

TVC

Digital magazine

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Managing Diabetes

How veterinary practices can help clients from a diabetes diagnosis to healthy outcomes with home management



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Stressless

RECOMBITEK® Oral Bordetella is designed
for effective protection against *B. bronchiseptica*.

*A fast, simple experience
for everyone involved.*

- Ergonomic pipette applicator pre-filled with diluent makes for easy reconstitution
- Flip-top vaccine vial cap makes removal a snap
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Dogs take enough risks on their own.
Reduce their risk the easy way.

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Part of the Team

By Keith Roberts, TVC Owner and Board Member

This past month I celebrated my

fourth year as a Member / Owner of The Veterinary Cooperative. Just last year I was elected to the board because I am dedicated to furthering our mission to help level the playing field for the little guy against the big corporate practices. We're looking for like-minded owners of independent practices to help bring TVC to the next level. Will you join us? Here are the following ways you can increase your involvement with the Cooperative.

No. 1: Participate in all TVC programs (or at least as many that fit with your practice)

Member/Owners who participate in more programs are not only rewarded with great rebates and discounts, but they also receive a point in the Shareholder Profit Dividend. The goal of the Shareholder Profit Dividend is to reward TVC owners who are participating in the Cooperative in a way that enables TVC to negotiate the best programs that will lead to higher rebates and discounts for owners. The size of the clinic is not the driver in this rebate – only participation. It is the percentage of TVC clinics, regardless of clinic size, which utilize our vendors' programs that drive the incentives paid to TVC and its owners. All owners are considered equal in furthering the goals above.

- To learn more about any of the TVC programs go here <https://theveterinarycooperative.coop/membersonly/rebates-and-discounts/>
- To learn more about the Shareholder Profit Dividend go here <https://theveterinarycooperative.coop/membersonly/home/shareholder-profit-dividend-info/>

No. 2: Join the product committee

The Veterinary Cooperative relies on us to let them know what products may be missing. By joining the product committee, you can help find vendors that you want TVC to work with. The time commitment isn't much – the product committee meets once per month.

No. 3: Share your best practices

TVC.coop was designed as a one-stop shop of information. Included on the website is a members-only forum, "The Hive", where Owners can speak with other Owners about TVC- related business, practice management ideas, discuss the changing marketplace, or even find new staff. The TVC Magazine is a monthly publication focused on TVC owners. TVC is always on the lookout for people to speak to what makes their business thrive. The TVC University Live webinars always feature a panel of TVC owners speaking directly about their best practices. Join a panel of fellow hospital owners and share your thoughts on concepts on medicine and on business. To learn more logon to www.tvc.coop or reach out to brandon.paul@tvc.coop

No.4: Join the Board of Directors

The Board is currently comprised of TVC owners who own hospitals. TVC wants Owners to participate in that process too! In order to fulfill its mission of bringing Owners what they need to compete and thrive in this competitive market, TVC needs a competent Board to lead the direction of what TVC staff executes. If you are interested in leading TVC and the veterinary community into a bright future, follow the instructions on this page: <https://theveterinarycooperative.coop/membersonly/home/become-a-board-member/>



LIMITED TIME ONLY!

August TVC PurrrchasePoints™ Promotion

Receive 1,000 points for every ROYAL CANIN VETERINARY DIET® GASTROINTESTINAL™ kennel bag purchased in August (see below for details).



26.4 lb bag, \$35.05 each



**PurrrchasePoints™ are
redeemable for anything from
iPads to trips around the world.**



Log in to your [TVC membership page](#) for more information or more information about TVC's PurrrchasePoints™ exclusive program.

- Hospital must have Royal Canin member rebates affiliated with TVC to qualify for points.
- Points can be earned on a maximum of 10 bags during this offer.
- Offer runs August 1-31, 2018.
- Points will be awarded by TVC within 30 days after promotion has ended.
- For any questions about PurrrchasePoints™, please contact TVC at (847) 328-3096.

Switch Promotions

We are continuing our monthly Switch Promotion campaign to encourage all TVC Owners to switch and support TVC vendors and share in \$17M in rebates. Remember, supporting our vendors helps to ensure they will continue supporting us with programs, and helps to put money in your pocket through both individual and group goals. It also helps get you closer to the “Strive for \$450” goal.

In August, we’re focusing on senior pets. Bayer is offering \$100 in consumer rebates for purchases of \$150 of Quellin and \$200 in consumer rebates for purchases of \$250 of Quellin. Vetsource, our online pharmacy vendor, is offering a 20 percent savings on all senior supplements for August from our other TVC vendor partners, and be sure to check out the amazing savings on scores of everyday products every clinic needs from VetOne, a division of MWI. TVC “shopped” other major distributors during the month of June and found savings on VetOne products ranging from 11% to 111%!, so switch to VetOne today! Merck has a special “Grow 20%, Get 20%” PurrrchasePoints promo on purchases of Bravecto and/or Nobivac. Click through to the promo detailer to see if you qualify!



GROW 20%. GET 20%.

Grow purchases at Merck Animal Health by 20% or more, receive 20% of your total spend as PurrrchasePoint™ – **PLUS an additional 2,020 points just for qualifying!**

- 1 PurrrchasePoint™ per \$1 spent
- Includes purchases of Nobivac® and Bravecto®
- Valid August 1st – August 31st

[CLICK HERE FOR DETAILS](#)



Webinars



[Register](#)

Breed Disposition and Feeding Behavior
September 18 | 9AM & 1 PM (CST)

Please join **Royal Canin** for a 1-hour RACE-approved webinar presentation for **1 CE credit**.

In this course, we will discuss and examine the following:

- The pros and cons of purebred dogs and cats
- Examine breed group development based on job function
- Effect of breed type on behavior, feeding behavior, and nutrient assimilation
- Prehension issues based on the facial structure provided



TVC East: TVC 2018 CE Conference
September 16 | Atlanta, GA

Get 5 free RACE CE credits in one day at TVC East!

Join TVC and TVC Vendor partners at our annual Free one-day CE Conference and Trade Show in Atlanta, Georgia. We will be offering 5 RACE-approved lectures sponsored by TVC vendor partners, each worth 1 CE credit. There will also be trade show giveaways and a mini Treasure Hunt. The show is free to TVC Co-op Owners and \$150 for guests, but due to capacity limitations, there is a cut-off, so registration is on a first come, first serve basis.* Sign up now to reserve your spot and ensure you don't miss out on this great event!

*The event is free; however, the event is first come, first serve, and a \$150 fee will be deducted from your rebate check if you sign up but don't attend.

Trade Show: TVC is expecting about 25 of our vendor partners to participate in the TVC East Trade Show. In between lectures you will have time to learn more about TVC offerings, rebates, and discount programs, as well as talk directly to our vendor partners about their products and programs that can help you practice better medicine and increase your profitability. Also, take part in the mini Treasure Hunt and enter raffles to win great giveaways!

We hope you'll join us at this great event!

Promotions

Abaxis: Switch to Abaxis and receive a free VetScan UA Urine Analyzer Starter Kit with the purchase of a VetScan In-House Laboratory System now through September 29, 2018.

Bayer: Switch to Quellin and get consumer rebates! Buy \$150 of Quellin, get 10- \$10 rebates; buy \$250 of Quellin, get 20- \$10 rebates!

BI: Buy 2 trays of Purevax and get 4 PurrrchasePoints™ for every invoiced dollar spent from July 16 to August 31, 2018.

Ceva: Great Q3 savings from Ceva on Behavior, Duoxo, and Clenz-A-Dent, including all types of Buy 1, Get 1's and Mix and Match. Be sure to check out the Ceva Q3 Promo detailer to see all the great offers!

Hill's: Metabolic Awareness Promo: Save 15%, get \$5 coupons, and earn 2000-4000 PurrrchasePoints™ from July 15 to September 30, 2018.

KVP Custom Orthotics: KVP has Custom Orthotics has just launched an exclusive rebate program with TVC. They are offering an \$85 rebate on each KVP Custom Orthotics brace!

Label Value: Labels for vet offices. Save 10% off your order with promo code TVC10.

Merck: Switch to Merck and Grow 20% and Get 20% with Merck's PurchasePoints™ promo from August 1 to August 31, 2018 on purchases of Bravecto and/or Nobivac, *plus an additional 2020 points just for qualifying!*

Merck Bravecto Client Offer: Pet parents can receive a \$15 rebate for 2 doses; Mix, Match, and save when you purchase any Bravecto product!

One Place Capital: Check out the great summer financing options from One Place Capital! Get 3 payment vouchers to skip a payment at any time during your loan, or get a loan now and make no payments until 2019!

PetLink: New User Offer: Buy 2 boxes of PetLink slim microchips and get either a free box of 10 PetLink slim microchips or a free PetLink Compact Max scanner.

ProVetLogic: Animal Facility Disinfectant Hospital and/or Kennel starter kits at special TVC pricing!

Purina: Purina Pro Plan: Buy 3 HA Hydrolyzed Vegetarian Canine 6 lb. bags, Get 1 case of Gentle Snackers Canine Treats Free from August 1 to August 30, 2018.

Royal Canin: August PurrrchasePoints™ Special: Get 1000 PurrrchasePoints™ for every Royal Canin Veterinary Diet Gastrointestinal bag purchased in August!

Securos Surgical: FREE! Swaged-On Suture and Crimp Clamp Packs with the purchase of a PowerX Crimping Device August 1 to August 31, 2018.

VetOne: Switch to VetOne and enjoy 11% to 111% savings on scores of everyday items for your clinic!

Vetsource: Switch to Vetsource for your online pharmacy and your pet parents will save 20% on senior supplements through September 30, plus you'll get a host of Perks for being a TVC member/owner!

Embrace Disruption or Be Eliminated

Edward L. Blach, DVM, MS, MBA



There is a well-known video of former Nokia CEO Stephen Elop in 2013, who, when announcing that Nokia was acquired by [Microsoft](#), ended his speech while crying, with the following words, “We didn’t do anything wrong, but somehow, we lost.” Nokia in 2007 dominated the smart phone market. By 2013, they were being dominated by both Samsung and Apple. Nokia lost, and by traditional standards, they ‘didn’t do anything wrong.’ However, they failed to do anything right to respond appropriately to the rapidly changing demands of customers. And they were eliminated.

Veterinary medicine is undergoing disruption, and industry stakeholders are reacting predictably in varying ways. Most people say they want change, but in reality, they don’t like change when it impacts them. Innovation is typically judged by how it impacts current stakeholders, most notably how it impacts those who control the market now. Innovation should be judged by how it impacts the customer. If innovation improves the customer experience and provides increased customer value, then it should be seen as positive. It should be embraced. From experience, in veterinary medicine, innovation is usually judged by whether it makes current participants change how they do things, and whether they believe that they will lose control. If it requires change or if they fear loss of control, they try to kill innovation as quickly as possible.

Disruption in every era

A few years ago, I was presented with a story written by my grandfather in 1932 which provided a detailed accounting

of his farming and ranching operation from about 1904 through 1932. Consider the challenging economic times of those years, including the Great Depression. My grandfather’s father and mother had homesteaded in eastern Colorado in 1887. They owned cattle, hogs, and horses. They farmed many acres of wheat and other feed crops for their livestock. In their early years, he spoke of the open range, and the challenges they faced with increasing settlement by other people moving west and staking their claims. This movement was disrupting their ability to allow their livestock to roam freely to graze. The open range allowed them to not have to have someone attend to those cattle at all times. When settlers started crowding the range, they had to pay someone to go with the livestock at all times. The increased labor costs made it difficult to survive.

They responded by building one of the first barbed-wire enclosures on the Great Plains. Barbed wire was the disruptive new technology on the market and they used it to control their livestock while not having to pay someone to tend to the livestock at all times.

This story reminded me that disruption has been occurring for decades, and even centuries. How you respond to disruption typically determines whether you are the recipient of opportunity presented by the disruption or if you are a victim of it.

Recognize your opportunity

In every instance of disruption, there are great opportunities if you recognize them and make the appropriate decisions in your business. It occurs when customer needs are not being

THE ONLY

Veterinary Insulin Approved
for Both Dogs and Cats¹


vetsulin[®]
(porcine insulin zinc
suspension)
with you for life

With Proven Efficacy:

- Achieved glycemic control and reduced clinical signs in diabetic dogs¹
- Matches canine insulin, minimizing risk of anti-insulin antibodies²
- Predictable efficacy in cats and comparable remission rates to glargine³
- 40 IU/mL concentration for more accurate dosing in small dogs and cats

With the convenient VetPen[®], you can offer clients 2 administration options for Vetsulin[®] in BOTH diabetic dogs and cats.

The traditional method.

- Standard option widely used in diabetic pets
- Cost-effective delivery option for larger diabetic pets



An easy option.

- The first insulin pen designed exclusively for diabetic pets
- A reassuring option for owners of newly diagnosed pets



With Full Support for Your Practice and Pet Parents:

- www.vetsulin.com
- www.petdiabetesmonth.com
- Training Videos
- Pet Diabetes Tracker App

Go to www.vetsulin.com to find out more.

Vetsulin[®] should not be used in dogs or cats known to have a systemic allergy to pork or pork products. Vetsulin[®] is contraindicated during periods of hypoglycemia. Keep out of reach of children. As with all insulin products, careful patient monitoring for hypoglycemia and hyperglycemia is essential to attain and maintain adequate glycemic control and prevent associated complications. Overdosage can result in profound hypoglycemia and death. The safety and effectiveness of Vetsulin[®] in puppies and kittens, breeding, pregnant, and lactating dogs and cats has not been evaluated. See package insert for full information regarding contraindications, warnings, and precautions.

Please see other side for full prescribing information.

References 1. Data on file, Merck Animal Health. 2. Davison LJ, Walding B, Herrtage ME, Catchpole B. Anti-insulin antibodies in diabetic dogs before and after treatment with different insulin preparations. *J Vet Intern Med.* 2008;22:1317-1325. 3. Feldman EC. Diabetes remission in cats: which insulin is best? *Compend Contin Educ Vet.* 2009;31(7 Suppl A).

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vetsulin®

Intervet/Merck Animal Health
(porcine insulin zinc suspension)
NADA 141-236, Approved by FDA

CAUTION

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

DESCRIPTION

vetsulin® is a sterile aqueous zinc suspension of purified porcine insulin.
Each mL contains:

purified porcine insulin (35% amorphous and 65% crystalline)	40 IU
Zinc (as chloride)	0.08 mg
Sodium acetate trihydrate	1.36 mg
Sodium chloride	7.0 mg
Methylparaben (preservative)	1.0 mg

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

INDICATION

vetsulin® (porcine insulin zinc suspension) is indicated for the reduction of hyperglycemia and hyperglycemia-associated clinical signs in dogs and cats with diabetes mellitus.

DOSAGE AND ADMINISTRATION

FOR SUBCUTANEOUS INJECTION IN DOGS AND CATS ONLY

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

Shake the vial thoroughly until a homogeneous, uniformly milky suspension is obtained. Foam on the surface of the suspension formed during shaking should be allowed to disperse before the product is used and, if required, the product should be gently mixed to maintain a homogeneous, uniformly milky suspension before use. Clumps or white particles can form in insulin suspensions; do not use the product if visible clumps or white particles persist after shaking thoroughly.

Cartridges: VETPEN™ CARTRIDGES SHOULD BE USED EXCLUSIVELY WITH VETPEN™ AND 29G/12 MM PEN NEEDLES. Prior to loading vetsulin® cartridges, shake the cartridge until a homogeneous, uniformly milky suspension is obtained. Clumps or white particles can form in insulin suspensions; do not use the product if visible clumps or white particles persist after shaking.

The detailed instructions for use provided with VetPen™ should be strictly followed.

The injection should be administered subcutaneously, 2 to 5 cm (3/4 to 2 in) from the dorsal midline, varying from behind the scapulae to the mid-lumbar region and alternating sides.

Always provide the Owner Information Sheet with each prescription.

Dogs

The initial recommended vetsulin® dose is 0.5 IU insulin/kg body weight. Initially, this dose should be given once daily concurrently with, or right after a meal.

Twice daily therapy should be initiated if the duration of insulin action is determined to be inadequate. If twice daily treatment is initiated, the two doses should each be 25% less than the once daily dose required to attain an acceptable nadir. For example, if a dog receiving 20 units of vetsulin® once daily has an acceptable nadir but inadequate duration of activity, the vetsulin® dose should be changed to 15 units twice daily.

The veterinarian should re-evaluate the dog at appropriate intervals and adjust the dose based on clinical signs, urinalysis results, and glucose curve values until adequate glycemic control has been attained. Further adjustments in dosage may be necessary with changes in the dog's diet, body weight, or concomitant medication, or if the dog develops concurrent infection, inflammation, neoplasia, or an additional endocrine or other medical disorder.

Cats

The initial recommended dose in cats is 1 to 2 IU per injection. The injections should be given twice daily at approximately 12 hour intervals. For cats fed twice daily, the injections should be given concurrently with, or right after each meal. For cats fed ad libitum, no change in feeding schedule is needed.

The veterinarian should re-evaluate the cat at appropriate intervals and adjust the dose based on clinical signs, urinalysis results, and glucose curve values until adequate glycemic control has been attained. Further adjustments in dosage may be necessary with changes in the cat's diet, body weight, or concomitant medication, or if the cat develops concurrent infection, inflammation, neoplasia, or an additional endocrine or other medical disorder.

CONTRAINDICATIONS

Dogs and cats known to have a systemic allergy to pork or pork products should not be treated with vetsulin®. vetsulin® is contraindicated during periods of hypoglycemia.

WARNINGS

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

Animal Safety: Owners should be advised to observe for signs of hypoglycemia (see Owner Information Sheet). Use of this product, even at established doses, has been associated with hypoglycemia. An animal with signs of hypoglycemia should be treated immediately. Glucose should be given orally or intravenously as dictated by clinical signs. Insulin should be temporarily withheld and, subsequently, the dosage should be adjusted, if indicated. Any change in insulin should be made cautiously and only under a veterinarian's supervision. Changes in insulin strength, manufacturer, type, species (animal, human) or method of manufacture (rDNA versus animal-source insulin) may result in the need for a change in dosage.

Appropriate diagnostic tests should be performed to rule out endocrinopathies in pets that are difficult to regulate (e.g., hyperadrenocorticism in dogs and

hyperthyroidism in cats).

PRECAUTIONS

Animals presenting with severe ketoacidosis, anorexia, lethargy, and/or vomiting should be stabilized with short-acting insulin and appropriate supportive therapy until their condition is stabilized. As with all insulin products, careful patient monitoring for hypoglycemia and hyperglycemia are essential to attain and maintain adequate glycemic control and prevent associated complications. Overtreatment can result in profound hypoglycemia and death. Progestogens, certain endocrinopathies, and glucocorticoids can have an antagonistic effect on insulin activity. Intact bitches should be ovariohysterectomized.

Progestogen and glucocorticoid use should be avoided.

Drug Interactions:

In the US clinical effectiveness studies, dogs and cats received various medications while being treated with vetsulin® including antimicrobials, antivirals, antifungals, antihistamines, analgesics, anesthetics/tranquilizers, diuretics, bronchodilators, corticosteroids (cats), NSAIDs, thyroid hormone supplementation, hyperthyroid medication (methimazole), internal and external parasiticides, anti-emetics, dermatological topical treatments and oral supplements, ophthalmic preparations containing antimicrobials and antiinflammatories, and various vaccines. No medication interactions were reported. This drug was not studied in dogs receiving corticosteroids.

Reproductive Safety: The safety and effectiveness of vetsulin® in breeding, pregnant, and lactating dogs and cats has not been evaluated.

Use in puppies and kittens: The safety and effectiveness of vetsulin® in puppies and kittens has not been evaluated.

ADVERSE REACTIONS

Dogs

In the field effectiveness and safety study, 66 dogs were treated with vetsulin®. Sixty-two dogs were included in the assessment of safety. Hypoglycemia (defined as blood glucose <50 mg/dL) with or without associated clinical signs occurred in 35.5% (22/62) of the dogs at various times during the study. Clinical signs of hypoglycemia were generally mild in nature (described as weakness, lethargy, stumbling, falling down, and/or depression). Disorientation and collapse were reported less frequently and occurred in 16.1% (10/62) of the dogs. Two dogs had a seizure and one dog died during the seizure. Although never confirmed, the presumptive diagnosis was hypoglycemia-induced seizures. In the rest of the dogs, hypoglycemia resolved with appropriate therapy and adjustments in insulin dosage. Seven owners recorded the following observations about the injection site on the home monitoring forms: swollen, painful, sore, and a bleb under the skin.

The following clinical observations occurred in the field study following treatment with vetsulin® and may be directly attributed to the drug or may be secondary to the diabetic state or other underlying conditions in the dogs: hematuria, vomiting, diarrhea, pancreatitis, non-specific hepatopathy/pancreatitis, development of cataracts, and urinary tract infections.

In a 21-day field safety and effectiveness study, 40 dogs, already well controlled on vetsulin®, were administered vetsulin® using a VetPen™ insulin pen loaded with a pre-filled 2.7 mL vetsulin® cartridge and 29 gauge/12 mm pen needles. All dogs enrolled in the study were evaluated for safety. Loss of diabetic control was reported in 10 dogs, 3 of which were withdrawn from the study. Four dogs' loss of control resolved after dose adjustment while still using the insulin pen. For the remaining 3 dogs, the loss of diabetic control was reported at the end of the study and outcome was not documented. Two dogs had injection site reactions: edema in one dog and two instances of crusting in another. Poor appetite and weight loss was reported in one dog.

Cats

In a field effectiveness and safety study, safety data was reported for 78 cats receiving vetsulin®. Hypoglycemia (defined as blood glucose < 50 mg/dL) was reported in 61 cats (88 total incidences). Fifteen of the occurrences (involving 13 cats) were associated with clinical signs described as lethargy, diarrhea, decreased appetite/anorexia, vomiting, and hypothermia. One cat had seizures following accidental overdosing by the owner and again during the subsequent dose adjustment period. The cat responded to supportive therapy and had no further hypoglycemic episodes. In all cases of hypoglycemia, the clinical signs resolved following symptomatic treatment and/or dose adjustment. Polyneuropathy was reported in 4 cats. Two injection site reactions were reported: one as a mildly thickened subcutaneous tissue reaction and the second as a mild bruising.

The following clinical observations occurred in the field study following treatment with vetsulin® and may be directly attributed to the drug or may be secondary to the diabetic state or other underlying conditions in the cats: vomiting, lethargy, diarrhea, decreased appetite/anorexia, pancreatitis, dermal events, respiratory disease, urinary tract disorder, renal disease, dehydration, weight loss, polydipsia, polyuria, behavioral change, and ocular discharge/conjunctivitis. In a smaller field effectiveness and safety study, 14 cats were treated with vetsulin®. Hypoglycemia was reported in 6 cats (8 total occurrences). Lethargy not associated with hypoglycemia was reported in 4 cats (6 total occurrences). The following clinical observations occurred in the field study following treatment with vetsulin® and may be directly attributed to the drug or may be secondary to the diabetic state or other underlying conditions in the cats: foul odor to stool, diarrhea, dull coat, rapid, shallow breathing, stiff gait in rear, gallop rhythm, and pruritus with alopecia.

During the 1998-2007 period, the following adverse events in 50 cats treated with porcine insulin zinc suspension were reported to Intervet International and Intervet Inc: Death, seizures, lack of effectiveness/dysregulation, hypoglycemia, allergic or skin reaction, lethargy, vomiting/diarrhea, injection pain, hyperthermia, nystagmus, PU/PD, and abnormal behavior.

In a 21-day field safety and effectiveness study, 36 cats, already well controlled on vetsulin®, were administered vetsulin® using a VetPen™ insulin pen loaded with a pre-filled 2.7 mL vetsulin® cartridge and 29 gauge/12 mm pen needles. Loss of diabetic control was reported in three cats all of which resolved after dose adjustment while still using the insulin pen. Hypoglycemia was reported in one cat. The cat recovered with supportive care and dose adjustment.

To report suspected adverse drug experiences, call Merck at 1-800-224-5318.

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

GENERAL PHARMACOLOGY

vetsulin® is a mixture of amorphous and crystalline insulin resulting in immediate and prolonged insulin activity. In dogs, vetsulin® may show two peaks of activity. In a laboratory study, 12 healthy adult Beagles were administered vetsulin® at a

dose of 0.5 IU/kg. The onset of activity varied from 0.5 to 2 hours; the time to peak activity varied from 1 to 10 hours; and the duration of activity varied from 10 to 24 hours. In diabetic dogs, vetsulin® has two peaks of activity following subcutaneous administration (the first occurs at 2 to 6 hours and the second at 8 to 14 hours). The duration of activity varies between 14 and 24 hours.

In cats, vetsulin® has a single peak of activity. In a laboratory study, 12 healthy adult cats were administered vetsulin® at a dose of 0.5 IU/kg. The onset of activity varied from 0.5 to 2 hours; the time to peak activity varied from 2 to 6 hours; and the duration of activity varied from 8 to 24 hours. In diabetic cats, the peak activity following subcutaneous administration of vetsulin® occurs between 1.5 and 8 hours, and the duration of activity varies between 8 and 12 hours.

The peak(s) of activity, duration of activity, and dose required to adequately control diabetic signs vary between individuals and may vary in the same individual from day to day. The time ranges should only be considered as initial guidelines.

EFFECTIVENESS

Dogs

A total of 66 client-owned dogs were enrolled in and 53 completed the effectiveness and safety field study. The dogs completing the study included 22 breeds of purebred and various mixed breed dogs ranging in age from 4.8 to 14 years, and ranging in weight from 4.2 to 51.3 kg. Of the dogs completing the study, 25 were spayed females and 28 were male (21 neutered and 7 intact).

Dogs were started on vetsulin® at a dose of 1 IU/kg plus a body weight-dependent dose supplement once daily. The initial treatment time to reach acceptable glycemic control (Dose determination period) ranged from 5 to 151 days. Dogs were evaluated for treatment effectiveness three times at 30-day intervals (Study Period). The blood glucose curve means and mean nadirs were compared pre- and post-treatment to assess effectiveness. Glycemic control was considered adequate if an acceptable blood glucose curve was achieved (reduction in hyperglycemia and a nadir of 60 - 160 mg/dL), clinical signs of hyperglycemia (polyuria, polydipsia, and ketonuria) were improved, and hypoglycemia (blood glucose < 50 mg/dL) was avoided. The blood glucose curve mean was reduced from 370 mg/dL pre-treatment to 151 mg/dL, 185 mg/dL, and 184 mg/dL at the three treatment period evaluations. The blood glucose mean nadir was reduced from 315 mg/dL pre-treatment to 93 mg/dL, 120 mg/dL, and 119 mg/dL at the three treatment period evaluations. Sixty days after an adequate vetsulin® dose was initially established, 94%, 96% and 83% of study dogs experienced a reduction in polyuria, polydipsia, and ketonuria, respectively. Investigators reported adequate glycemic control an average of 81% of the time during the Study Period.

In a 21-day field safety and effectiveness study, 40 dogs, already well controlled on vetsulin®, were administered vetsulin® using a VetPen™ insulin pen loaded with a pre-filled 2.7 mL vetsulin® cartridge and 29 gauge/12 mm pen needles. Thirty-eight of 40 dogs were evaluated for effectiveness. Thirty-seven of the 38 owners (97.4%) said they were able to learn how to use the pen. Thirty-five of the 38 owners (92.1%) said the pen was well tolerated by the dogs. For 34 of the 38 dogs (89.5%), the investigators said that the diabetes was not negatively affected by the use of the pen.

Cats

A total of 85 client-owned cats (53 males and 25 females-all neutered) of various breeds were enrolled in a 60 day field effectiveness and safety study with continued use up to Day 180. Seven cats were removed from the study prior to the Day 7 evaluation. The remaining cats ranged in age from 3 to 17.5 years and in weight from 1.9 to 10.8 kg. Seventy-two cats completed the study to Day 60 and 66 cats completed to Day 180. The cats were started on vetsulin® at an initial dose of 1 to 2 IU insulin twice daily. Scheduled evaluations occurred at Days 7, 14, 30, 60, and 180. Dose adjustments were allowed at and between the evaluations. Effectiveness was based on blood glucose curve mean, blood glucose nadir and improvement in clinical signs. Blood glucose curve means decreased from 394 mg/dL on Day 0 to 217 mg/dL on Day 60. The mean blood glucose nadir decreased from 343 mg/dL on Day 0 to 146 mg/dL on Day 60. Fourteen client-owned cats (10 males and 4 females-all neutered) of various breeds were enrolled in a 60 day effectiveness and safety field study. The cats ranged in age from 5 to 14 years and in weight from 3.40 to 6.97 kg. Twelve cats completed the study. The cats were started on vetsulin® at an initial dose of 1 to 2 IU insulin twice daily. Scheduled evaluations occurred at Days 7, 14, 30, and 60. Dose adjustments were allowed at and between the evaluations. The blood glucose curve means decreased from 354 mg/dL on Day 0 to 162 mg/dL on Day 60. The mean blood glucose nadir decreased from 321 mg/dL on Day 0 to 99 mg/dL on Day 60.

In a 21-day field safety and effectiveness study, 36 cats, already well controlled on vetsulin®, were administered vetsulin® using a VetPen™ insulin pen loaded with a pre-filled 2.7 mL vetsulin® cartridge and 29 gauge/12 mm pen needles. Thirty-six owners (100%) said they were able to learn how to use the pen. Thirty-four owners (94.4%) said the pen was well tolerated by the cats. For thirty-five cats (97.2%), the investigators said that the diabetes was not negatively affected by the use of the pen.

HOW SUPPLIED

vetsulin® is supplied as a sterile injectable suspension in multidose vials containing 10 mL of 40 IU/mL porcine insulin zinc suspension or in multidose cartridges containing 2.7 mL of 40 IU/mL porcine insulin zinc suspension. Vials are supplied in cartons of one, 10 mL vial. Cartridges are supplied in cartons of 10, 2.7 mL cartridges.

STORAGE CONDITIONS

Store in an upright position under refrigeration at 2°C to 8°C (36°F to 46°F). Do not freeze. Protect from light. The loaded VetPen® can be stored on its side.

Use contents within 42 days of first puncture.

Additional information about vetsulin®, VetPen™, and diabetes mellitus can be found at www.vetsulin.com

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Made in Germany

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satisfied, and an alternative solution becomes available that dramatically changes customer flow and power. Consider Uber as an example. Taxi companies had a government-imposed monopoly based upon the issuance and regulation of licenses to operate taxi-cabs in certain communities. This arrangement made it impossible for anyone to compete with taxi companies even though the experience provided to their customers was less than satisfying for years. Getting a cab to come to your location to pick you up was difficult, and responses were variable and unreliable. Rides were expensive, and payment was cumbersome. Cars were dirty, and drivers often treated customers rudely. It was not a positive customer experience. Yet corrections to this service never happened, because the companies had no competitors for their customers to select.

Along came Uber. Uber developed customer-friendly technology that allowed the customer to choose their level of service, to see pricing easily, pay for it seamlessly, to view their relationship at all times by seeing the car, license number, driver names and ratings, and the car location as it approaches your pickup location. Wait times essentially went away. The entire experience is positive and convenient and the drivers must compete to get good service ratings to retain their role as Uber drivers. Uber put the power in the hands of the customer, and taxi companies are suffering as a result. They refused to heed the demands of their customers. They got comfortable doing what they do, and failed to adapt to changing customer demands, because until Uber came along, customers had no choice.

In the animal health industry, there is a lot of disruption occurring now. Customers at all levels are gaining more choices. Distribution is experiencing difficulties with the advent of distribution technologies and organizations such as Amazon who have perfected more streamlined distribution models that allow them to prosper on lower margins or even to capture higher margins by reducing the number of times a product is touched or moved between manufacturer and customer. Buying groups have placed greater margin pressure on distributors as well by providing veterinarians alternatives at lower prices. This disruption impacts veteri-

nary practices as well, because clients of veterinarians are being trained to seek better deals on medicines and foods. Clients have solutions to help them find better deals in almost every aspect of their life, so seeking better deals for their pets is natural.

The response

How should veterinarians and industry stakeholders respond to these competitive pressures?

First, take note of the trends in the marketplace. Recognize your competitive advantages and use those to provide an extremely positive customer experience at all times. Focus on the customer relationship and provide services in a manner that satisfies customers, not that are convenient to you.

Map your customers' experiences. How easy is it for pet owners to do business with you? Do you build value based upon convenience, speed, and service? Is your customer experience pleasing? Do you force clients to come

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into the practice to get questions answered so that you can turn the visit into transactions? If you do, you will be disrupted, because clients are gaining distrust for this type of service. Clients don't want to be inconvenienced with a trip to the vet if it's not necessary. They dislike invoices for several hundred dollars just to find out that they didn't need to come in. They don't like surprises. They don't like delays and wait times. They want service now, and they want it on their terms.

Most importantly, keep abreast of the changing market trends. Be on the forefront of serving customers in the manner they want to be served, rather than waiting for someone else to do so and then copying them. Don't be the CEO of Nokia, who simply was focused on 'not doing anything wrong', rather than doing what is right. Do what is right. Serve your customers, and you will thrive. ■

Managing Diabetes

How veterinary practices can help clients from a diabetes diagnosis to healthy outcomes with home management



Pet owners are spending more money than ever before on their little loved ones. Unfortunately, there have been some unintended health-related consequences to the pampering.

One issue that veterinarians can't ignore is pet obesity. According to an Association for Pet Obesity Prevention 2017 clinical survey, 56 percent of dogs and 60 percent of cats were classified as clinically overweight by their veterinary healthcare professional. That equals an estimated 50.2 million dogs and 56.5 million cats are too heavy, based on 2017 pet population projections provided by the American Pet Products Association (APPA).

Obesity in pets can lead to all sorts of health issues, including skin disorders, chronic inflammation, and respiratory issues. It can also open the door to the emergence of chronic illness, such as diabetes mellitus. Matthew D. Clark, DVM, Classen View Veterinary Clinic, Oklahoma City, Oklahoma says

of the diabetes cases diagnosed at his clinic, probably 60 to 75 percent of them are obesity related.

"We do see some pets that may also have something like Cushing's disease and develop diabetes, or they are senior pets and there doesn't seem to be any reason otherwise," says Clark, a TVC Owner. "But probably the vast majority of the time the pet is obese."

On the case

Fortunately, diabetes is more manageable if it is detected early and managed with the help of a veterinarian, according to the American Veterinary Medical Association.

Clark says they have a couple dozen clients they are currently managing for diabetes. Classen View sees anywhere from 5 to 10 diabetic pets every couple of weeks, with a handful of new cases coming in every month.

Dogs take enough risks on their own.

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¹ Straubinger RK, Chang YF, Jacobson RH, Appel MJ. Sera from OspA-vaccinated dogs, but not those from tick-infected dogs, inhibit *in vitro* growth of *Borrelia burgdorferi*. *J Clin Microbiol.* 1995;33(10):2745-2751.

² Rice Conlon JA, Mather TN, Tanner P, Gallo G, Jacobson RH. Efficacy of a nonadjuvanted, outer surface protein A, recombinant vaccine in dogs after challenge by ticks naturally infected with *Borrelia burgdorferi*. *Vet Ther.* 2000;1(2):96-107.

³ Probert WS, Crawford M, Cadiz RB, LeFebvre RB. Immunization with outer surface protein (Osp) A, but not OspC, provides cross-protection of mice challenged with North American isolates of *Borrelia burgdorferi*. *J Infect Dis.* 1997;175(2):400-405.

For a lot of pet owners, the diagnosis can be pretty intimidating. Clark says some pet owners who have diabetes themselves or a family member with diabetes might be a little bit more prepared to handle it, but “we definitely see a lot of pet owners who learn their pet is diabetic and they right off the bat think it’s going to be a death sentence, and they’re not going to be able to treat or manage it.” There is generally a lot of education that follows the diagnosis, Clark says. “We tell them, ‘Yes we’ve got to manage this, but it’s not as bad as you think.’”

Once the veterinarian has gone through the basics of the disease, they will map out a care plan. “We get them started on insulin and teach them how to give the shots, what to look for as far as too much or too little of the insulin, things like

By managing diabetes cases in-house, from a client perspective it allows them to know that the same person who is doing their vaccines and checking their pet’s ears is the same one who is managing the diabetes, Clark says.

that. The home management aspect of it. Then, we will usually have them bring that pet back in a week to get the first glucose curve and make sure that everything is reasonable.”

The initial visit and first glucose curves are usually where the most cost for the pet owner comes in. “Once we get everything set up where it needs to be, then it’s just maintenance,” says Clark. “We’ll generally talk about getting them on foods specific for diabetic pets, as well as maybe losing weight if that is part of their problem, or if they are dealing with other concurrent issues.”

Compliance can depend on several factors. “It really depends on how they tend to do probably in that first couple weeks to a month,” says Clark. “I see some owners who get through that beginning stage and the compliance is extremely poor. They don’t want to bring their pet in for rechecks, or they can’t give the insulin, things like that.”

However, for most pet owners, once they feel comfortable giving the insulin and keeping track of things at home, compliance has been good, Clark says.

“Some pets are easy to manage,” he says. “It only takes 1-2 movements with the insulin to get everything where it

needs to be. There are some pets where it will take just a few months to get them in a good position. So after that we may bring them in for glucose curves depending on the situation every couple of weeks to a month for a little bit, but then once everything is set up and where it needs to be, we can teach them how to test at home and we’ll see the pet every three to six months.”

Pet-specific

The veterinary clinic uses [Vetsulin](#) as its main insulin. “[Vetsulin](#) makes it easy for a couple reasons,” says Clark. “One, it tends to be a lot cheaper than human insulin. Depending on what kind you are using, human insulin can be upwards of \$200-300 a bottle. [Vetsulin](#) is usually quite a bit cheaper.”

It’s also helpful to have a product designed specifically for dogs and cats, so veterinarians know it has been tested for them. “I know I am getting the right amounts. We’re not using a human product that we’ve had to tweak for dogs and cats; we’re using medication specific for them. It

will also allow for keeping up with rechecks and glucose curves, because we are the ones refilling the medication.”

Plus, veterinarians can track whether they’ve checked the pet’s numbers recently in-house. Or, if the pet owner is checking the numbers at home, the veterinary clinic can review with the client to see if everything looks good. “We are not going through a pharmacist where we may not necessarily be hearing if they are having issues.”

Keeping it in-house

By managing diabetes cases in-house, from a client perspective it allows them to know that the same person who is doing their vaccines and checking their pet’s ears is the same one who is managing the diabetes, Clark says. They are only having to go to one veterinary clinic for all of their needs, rather than multiple trips to multiple locations. “Obviously with that dynamic, you’re building a better relationship with them.”

The business element is tied into that relationship, with the money being spent on exams, insulin, syringes and retests staying with the veterinary clinic. “The best business financially for the clinic is also helpful for the client.” ■



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INDUSTRY NEWS

Lilly to separate Elanco Animal Health with Initial Public Offering

Eli Lilly and Company announced that the company has completed its strategic review of Elanco Animal Health, and will file a registration statement in the coming weeks with the U.S. Securities and Exchange Commission (SEC) for a potential initial public offering (IPO) of a minority ownership stake in Elanco as a separate company. The offering is expected to represent an ownership stake of less than 20 percent. The number of shares to be offered and the price range for the offering have not yet been determined. The company expects to complete the IPO process during the second half of 2018, according to a release. For Lilly's financial reporting, Lilly will continue to consolidate Elanco in its financial results. Lilly plans to divest its remaining ownership through a tax-efficient transaction. Execution of the IPO is dependent upon – and subject to – a number of factors and uncertainties, including business and market conditions.

Study: Ticks more widespread than previously thought

According to *HealthDay News*, scientists found ticks capable of transmitting Lyme disease and other tick-borne illnesses in dozens of places across the United States where the pests had never previously been recorded, a new study reports. All told, disease-carrying ticks were detected in 83 counties where they'd never been found before across 24 states. The

numbers reflect a rise in tick populations across the country, said study author Nate Nieto. He's an associate professor with Northern Arizona University's department of biological sciences. "People should be aware of ticks and tick-borne disease, even when they may think there's not a recorded incidence of a tick in a county," Nieto said. "These things, they're not obeying borders. They're going by biology. If they get moved there by a deer or bird or people or pets, they're going to establish themselves and start growing."

Wedgewood Pharmacy, Diamondback Drugs announce merger

Wedgewood Pharmacy and Diamondback Drugs, announced a merger "to increase the breadth of medications available, to improve the speed of delivery to veterinary practices and patients, and to evolve the service and quality available to the market today," according to a release. The new, combined company will operate as Wedgewood Pharmacy, with two geographic centers of excellence that offer extended customer-service hours and consistently faster delivery nationwide. More than 500 employees will serve over 40,000 prescribers and hundreds of thousands of animal-owners, with the most-comprehensive portfolio of formulations and industry leading technology, to better help them care for the unique needs of their animals. The combined organization will be led by Marcy A. Bliss, Wedgewood Pharmacy's President and CEO.