

Vetsulin<sup>®</sup>  
IS WITH YOU  
AND YOUR DOG  
FOR LIFE



vetsulin<sup>®</sup>  
(porcine insulin zinc  
suspension)

GUIDE TO  
MANAGING  
CANINE DIABETES



DOG

## YOU MAY BE WORRIED TO LEARN YOUR DOG HAS DIABETES MELLITUS.



But diabetes in dogs can be managed successfully with:

- Insulin therapy
- Diet
- Exercise

Your veterinarian can help make this possible with Vetsulin® (porcine insulin zinc suspension).

Vetsulin® is an FDA-approved insulin that has been used for more than 20 years worldwide\* to successfully manage dogs with diabetes.



  
vetsulin®  
(porcine insulin zinc  
suspension)

## WHAT IS DIABETES MELLITUS?

During digestion, carbohydrates in your dog's food are converted into various sugars, including glucose. Glucose is absorbed into the blood and provides energy to the body's cells.

But glucose can't enter most cells without insulin, a hormone produced in the pancreas.

In dogs with diabetes, the pancreas produces less insulin than needed or the dog's cells have become resistant to insulin. Glucose cannot enter the body's cells and, instead, accumulates in the blood. The result is diabetes mellitus and, simply put, diabetes results from a shortage of insulin.

**VETSULIN®**  
Over 20 years helping vets  
safely control diabetes\*

### Your dog can live a healthy life with diabetes

In general, diabetes can't be cured. Dogs with diabetes can live a long, healthy life with appropriate treatment and monitoring.

\*Vetsulin® is sold as Caninsulin® outside the United States



DOG

  
vetsulin®  
(porcine insulin zinc  
suspension)

## THE GOOD NEWS

Attentive care and daily doses of Vetsulin® (porcine insulin zinc suspension) can help your dog to lead a normal, healthy life.

### Your Veterinary Clinic, Your Advocate

Your veterinarian, veterinary nurse, or veterinary technician will teach you everything you need to know about administering Vetsulin® to your dog. They may also show you how to monitor your dog's glucose level using a handheld glucose meter (a glucometer) and possibly perform other blood and urine tests.

Based on blood glucose and the clinical status of your dog, your veterinarian will adjust the dose as necessary over several weeks or months.

### Progesterone, Diabetes, and Your Female Dog

If you have a female dog, your veterinarian will recommend that you have your dog spayed as part of the treatment.

That's because one of the female sex hormones, progesterone, can interfere with the normal action of insulin. In order to remove the source of progesterone, spaying your diabetic female dog is critical.

### Vetsulin® Can Help Control Diabetes Signs

Vetsulin® is not a cure for diabetes but can help control or eliminate many of the signs associated with the disease:

- Excessive thirst
- Excessive urination
- Weight loss

It can also prevent development of life-threatening complications. The response to Vetsulin® varies from dog to dog but can be dramatic and, in most cases, improvement can be seen within a few days.

If Vetsulin® is not given as directed, signs of diabetes will return and complications may develop. Once stabilized on insulin, most dogs are able to lead normal lives.

## MAKING SMALL CHANGES FOR THE BETTER

Your veterinarian may ask you to take the following actions to help manage your dog's diabetes:

- Change your dog's food to one that contains more protein and less carbohydrates
- Switch to a reduced-calorie diet if your dog is overweight
- Monitor your dog's blood and urine glucose levels





DOG

## How to Avoid Possible Complications

The most common side effect experienced with Vetsulin® (porcine insulin zinc suspension) therapy or other insulin preparations is low blood sugar, called hypoglycemia.

### If not treated, hypoglycemia can be fatal to your dog.

By knowing the causes of hypoglycemia, you can help avoid occurrences, but sometimes your dog may not show any signs.

- Giving too much insulin
- Missing or delaying food
- Change in food, diet, or amount fed
- Infection or illness
- Change in the body's need for insulin
- Adrenal, pituitary, or thyroid gland diseases, or progression of liver or kidney disease
- Interaction with other medications



## Signs of Hypoglycemia May Occur Suddenly and Can Include:

- WEAKNESS
- BEHAVIORAL CHANGES
- ANXIETY
- COMA
- DEPRESSION
- MUSCLE TWITCHING
- SEIZURES
- DEATH

## WHAT TO DO IF HYPOGLYCEMIA OCCURS



### If Your Dog Is Conscious:

1. Rub about 1 tablespoon of corn syrup on your dog's gums
2. When your dog is able to swallow, feed the dog its usual meal
3. Contact your veterinarian

## IF YOUR DOG IS UNCONSCIOUS OR HAVING A SEIZURE:

### CONTACT YOUR VETERINARIAN—THIS IS A MEDICAL EMERGENCY!

#### In the interim:

1. Treat your dog immediately—do not delay treatment
2. If your dog is unconscious, pour a small amount of corn syrup onto your finger and rub on dog's gums
3. Sugar is absorbed very quickly (1-2 minutes), and your dog should be responsive
4. Do not pour solution directly into dog's mouth—there is a risk it could be inhaled into the lungs
5. Once your dog has responded and is sitting up, feed a small amount of its usual food
6. **When your dog is stabilized, immediately take him/her to your veterinarian for evaluation**

# vetsulin®

(porcine insulin zinc suspension)

## Owner Information Sheet

vetsulin® Injectable Insulin (porcine insulin zinc suspension)  
vetsulin® for reduction of hyperglycemia and hyperglycemia-associated  
clinical signs in dogs and cats with diabetes mellitus  
Generic name: U-40 Purified Porcine Insulin Zinc Suspension

This summary contains important information about vetsulin®. You should read this information before you start giving your pet vetsulin® and review it each time your prescription is refilled. This sheet is provided only as a summary and does not take the place of instructions from your veterinarian. Talk to your veterinarian if you do not understand this information or if you want to know more about vetsulin®.

### What is vetsulin®?

vetsulin® is an aqueous suspension of porcine (pork) insulin. Insulin is a hormone produced by the pancreas (a large gland that lies near the stomach). This hormone is necessary for the body's correct use of food, especially sugar.

### What is diabetes mellitus?

Diabetes mellitus (DM) occurs when a dog or a cat has inadequate levels of or an abnormal response to insulin. DM is common in middle age and older dogs and cats. Daily insulin injections are usually necessary to treat DM. vetsulin® may help your pet effectively use food, aid in maintaining an acceptable blood sugar (glucose) level, and reduce or eliminate clinical signs commonly seen with DM. Diabetes mellitus may cause some or all of these signs or changes:

- Excessive thirst (Polydipsia)
- Excessive urination (Polyuria)
- Excessive appetite (Polyphagia)
- Weight loss despite good appetite
- Glucose in the urine (Glycosuria)
- Ketones in the urine (Ketonuria)
- Cloudy eyes and vision loss (Diabetic cataracts: dogs)
- Weakness in back legs (Diabetic neuropathy: cats)

Untreated or improperly regulated diabetes may lead to changes in the acidity of the blood (diabetic ketoacidosis) with dehydration, vomiting, weakness, depression, coma, and death.

### What kind of results can I expect when my pet is on vetsulin® for DM?

Although vetsulin® is not a cure for DM, it can help control or eliminate many of the complications associated with the disease (such as excessive thirst, urination, and weight loss) and prevent development of life threatening ketoacidosis.

- Response varies from animal to animal but can be quite dramatic.
- In most cases, improvement can be seen within a few days.
- In cats, treatment may lead to diabetes remission (insulin injections no longer required).
- If vetsulin® is discontinued or not given as directed, the signs of diabetes will likely return and life-threatening complications such as ketoacidosis may develop.

### Who should not receive vetsulin®?

- Pets known to have a systemic allergy to pork or pork products.
- Pets that have stopped eating or have greatly decreased appetite (anorexia), are vomiting, show signs of extreme drowsiness or fatigue (lethargy) and/or show signs of severe ketoacidosis, should not receive vetsulin® until stabilized with appropriate supportive therapy.
- vetsulin® is for use in animals only. Keep out of reach of children. Seek medical attention immediately if accidental injection occurs.

### What to tell/ask your veterinarian before using vetsulin®.

Talk to your veterinarian about:

- The signs of DM you have observed.
- What tests might be done before vetsulin® is prescribed.
- The importance of ovariohysterectomy (spaying), if your dog is an intact female.
- The importance of consistent daily injections, an appropriate and consistent diet, weight control, exercise, and home monitoring of your pet's condition.
- How often your pet may need to be examined by your veterinarian.
- The risks and benefits of using vetsulin®.

Tell your veterinarian if your pet has ever had the following medical problems

- Side effects when receiving other insulin products
- Digestive upset (vomiting and/or diarrhea)
- Liver disease
- Inflamed pancreas (Pancreatitis)
- Underactive thyroid (Hypothyroidism)
- Overactive thyroid (Hyperthyroidism)
- Cushing's Syndrome (Hyperadrenocorticism)
- Kidney disease

Tell your veterinarian about:

- Any medical problems or allergies that your pet has now or has had.
- All medicines that you are giving or plan to give your pet, including those you can get without a prescription.

### How to give vetsulin® to your pet

Doses of insulin are measured in units. U-40 insulin contains 40 units/mL (1 mL = 1 cc). **Use vetsulin® with U-40 syringes only.** Use of a syringe other than a U-40 syringe will result in incorrect dosing. A licensed veterinarian must prescribe vetsulin® for your pet, and it should be administered according to your veterinarian's instructions.

Your veterinarian will determine the amount of insulin needed (based on the weight of your pet, clinical signs such as water consumption, and laboratory results), instruct you on proper storage and handling, show you how to draw the insulin from the bottle, and instruct you on how to administer the injection. Once you can do this correctly, your veterinarian will provide you with everything you need to care for your pet at home. vetsulin® should be administered with a U-40 insulin syringe according to the following instructions:

### Preparing the Dose:

- Wash your hands
- Remove the vetsulin® bottle from the refrigerator and 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.
- If you see large particles floating in the suspension after thoroughly shaking, do not use the product and contact your veterinarian.
- Carefully remove the cap from the needle.
- Using a U-40 insulin syringe, pull the plunger back to draw air into the syringe to equal the vetsulin® dose.
- Insert the syringe needle into the bottle and inject the air into the bottle.
- Turn the bottle and syringe upside down. Making sure the tip of the needle is in the vetsulin®, withdraw the correct dose into the syringe.
- Before removing the needle from the bottle, check the syringe for any air bubbles. If bubbles are present, hold the syringe straight up and tap its side until the bubbles float to the top. Push them out with the plunger and withdraw the correct dose.
- Remove the needle from the bottle, being careful not to inject yourself.

### **Giving the injection:**

- Injections should be given just under the skin (subcutaneously) 2-5cm (3/4-2 inches) from the midline of the back (middle of your pet's back running from tail to head), varying from just behind the shoulder blade to slightly in front of the hipbone.
- The injection site should be alternated between your pet's left and right side.
- Using your free hand, pinch up a fold of skin, insert the needle into the center of the fold as instructed by your veterinarian, and push the plunger in as far as it will go.
- Pull the needle out being careful not to inject yourself.
- Dispose of the syringe in an appropriate manner (sharps/biohazard disposal).

### **What are the possible side effects that may occur during vetsulin® therapy?**

The most common side effect experienced with vetsulin® therapy is hypoglycemia (low blood sugar). Hypoglycemia can be caused by:

- Giving too much insulin
- Missing or delaying food
- Change in food, diet, or amount fed
- Change (increase) in exercise
- Infection or illness
- Change in the body's need for insulin
- Diseases of the adrenal, pituitary, or thyroid gland, or progression of liver or kidney disease
- Interaction with other drugs (such as progestogen or glucocorticoids)

### **Signs of hypoglycemia may occur suddenly and can include**

- Weakness
- Depression
- Behavioral changes
- Muscle twitching
- Anxiety
- Seizures
- Coma
- Death

### **What do I do in case my pet shows signs of hypoglycemia?**

- **If your pet is unconscious or having a seizure, this is a medical emergency. Take your pet to your veterinarian immediately.**
- If your pet is conscious, rub approximately 1 tablespoon of corn syrup or honey on your pet's gums. When it is able to swallow, give corn syrup or honey by mouth until your pet is alert enough to eat. Feed its usual meal and contact your veterinarian.

Other side effects that can be seen include loss of effectiveness and local or systemic allergic reactions. It is important to contact your veterinarian immediately if you think your pet has a medical problem or side effect from vetsulin® therapy. In particular, please contact your veterinarian if your pet shows any of the following:

- Excessive water consumption for more than 3 days
- Excess urination (including need to urinate at night for a pet that usually sleeps through the night or inappropriate urination in the house)
- Reduced or loss of appetite
- Weakness, seizures, or severe mental depression
- Behavioral change, muscle twitching, or anxiety
- Constipation, vomiting, or diarrhea
- Signs of a bladder infection (small, frequent urinations, straining, blood in the urine)
- Swelling of the head or neck

### **What else can I do to keep my pet's blood sugar stable?**

- Your pet's diet should be consistent and appropriate. A nutritionally complete pet food should be fed in consistent amounts at the same times each day or, at the discretion of your veterinarian, be available continuously.
- "Treats" and changes in diet should generally be avoided unless recommended by your veterinarian.

- Your veterinarian will advise you on how much and when to feed your pet based on the response to vetsulin®.
- Your pet's exercise should remain consistent. Consult with your veterinarian if you expect a major change in activity.
- Develop a schedule with your veterinarian for regular evaluations of your pet's diabetes.

### **Can vetsulin® be used with other medications?**

Progestogen (such as megestrol) and glucocorticoids (such as cortisone, prednisone, dexamethasone, triamcinolone) should be avoided during vetsulin® therapy. Progestogen, glucocorticoids, and certain endocrine diseases may counter the effect of insulin. Other medications may also interfere with your pet's response to insulin. Tell your veterinarian about all the medicines you have given your pet in the past, and any medicines that you are planning to give with vetsulin®. This should include other medicines that you can get without a prescription. Your veterinarian may want to check that all of your pet's medications can be given together.

### **What do I do in case my pet receives more than the prescribed amount of vetsulin®?**

If your pet is given too much vetsulin®, severe (life-threatening) hypoglycemia (low blood sugar) can result. Contact your veterinarian immediately. If your veterinarian is not available, seek other veterinary advice at once. Your pet may need to be hospitalized for observation or treatment.

### **What do I do if my pet receives less than the prescribed dose, or I miss an injection?**

- A missed or inadequate dose may cause temporary recurrence of signs (such as excess thirst and urination) but is not life threatening.
- Contact your veterinarian as soon as possible for advice on your pet's next dose.
- If you cannot reach your veterinarian and your pet is eating and acting normal, give your pet the usual dose at the next regularly scheduled injection time.

### **How do I store vetsulin®?**

vetsulin® should be stored in an upright position under refrigeration (2-8 Degrees Celsius / 36-46 Degrees Fahrenheit).

Do not freeze. Protect from light. Use contents within 42 days of first vial puncture.

### **What else should I know about vetsulin®?**

This sheet provides a summary of information about vetsulin®. If you have any questions or concerns about vetsulin® or DM, talk to your veterinarian.

As with all prescribed medicines, vetsulin® should only be given to the pet for which it was prescribed and for the condition for which it was prescribed.

It is important that your veterinarian periodically evaluate your pet's response to vetsulin® at regular checkups that include blood glucose monitoring. Your veterinarian will best determine if your pet is responding as expected.

Additional information about vetsulin® and DM can be found at [www.vetsulin.com](http://www.vetsulin.com)

Distributed by: Intervet Inc (d/b/a Merck Animal Health) • Madison, NJ 07940 • Made in Germany

2 Giralda Farms, Madison, NJ 07940 • Customer Service: 1-800-521-5767

Copyright © 2012 Intervet Inc., a subsidiary of Merck & Co., Inc. All rights reserved.

02/13 MAH-VET-04



vetsulin®  
(porcine insulin zinc  
suspension)

WE'RE WITH YOU  
AND YOUR DOG  
FOR LIFE



Download the **Pet Diabetes Tracker app** from the online app store to help manage your dog's diabetes.

**Look for helpful tips about pet diabetes  
when you see Sugar & Spike!**

For more information about Vetsulin® (porcine insulin zinc suspension) and diabetes mellitus in dogs, visit

**[www.vetsulin.com](http://www.vetsulin.com)**

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.