



# Avoiding common mistakes with VetPen®



We developed this guide to help you respond to questions pet parents may have about the use of VetPen. Keep it in a handy place so you can reference it when counseling your clients.

## 1 MAKE SURE CARTRIDGE WAS PRIMED PROPERLY.

**Always confirm that air was properly removed from a new cartridge through priming before exploring other issues.**

**Tell the pet parent:** If a new cartridge is not primed properly, then air bubbles in the cartridge can create multiple issues that result in your pet receiving too much or too little insulin.

To remove air from the cartridge, dial a 3-unit dose. Holding the VetPen with the needle pointing straight up, tap the cartridge gently with your finger a few times to push any air bubbles to the top. If the needle is held at even a slight angle, some insulin may squirt out with the air, even though the VetPen is not yet properly primed. Then, push and hold the release button until the arrow (➡) points to the start line (—) on the dose selector. Repeat these steps (dialing a 1-unit dose instead) until you no longer see any air bubbles in the cartridge window as you turn the VetPen horizontally (see inset photo to the right). You have primed the pen correctly when insulin drips ACTIVELY or SQUIRTS out of the needle tip when releasing the test dose.

For more information, review the Instructions For Use that came with the VetPen and watch the videos on [www.vetsulin.com](http://www.vetsulin.com).

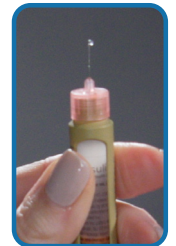


## 2 INSULIN DRIPS ACTIVELY FROM THE NEEDLE AFTER INJECTION.

**One drop at the end of the needle is normal – see photo. If the insulin drips actively, it may be a sign that the needle was removed before the injection was completed.**

**Tell the pet parent:** First verify if it was just a drop or if it dripped actively. If the latter, you may be removing the VetPen needle from the skin too soon.

To make sure your pet receives a complete dose, be sure to press the release button down fully and hold it until the arrow (➡) points to the start line (—) on the dose selector. Then, to allow the VetPen to deliver the full dose, wait 5 to 10 seconds before removing the needle from the skin.



## 3 DOSE SELECTOR DOES NOT RETURN TO THE START LINE.

**Walk the pet parent through the following 4 possible causes:**

- 1. When you pushed the release button, did you push it down all the way?** To ensure a full insulin dose is delivered, you must push the release button down fully straight toward the needle and **hold** it until the dose selector rotates back to the start line. Then, wait at least 5 seconds before removing the needle.

- 2. When you pushed the release button, did you have your hand over the dose selector?** (see inset photo to the right)

You may be closing your hand too tightly around the dose selector, which can prevent it from fully rotating back to the start line. Avoid this from happening by holding the VetPen like a pen so that the dose selector is able to rotate freely after the release button has been completely depressed.



- 3. Is the needle blocked?** Replace the needle on the VetPen with a new one. It is important to use a new needle for each injection for hygiene and safety reasons.
- 4. Did you check to see if there was enough insulin in the cartridge for your pet's full dose?** If there was not enough insulin left in the cartridge to give your pet the full dose, you can tell how many units of your pet's dose were not given by looking at the number where the dose selector stopped. You may need to give your pet the remainder of the dose. If so, write that number down. Put in a new cartridge and prime the VetPen and prepare for use. Then, turn the dose selector to the number you wrote down and inject your pet as usual.

► **TIP: Reassure pet parents.** VetPen is used in a similar way to how insulin pens are used by humans with diabetes. It may take some time until clients feel comfortable injecting their pets, but soon it will become second nature. Let clients know that by the end of a 3-week study, 99% of pet owners reported being able to learn how to use VetPen and nearly 97% reported that VetPen was easy to use overall.<sup>1-3</sup>

**Important Safety Information:** 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, and breeding, pregnant, and lactating dogs and cats has not been evaluated. See package insert for full information regarding contraindications, warnings, and precautions.

**VetPen User Safety Warning:** 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 at least 15 minutes. Accidental injection may cause clinical hypoglycemia. In case of accidental injection, seek medical attention immediately. Exposure to the product may induce a local or systemic allergic reaction in sensitized individuals.





# Answers to frequently asked questions about VetPen<sup>®</sup>

With the development of VetPen, Merck Animal Health, a leader in pet diabetes management, is proud to bring the advances of human diabetes management to veterinary practice. Below are answers to some of the questions pet parents may have about VetPen.

## ▶ What makes VetPen unique?

- It is more convenient to use than insulin vials and syringes.
- It makes it easier to deliver an accurate dose consistently over time, with less chance of error. Precise doses of insulin can be selected down to 0.5 units.
- VetPen provides a better fit to clients' lifestyles — it takes fewer steps to prepare doses once primed (air removed from cartridge) and can be used discreetly anywhere.

## ▶ Is VetPen difficult to use?

VetPen features a user-friendly design for easy handling, preparation, and injection. In a 3-week study, close to 97% of pet owners reported that VetPen is easy to use overall.<sup>1</sup> Additional adaptors are provided to further assist users with visual or manual dexterity issues.

## ▶ Is VetPen more accurate than using an insulin syringe?

Yes. In a laboratory study, VetPen was found to be consistently more accurate for low and medium doses.<sup>4</sup> Unlike syringes, VetPen provides a precise dose every time, without relying on the user's ability to draw up a dose accurately.

## ▶ Can the dose selector be turned in both directions?

No. The dose selector is designed to move from low to high numbers, but cannot be moved from high back to low numbers. If too high a dose has been selected, it is very important not to try to turn the dose selector back to a lower dose. This can damage or break the VetPen. If too high a dose has been selected, release the insulin through the needle into a tissue or swab by pressing the release button. Then select the correct dose — be sure to turn the dose selector carefully to ensure accurate dose selection.

## ▶ Can VetPen be used with other insulins?

No. VetPen must be used with specially designed 3 mL cartridges containing 2.7 mL of Vetsulin, a 40 IU/mL insulin. To avoid damaging VetPen and dosing errors, cartridges containing other insulins should not be used with VetPen.

## ▶ Do I need to keep VetPen refrigerated when it contains an insulin cartridge?

Vetsulin cartridges (including boxes containing cartridges) should be refrigerated before use. VetPen itself does not need to be refrigerated but once you have inserted a cartridge you will need to refrigerate it because Vetsulin must be refrigerated. Cartridges should be protected from light at all times.

## ▶ Is VetPen reusable?

Yes. VetPen is a refillable insulin pen that uses replaceable insulin cartridges that allow multiple doses to be provided with minimal preparation time. When all the insulin has been used, simply remove the empty cartridge and insert a new one. Please note that sterile needles are designed for single use only and should not be reused.

## ▶ What types of needles are used with VetPen?

VetPen uses specifically designed 29G/12 mm needles, which are small, thin, triple-sharpened, and specially lubricated to lower penetration force and minimize pet discomfort. These are the only needles that should be used with VetPen. Always use a new needle for each injection to ensure the needle is sterile and sharp for best results. A blunt or bent needle may cause discomfort for the pet. Dispose of used needles in a suitable sharps/biohazard container.

**For more information or assistance, please call:**

**Technical Services: 1-800-224-5318 (Monday – Friday, 9:00 am – 7:00 pm ET)**

Or visit [vetsulin.com](http://vetsulin.com)

**Reference:** 1. Data on file, Merck Animal Health. 2. Burgaud S, Guillot R, Harnois-Milon G. Clinical evaluation of a veterinary insulin pen in diabetic dogs. In: Proceedings of the WSAVA/FECAVA/BSAVA congress; 12–15 April 2012; Birmingham, UK. Abstract 122. 3. Burgaud S, Guillot R, Harnois-Milon G. Clinical evaluation of a veterinary insulin pen in diabetic cats. In: Proceedings of the WSAVA/FECAVA/BSAVA congress; 12–15 April 2012; Birmingham, UK. Abstract 45. 4. Burgaud S, Riant S, Piau N. Comparative laboratory evaluation of dose delivery using a veterinary insulin pen. In: Proceedings of the WSAVA/FECAVA/BSAVA congress; 12–15 April 2012; Birmingham, UK. Abstract 121.

# vetsulin<sup>®</sup>

## (porcine insulin zinc suspension)

Approved by FDA under NADA # 141-236

### CAUTION

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

### DESCRIPTION

vetsulin<sup>®</sup> is a sterile aqueous zinc suspension of purified porcine insulin.

Each mL contains:

- purified porcine insulin 40 IU
- (35% amorphous and 65% crystalline)
- 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<sup>®</sup> (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

**Warnings:** 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:** VETSULIN<sup>®</sup> CARTRIDGES SHOULD BE USED EXCLUSIVELY WITH VETPEN<sup>®</sup> AND 29G/12 MM PEN NEEDLES. Prior to loading vetsulin<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> once daily has an acceptable nadir but inadequate duration of activity, the vetsulin<sup>®</sup> 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<sup>®</sup>. vetsulin<sup>®</sup> 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. Overdosage 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<sup>®</sup> 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<sup>®</sup> in breeding, pregnant, and lactating dogs and cats has not been evaluated.

**Use in puppies and kittens:** The safety and effectiveness of vetsulin<sup>®</sup> in puppies and kittens has not been evaluated.

### ADVERSE REACTIONS

#### Dogs

In the field effectiveness and safety study, 66 dogs were treated with vetsulin<sup>®</sup>. 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<sup>®</sup> 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<sup>®</sup>, were administered vetsulin<sup>®</sup> using a VetPen<sup>®</sup> insulin pen loaded with a pre-filled 2.7 mL vetsulin<sup>®</sup> 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<sup>®</sup>. 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<sup>®</sup> 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<sup>®</sup>. 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<sup>®</sup> 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 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<sup>®</sup>, were administered vetsulin<sup>®</sup> using a VetPen<sup>®</sup> insulin pen loaded with a pre-filled 2.7 mL vetsulin<sup>®</sup> 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<sup>®</sup> is a mixture of amorphous and crystalline insulin resulting in immediate and prolonged insulin activity. In dogs, vetsulin<sup>®</sup> may show two peaks of activity. In a laboratory study, 12 healthy adult Beagles were administered vetsulin<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> has a single peak of activity. In a laboratory study, 12 healthy adult cats were administered vetsulin<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup>, were administered vetsulin<sup>®</sup> using a VetPen<sup>®</sup> insulin pen loaded with a pre-filled 2.7 mL vetsulin<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup>, were administered vetsulin<sup>®</sup> using a VetPen<sup>®</sup> insulin pen loaded with a pre-filled 2.7 mL vetsulin<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> can be stored on its side.

### Use contents within 42 days of first puncture.

Additional information about vetsulin<sup>®</sup>, VetPen<sup>®</sup>, and diabetes mellitus can be found at [www.vetsulin.com](http://www.vetsulin.com)  
Distributed by: Intervet Inc. (d/b/a Merck Animal Health)  
Madison, NJ 07940

Porcine insulin (active ingred.) made in France. Formulated in Germany.

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