begins, then at intervals while the dosage is being adjusted.
 - Continuous glucose monitoring (CGM) device such as the Freestyle Libre
- Sensor is placed on pet's skin by the veterinary team.
- The pet owner can use an app on their smartphone or a special reader to scan the sensor and read their pet's glucose level.
- These sensors can stay in place for 10-14 days if pets tolerate them well—but even 1-2 days of readings can be helpful for pets who get stressed coming into the clinic for glucose curves.

Diabetes is a lifelong disease, even for cats who go into remission. This resource will help you guide pet owners through those scary first few weeks, but don't forget they'll need long term support. Make sure they know who to call for after-hours care, schedule regular follow-up visits and calls and remind them when they're coming up, and make sure to check in with them emotionally now and then to make sure they have the resources they need to feel as comfortable as possible with their pet's treatment plan.

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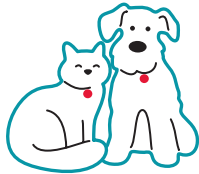
Does Your Pet Have Diabetes?

DON'T PANIC—WE CAN DO THIS TOGETHER!

While a diagnosis of diabetes in your pet may sound scary, this is something we can manage together with the right medical plan!

WHAT IS DIABETES? Diabetes in our pets is similar to diabetes in humans: the body cannot convert glucose into energy due to issues with producing or regulating the hormone insulin.

STEP 1 ▶ Understand what diabetes means for your pet



- Cats and dogs experience diabetes differently, so it's important to understand what we're trying to treat.
- Diabetic dogs lack the cells needed to produce insulin. They will require insulin therapy either once or twice a day for life, usually along with diet changes. Their diabetes is more like type 1 diabetes in people.
- Cats with diabetes generally have insulin resistance, rather than the inability to produce insulin. They will usually require insulin at the beginning of treatment, but because they are still able to produce their own insulin, some will go into remission and eventually be managed using diet alone. Their diabetes more closely resembles type 2 in people.
- **Unlike people, pets can't have an insulin pump or measure their own blood sugar—so you'll have to help them out.**

STEP 2 ▶ Use your veterinary team



- Your veterinarian and veterinary technician are here to help! They can help guide you in the right direction. Don't be afraid to ask questions, bring up things you've heard or read about diabetes, and ask where you can go for trustworthy information online.
- **Every pet is unique, so it's important to work with your vet to create a unique plan for your pet.**

STEP 3 ▶ Start treatment



- We know it can be overwhelming to have to make decisions about your pet's care when you're feeling anxious and worried about their health—but with diabetes, it's important to start treatment as soon as you and your veterinary team have decided on a plan.
- Almost every pet will need to receive insulin injections.
- Your veterinarian will determine whether your pet's insulin will be administered once or twice a day. Most pets will need to start getting insulin every 12 hours.
- Use and handle the insulin correctly. Your veterinary technician will help you learn how to administer insulin to your pet. Insulin is given under the skin, and most pets tolerate their injections very well.
- Insulin must be refrigerated.
- Most insulin must be rolled gently in your hands before using, but some types require shaking. Read the bottle directions carefully.
- **ALWAYS** use the appropriate syringe—there are different sizes of insulin syringe, and you can over- or under-dose your pet if you use the wrong kind. Your veterinary team will make sure you know what kind of syringe should be used with your pet's insulin.

(Continued on next page)

- NEVER give insulin if your pet is not eating unless your veterinarian has instructed you to do so. Instead, call your veterinary team to see what you should do. It's better to skip a dose than to give insulin without food.
- Your veterinarian may recommend a diet change for your pet as part of their diabetes management. Make sure to ask questions about timing, amounts, treats, and other things that may seem minor but can affect a diabetic pet's blood sugar management.
- **Don't worry! Your veterinary team will discuss all of this with you, and they will answer questions when you need help along the way.**

STEP 4 ▶ Find what works for your pet



- In many cases, the dose of insulin your veterinarian prescribes at the time of diagnosis will need to be adjusted to get your pet's blood sugar, or blood glucose, under control. To figure out each pet's optimal dose of insulin, both dogs and cats will need to have blood glucose curves done to see what happens to their blood glucose (BG) throughout the day. These serial measurements can be done in three ways:
- *At the veterinary hospital:* Your pet will stay at the vet clinic for about 12 hours, or a full work day, and the veterinary team will take BG measurements every 2 hours.
- *At home:* Your veterinary team can teach you how to get tiny blood samples from your pet using a special instrument to measure their BG at home.
- Using a continuous glucose monitor (CGM) like a Freestyle Libre (also used in people): This is a small sensor that the veterinary team will apply in the hospital, and you can use an app on your smartphone to collect data about your pet's sugar levels. These sensors can stay on for over a week in some cases! They actually measure the glucose under your pet's skin, not in their blood, but it can be a great way to keep an eye on blood sugar levels for pets who don't like to stay in the hospital, pet families who don't like needles, or simply to give a longer period of sugar measurements.
- **BG curves must be done every time your pet's insulin dose is adjusted to make sure they aren't getting too much or too little insulin.**

STEP 5 ▶ Be aware and prepared



- Regular veterinary appointments are important—your pet will need to be seen more frequently now to make sure their treatment plan is working, as diabetes can cause life-threatening medical complications if it's not well-controlled. Always call your vet's office if you are concerned about something new or have questions you didn't think of at your last visit!
- **Always follow your veterinarian's recommendations for follow-up testing and treatment.**



Know what signs mean "emergency." Your veterinary team can provide you with information on what to look for when your pet's glucose gets too high or too low, but always call an open veterinary office if your diabetic pet is suddenly lethargic, vomiting, unresponsive, or refusing food and/or water.

Diabetes can seem overwhelming, but we are here to help!

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Moving Toward Truly Collaborative Care

A Conversation with Elizabeth Maxwell, DVM, MS, DACVS (Small Animal), CVPP, and Candice Manganaro, DVM

Interview by Katie Berlin, DVM

Collaboration among general practitioners, specialists, and emergency veterinary care teams is sometimes bumpy. What gets in the way? For those considering asking for a consult, it can create an anxiety-raising back-and-forth of “should I or shouldn’t I reach out to a specialist”—especially if these interactions haven’t been pleasant in the past. For specialists, the biggest obstacle is often how to carve out the time. We can all relate to the feeling of that unscheduled call or “ping”

of an email when our schedule is already packed.

But for those who put in the work to create good relationships, the person on the other end of the line (or the text or the email) can become a vital resource and help save energy and money on diagnostics, medications, and unnecessary steps—not to mention improving patient care.

That’s where the Collaborative Care Coalition (CCC) comes in. It’s

a nonprofit made up of general practitioners, specialists, academics, and industry partners who are dissecting the idea of collaboration and working to overcome barriers based on old habits or due to a lack of experience flexing that collaborative muscle.

CCC has research to back up the idea that, far from being “just a soft skill,” the ability to collaborate leads to better patient outcomes. Working together may seem like a trivial thing

that we're supposed to know how to do naturally, but the so-called softer sciences are often the hardest to get right.

Central Line: The AAHA Podcast sat down with Elizabeth Maxwell, DVM, MS, DACVS (Small Animal), CVPP, who is on CCC's board and is a surgical oncology specialist, and Candice Manganaro, DVM, who have been collaborating with each other for nearly a decade.

When asked what she would put a on sticky note that would appear on every veterinary professional's mirror to see first thing in the morning, Maxwell said the quote she has on her desktop computer at work is, "A smooth sea never made a skilled sailor."

And that may be a good way to think about the hard work of learning to collaborate.

Note: Content has been edited for length and clarity.

Katie Berlin: The idea of collaboration between general practitioners and specialists and emergency veterinary care teams is sometimes a little bit fraught. And it's nice to think about us all as being on the same team. Can you give us a rundown of what the coalition is?

Elizabeth Maxwell: The Collaborative Care Coalition, [which] we also refer to as the CCC, is a volunteer-based nonprofit organization that's comprised of primary care veterinarians, specialists, individuals from academia, and industry partners. And the mission of the CCC is essentially to achieve optimal health care for animals, [an] advanced veterinary profession, and [to] evolve the relationship between primary care veterinarians and specialists.

One of the main areas of focus for the CCC is research. Veterinarians always are about evidence-based medicine, so a lot of our focus is on research that shows that collaboration improves outcomes.

Communication and Relationship Building

KB: We do develop a relationship, for better for worse, with the specialists that we refer to. And I can recall so many phone calls and interactions that I've had with specialists over the years—really good ones; you know, ones where I felt like we really had a rapport—and ones that really weren't that way at all. And I always felt like kind of a thorn in their side. I don't know how much of that was my own perception and how much of it was actually the way that they were approaching me. But I do feel like that's not an uncommon feeling among our colleagues.

Dr. Maxwell, how do you feel about that? What is the roadblock there?

EM: I think sometimes very simply it's time, right? Communication is the biggest thing. And with everyone being overworked and burned out, you know, to take the time and get on the phone to talk to someone about a case, sometimes it's just not there.

And when specialists are just sending records from appointments to their primary vet, there's no relationship building at that point. So the relationship sort of has to be established at the beginning; for the first few cases, you're calling, you're having that communication, and then maybe emails, and then the paperwork can kind of continue that more informal relationship.

We have to be intentional about the time. We have to want to build those relationships because if we don't put that as a priority, then it's never going to happen.



"We have to want to build those relationships, because if we don't put that as a priority, then it's never going to happen."

—ELIZABETH MAXWELL, DVM, MS, DACVS (SMALL ANIMAL), CVPP

KB: And that parallels how we are with clients, right? If you don't take the time to build those relationships, you're not going to reap the benefits of that relationship later on down the road. Eventually, it will save you time to have that kind of relationship with your clients.

Dr. Manganaro, how do you think that collaborative care can actually help us deal with the overload that we're all facing?

Candice Manganaro: That was part of what I was thinking about, too. I want my clients to know every single option. In Dr. Maxwell's case, we're talking about oncological cases. And so I always try to get my owners to at least have a consult. Right now, a consult might be months out, and if that owner is not going to do that, then I don't

want to take up that slot for somebody else that could have gotten in.

So I will usually send an email like, "Here's the case summary. Let me know when you can, if you want to email me back, or you want to call me, whatever works." But, that way, I can get a little bit of, "This is what we would potentially expect. This is the rough idea of what we might be talking about." And then I can communicate that to the owners.

Right now, that's harder because of the time, but it's also more important because of the lack of time. It's about finding the time to communicate that between me and the specialist, and the owner, so that everybody's on the same page. And that's always my goal: For everybody to know everything that's going on.

How GPs Can Help Specialists

EM: I honestly don't mind when cases come for the conversation, even if they don't pursue surgery. I never have that feeling that "Oh, they took up a surgery slot" you know? But what I find really helpful just from the specialty standpoint—because we're booking out one to three months in advance—it's often really helpful when the primary vet calls us and they say, "Hey, before I refer this case, are there any diagnostics that you want me to do that can help facilitate things on your end?"

CM: And medications, too. "Do I start this?" and "What do you want me to do before he gets to you, so I don't mess up the opportunity to sample things?"

EM: Sometimes when they come with an ultrasound or they come with radiographs that helps us get one step closer to treatment, if that's the route that they're going to take. So I find it to be really helpful when the vets call me and they say, "What blood tests can I do? What do you need?" And if they're able to do it, then that's really, really helpful on our end, and for the patient, because then they've already had the workup and they can come in for treatment, you know?

CM: And sometimes the answer is "We don't need that" or "We're going to repeat that" so I haven't spent extra time and money on something that's going to be repeated, or not needed, for that particular case.

Teachable Moments

EM: A lot of primary vets say, "Well, I'm not going to do this workup because they're just going to repeat it at the specialty hospital."



"That's always my goal: For everybody to know everything that's going on."

—CANDICE MANGANARO, DVM



But I don't feel like that's necessarily the case if we have the information that we need to proceed with treatment. And I think some of that [is a] breakdown in communication. For example, for a cruciate ligament tear, you might take radiographs of the knee. But for surgical planning, we need to take specific views.

I know some surgeons that actually go out to their referring veterinarians and say, "This is how you do TPLO rads. This is the marker that you can put in it so that we can do the measurements at our practice." So having that relationship and saying, "This is how we need it done so we don't have to repeat it," is really helpful because, without that

communication, you're going to take radiographs your way and then they're going to have to repeat it.

We don't want to repeat diagnostics. We're not trying to just make more money on the patient. We just need to do what we need to do to treat them. And I think that's a misunderstanding, honestly, from both sides.

KB: I think we really suffer from pride when it comes to these cases. We worry so much about how we're going to be perceived. And I'm sure specialists also don't want to tell us that you don't know or that you couldn't fix something. How do we take the ego out of these conversations? It just seems like no

matter whether we want to admit it or not, it's there.

EM: It's very easy for us, right? To be self-conscious about the decisions we're making when someone else is going to be reviewing over it, whether it's primary or specialty. And you know, there has to be a mutual respect—that's kind of the bottom line. And it always upsets me when I hear about primary care vets saying that they felt disrespected or mistreated, that a specialist made them feel stupid. I think that from the specialty side, we have to appreciate that long-term relationship that the primary care vet has built with their clients and with their patients.

There are a lot of times that I've discussed treatment options with patients that have been referred and they tell me, "Thank you, but we're going to discuss it over with our primary vet first and then make a decision." And that always just

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shows me how strong their bond is with their primary vet, and how they're going to rely on them for the decisionmaking for their pet's health care. I'm always very impressed by that.

The Bravery of Reaching Out

EM: I think we all just naturally want to help people and help our patients. And I never feel burdened by a call from a primary care vet asking about a case, whether it comes to me or not. I don't care about that. I want to help. And most of the other specialists that I've talked to also have no problem getting on the phone and helping any veterinarian that needs help.

And I don't think it happens as much here in academia, but when I worked in private practice, we got calls all the time from the referring veterinarian saying, "Hey, I'm in surgery. This looks weird. What should I do?" I think it's great because it's in the best interest of the patient. If you're in surgery and you feel stumped, you're probably going to feel bad calling the specialist, like you feel like you're in

over your head and maybe you're embarrassed, and you don't need to feel that way. I think that it takes a brave person to get on the phone and say, "I need help. I'm in surgery. I need help."

I have a lot of respect for the vets that give me a call and say, "Please let me know what I need to do."

A Lifeline for New Grads

KB: As a primary care vet, often we do feel like we have to be good at everything, know how to deal with every situation. And that can be really scary, especially for newer grads, because everything is like the first time.

I'm sure it would be really comforting for a lot of more recent graduates to know that if they don't have their own boss available to help them, they might be able to call a specialist and say, "Look, I'm stumped. I don't know what to do next."

EM: So, the CCC did a study where they were looking at perceptions of the relationships between primary care vets and specialists.

They surveyed 242 primary care veterinarians, and they found that 55% felt that they were treated with mutual respect, but 22% felt that the specialist looked down on them for their treatment decisions or for not referring sooner.

So I feel like, from that perception, we can do a lot better on our end to build that relationship because it's been proven that knowing one another on a personal level will improve the quality of collaboration. We always talk about things that we can do, like lunch-and-learns, roundtable discussions, or continuing education seminars. Those are all really good opportunities for the specialty hospitals to interact with their referring population or their veterinarians around the area to start building those personal relationships.

That allows you to get on the phone and make that call or text someone when you need help with something. I definitely think there's a lot of areas of growth for practices to make steps toward collaborating better.

“I have a lot of respect for the vets that give me a call and say, ‘Please let me know what I need to do.’”

—ELIZABETH MAXWELL, DVM, MS, DACVS (SMALL ANIMAL), CVPP

Making Collaboration Visible

KB: Say you have a patient whose owners are reluctant about going to the specialist. They’ll go if they absolutely have to, but they’re not really sure if they want to or if it’s worth it. What does that interaction look like to you?

CM: I do lay out “This is what a specialist gets us.” And those are sometimes the cases where I tell the owners, “This is what I think, but let me check really quick.” And I’ll call Dr. Maxwell and say, “Hey, this is what I think. What else can I tell these guys?”

EM: When the CCC did their study and they looked at some of those barriers, they also surveyed pet owners. They found that cost was not actually the biggest barrier to going [to see a specialist]; it was actually they didn’t see the value in going.

And so that goes back to what you said about communicating to the client what the value is in going to a specialist, and how that might be beneficial to their pet. And some of the things that we found in these surveys that we’ve done is that having the client understand what that referral process looks like, or if they’re considering it, having all of the information before they come. The accurate cost estimates tended to be one of the things that clients felt were really important from the specialty side of things.

And when they get to the specialist, how do we make collaboration visible?

I think that’s really, really important. I always end all the conversations with, “I’m going to call your primary care vet and let them know what we discussed.” I think making the collaboration visible to the client is really important to make them feel that their patient is at the center of the care team.

Mini Miracles

KB: That says it so well. Many clients who have been the patient themselves can have a really deep sense of how much that means, too, even veterinarians who have been the patient themselves. When you’re on the other side of the table and you’re thinking, “Gosh, I was so scared when I was at that specialist” or “I really appreciated knowing that that specialist talked to my family doctor and they had a conversation about me, where I was important, and they came up with a plan together.” That has happened to me, and I felt so taken care of.

It can be so scary to be sitting there at a specialist’s office and not know the person or the team. And you’re like, “I’m here because something’s wrong.” And with a pet, you can’t explain to them why they’re here, and you’re discussing all these procedures with some stranger. And I really feel that in my heart, where you just look at them and you say, “We’ve got you, we’re all in this together.” That’s just a great, great feeling.

CM: That’s what I would like for everyday veterinary medicine to be. Everyday is on each other’s side.

To learn more about the Collaborative Care Coalition and read their guidelines and white paper, visit collaborativecarecoalition.org.

Anyone interested can reach out to CCC’s board members through the contact information on their site. Look for them at local and national conferences speaking about their research and CCC’s mission. ✨



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Elizabeth Maxwell, DVM, MS, DACVS (Small Animal), CVPP, is from Miami, Florida. She earned her veterinary degree from Ross University in 2012, completed a rotating internship at Louisiana State University, and a residency in small animal surgery at the University of Illinois. She then went on to



complete a surgical oncology fellowship at the University of Florida and is now a clinical assistant professor in surgical oncology at the University of Florida. She currently serves as president on the board of directors for the Collaborative Care Coalition.

Candice Manganaro, DVM, completed her bachelor’s degree in science at the University of Central Florida and earned her Doctor of Veterinary Medicine degree from the University of Florida in 2009. As a canine/feline general practitioner in Central Florida, she values client education and stresses the team approach where families and veterinarians work together to care for pets.



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Katie Berlin, DVM, CVA, is the host of Central Line: The AAHA Podcast.

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In Her Own Words

Why do you love your job: I love vet med and science and have enjoyed being a vet but also really love the business aspect. I loved designing the new building and working on improving the efficiency of the practice. The best part of being a vet is the relationships you develop with families as they bring in their new puppy or kitten and getting to see them through their entire life, from “hello” to “goodbye.”

Pets at home: Clark and Eddie, the coonhounds, along with Edna, the terrier mix. They are all quite the characters!

What brought you to the profession: I grew up on the farm and enjoyed the vet aspect. My hometown vet was very encouraging.

Hobbies outside of work: Is there a life outside work? I would like to train my dog, Edna, to do therapy work and take her to hospitals and nursing homes. I used to cook/bake more. My peanut butter bars are a clinic favorite! I enjoy traveling and going to the beach! I also enjoy going out to eat.

Favorite book/TV show: Real crime documentaries (*Dateline*, etc.), John Grisham-type crime stories, *Downton Abbey*. I also listen to multiple podcasts for news and politics.

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