

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

# *A pet owner's guide.*

Managing a  
healthy, normal  
life for your  
diabetic dog.



Vetsulin<sup>®</sup>  
*fits the lifestyle*  
you love sharing  
with your dog.

 **Intervet**  
Schering-Plough Animal Health

## Your dog has diabetes mellitus.

It can be a shock to learn that your dog suffers from diabetes. Fortunately, diabetes in dogs can be managed very successfully with daily, consistent care that involves insulin therapy, diet, and exercise. Your veterinarian can help make this possible with Vetsulin<sup>®</sup> (porcine insulin zinc suspension).



## What is diabetes mellitus?

Most common in middle-aged and older dogs, diabetes is occasionally seen in younger dogs. Some breeds are diagnosed more frequently than others.

During digestion, your dog's food is broken down into smaller components for use by the body. Carbohydrates are converted into various sugars, including glucose. Glucose is absorbed from the intestines into the blood and provides the body's cells with energy.

Glucose, however, can enter into most cells only if the hormone known as insulin is present. Insulin is produced by specific cells in the pancreas. In diabetic dogs, these cells in the pancreas produce little or no insulin. When this happens, glucose cannot enter into the body's cells and begins to accumulate in the blood, causing the condition known as diabetes mellitus. Simply put, diabetes results from a shortage of insulin.

### Insulin Fast Facts

- 1 Insulin is a hormone that keeps your dog's glucose concentration at a normal level.
- 2 Insulin is produced by certain cells in the pancreas.
- 3 In diabetic animals, these cells produce little or no insulin.

## Signs of diabetes.

The signs of diabetes are the result of high levels of glucose in your dog's blood and urine. You may have noticed one or more of the symptoms below.

These are the most common signs that a dog may have diabetes:

- Excessive thirst
- Excessive urination
- Excessive appetite
- Weight loss despite good appetite
- Cloudy eyes and vision loss (diabetic cataracts)
- Deterioration of the condition of your dog's coat



## How your veterinarian may make a diagnosis.

Your veterinarian will confirm a diagnosis of diabetes by carrying out examinations and tests, such as urine and blood tests. When glucose levels are found elevated in both the urine and blood, that means your dog has diabetes. Next, your veterinarian will perform a thorough physical exam to determine if your dog is also suffering from other conditions, because some diseases can make it more difficult to treat diabetes.

A cure? Not yet.  
Happy and healthy?

*Absolutely!*

In general, diabetes can't be cured. The great news is that by establishing a consistent lifestyle for your dog, including treatment with Vetsulin<sup>®</sup> (porcine insulin zinc suspension), your dog will most likely be capable of leading the normal, healthy life you've always expected.

## Vetsulin<sup>®</sup> (porcine insulin zinc suspension). The TLC your diabetic dog needs.

Vetsulin is the only FDA-approved insulin designed specifically for treating dogs, and it has been used successfully to treat dogs internationally for more than 10 years. In fact, it's the closest thing to a dog's own insulin, which is a comforting thought when treating the dog you love.

Your doctor will determine the dose that's right for your dog and teach you everything you need to know about administering the injection and monitoring your dog's blood glucose level. Based on blood and urine glucose levels, your vet will adjust the dose until the correct dose is established. This time period can vary from 1 week to 1 or 2 months.

### Progesterone, diabetes, and your female dog.

As part of the treatment, your veterinarian will recommend that you have your dog spayed. That's because one of the 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 essential.



## Making small changes for the better.

Since diabetes is a relatively easy disease to live with, the small changes you'll make will pay off in the long run. As your veterinarian will explain, you may need to:

- Change the times, amounts, and brand of food you feed your dog
- Ask family and friends to join you in eliminating extra dog treats
- Monitor your dog's exercise, keeping it regular and routine
- Monitor your dog's blood and urine glucose

## Avoiding possible complications.

The most common side effect experienced with Vetsulin<sup>®</sup> (porcine insulin zinc suspension) therapy is low blood sugar, also called *hypoglycemia*. When left alone, hypoglycemia can be fatal. Fortunately, knowing its causes can help you avoid unnecessary hypoglycemic occurrences.

- Giving too much insulin
- Missing or delaying food
- Change in food, diet, or amount fed
- Increase in exercise
- 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 drugs

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

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

## What to do if hypoglycemia occurs.

### If your dog is conscious:

1. Rub about one 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:

**This is a medical emergency.**  
**CONTACT YOUR VETERINARIAN.**

In the meantime:

1. Treat your dog immediately. Do not delay treatment.
2. Pour a small amount of a sugar solution (eg, corn syrup) onto your finger and rub it onto your dog's gums.
3. The sugar is absorbed very quickly (1 to 2 minutes), after which your dog should respond.
4. Do not pour the solution directly in your dog's mouth since there is a risk it could be inhaled into the lungs.
5. Once your dog has responded and is sitting up, feed it a small, high-protein meal.
6. When your dog is stabilized, transport it immediately to your veterinarian for evaluation.

## Looking ahead... ...with caution

It's important to be aware of other possible side effects from Vetsulin<sup>®</sup> (porcine insulin zinc suspension) and to contact your veterinarian immediately if you think your dog has a medical problem or side effect from Vetsulin therapy.

Please contact your veterinarian if your dog shows any of the following:

- Excessive water consumption for more than 3 days
- Excessive urination (including need to urinate at night for a dog that usually sleeps through the night or inappropriate urination in the house)
- Reduced or complete 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



## ...and with optimism.

Although Vetsulin is not a cure for diabetes, 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 complications. The response to Vetsulin varies from dog to dog but can be quite dramatic. In most dogs, improvement can be seen within a few days.

If Vetsulin is discontinued or not given as directed, signs of diabetes will likely return, and complications may develop. Once they have been stabilized on insulin, most dogs are able to lead a happy, healthy life.

**The life expectancy of dogs  
on insulin is similar to that  
of other healthy dogs.**

For more information, visit [www.vetsulinforpets.com](http://www.vetsulinforpets.com).

# vetsulin<sup>®</sup>

(porcine insulin zinc suspension)

## Owner Information Sheet Vetsulin<sup>®</sup> 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?

- Individuals known to have a systemic allergy to pork or pork products.
- Individuals 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 ovariectomy (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 mix by gently rolling the bottle between your hands (do not shake).
- 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 to not 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 progesterone 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, dry or canned 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?**

Progesterone (such as megestrol) and glucocorticoids (such as cortisone, prednisone, dexamethasone, triamcinolone) should be avoided during Vetsulin therapy. Progesterone, 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.

#### **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)

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Clinic stamp



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