Translating Feline Patients with Diabetes Mellitus to Vetsulin® (porcine insulin zinc suspension)

1. Is the cat adequately regulated on its current insulin?
   - Yes
   - No

2. Investigate the reason for inadequate regulation. Is poor glycemic control:
   - Associated with a human factor?
   - Caused by insulin storage?
   - Caused by insulin therapy?
   - Caused by concurrent disorder?

3. Switching a cat from current insulin to Vetsulin
   - Discontinue current insulin.
   - Immediately start Vetsulin at 1 to 2 IU per cat BID (no washout period required).

4. Evaluate cat 2–4 weeks after starting Vetsulin
   - Has there been any significant change in weight?
   - Has the cat’s water drinking increased, decreased, or stayed the same since your last visit?
   - Ask owner about changes in clinical signs and weight cat
   - Continue with current dose if clinical signs have improved.

5. Generate serial blood glucose curve (samples taken every 2 hours)
   - Values that suggest hypoglycemia
   - Nadin < 120 mg/dL
   - If current dose is >2 IU BID and >1.5 IU/kg BID, go back to the recommended starting dose of 1–2 IU BID
   - If current dose is >2 IU BID and <1.5 IU/kg BID, and the cat was poorly regulated clinically at its last check, go back to the recommended starting dose of 1–2 IU BID
   - If current dose is 1 IU BID, skip the next insulin dose and reassess 12 hours later. With any change in dose, reevaluate in 2–4 weeks

6. Have clinical signs (PU/PD, weight loss, etc) resolved?
   - Yes
   - No

7. Are clinical signs consistent with:
   - Hyperglycemia
   - Hypoglycemia

Feeding Plan:
- Feed ad libitum or two meals daily
- Avoid food just prior to administering insulin
- A diet suitable for a diabetic cat may encourage remission:
  - High protein, low carbohydrate (preferably canned)

Chart was developed in collaboration with Edward C. Feldman, DVM, DACVIM

General Recommendations:
1. Ideally, the blood glucose values will range between 120 and 300 mg/dL for the majority of the time in a well-regulated diabetic cat.
2. The dose will most likely need to be adjusted until adequate regulation is achieved and may require future adjustments based on changes in weight or medical history.
3. Dose adjustments should be based on clinical signs and evaluation of a serial blood glucose curve. Increases in dose should be made in 1 IU per injection increments (BID).
4. Allow at least 2–4 weeks between dose changes (unless evidence of hypoglycemia).
5. Educate the client on the need for importance of using U-40 syringes with Vetsulin.
6. Discard open Vetsulin 42 days after first vial puncture.


**Veterinarians**

**Proinsulin Insulin Injection**

**Indications**

Vetsulin® is a bovine insulin injection for the treatment of diabetes mellitus in dogs and cats.

**Dosage and Administration**

For subcutaneous injection in dogs and cats only.

**Dogs**

**Initial Dose:**

The initial recommended dose is 0.5 IU insulin/kg body weight. Initially, this dose should be given once daily concurrently or, if tolerated, every 8 to 12 hours.

**Additional Doses:**

Further adjustments in dosage may be necessary with changes in the dog's diet, body weight, or concomitant medication, or if the dog's condition is not under adequate control. Always provide the Concentration Sheet with each prescription.

**Cats**

**Initial Dose:**

The initial recommended dose is 0.5 IU insulin/kg body weight. Initially, this dose should be given once daily concurrently or, if tolerated, every 8 to 12 hours.

**Additional Doses:**

Further adjustments in dosage may be necessary with changes in the cat's diet, body weight, or concomitant medication, or if the cat's condition is not under adequate control. Always provide the Concentration Sheet with each prescription.

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The recommended dose is 0.5 IU insulin/kg body weight. Initially, this dose should be given once daily concurrently or, if tolerated, every 8 to 12 hours.

**Dose Adjustment:**

There are many factors that may influence the dose a dog or cat is given. Some of these factors include body weight, diet, age, and overall health.

**Contraindications:**

Vetsulin® should not be administered to pregnant or lactating bitches, to neonatal puppies or kittens, or to pregnant or lactating females.

**Precautions:**

Vetsulin® should not be administered to dogs or cats with a known hypersensitivity to bovine insulin. Vetsulin® should also not be administered to dogs or cats with a known hypersensitivity to any of its excipients, including zinc.

**Adverse Reactions:**

The most common adverse reaction reported with the use of Vetsulin® is hypoglycemia. Other possible adverse reactions include changes in appetite, vomiting, diarrhea, depression, weakness, inactivity, and death. In cases of hypoglycemia, the clinical signs usually improve within 15 minutes. In case of accidental injection, flush eyes with copious amounts of water for 15 minutes. Accidental injection may cause clinical hypoglycemia. If an animal with signs of hypoglycemia should be given dextrose.

**Usage in Neonates:**

Vetsulin® should not be administered to neonatal puppies or kittens. Neonatal puppies or kittens have not been shown to be capable of producing adequate insulin. Therefore, these animals should be treated with insulin injection in the same manner as adult dogs and cats.

**Usage in Pregnant Animals:**

Vetsulin® should not be administered to pregnant and lactating females. It is not known whether Vetsulin® is capable of causing fetal harm when administered to pregnant animals. It is not known whether Vetsulin® is capable of causing fetal harm when administered to pregnant animals. Therefore, the use of Vetsulin® in pregnant animals is not recommended.

**Usage in Nursing Animals:**

Vetsulin® should not be administered to neonatal puppies or kittens. Neonatal puppies or kittens have not been shown to be capable of producing adequate insulin. Therefore, these animals should be treated with insulin injection in the same manner as adult dogs and cats.

**Usage in Pregnancy:**

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**Usage in Lactation:**

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