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Could My Cat Have Diabetes?

It is estimated that 11.3% of the US human population has diabetes mellitus (\approx 37.3 million people).¹ Diabetes is also one of the most common endocrine diseases in cats, affecting up to 1.2% of cats seen in private veterinary practice.²

Diabetes is a chronic disease in which the body cannot properly produce or respond to insulin,³ a hormone produced in the pancreas that is critical to maintaining normal blood sugar (ie, blood glucose) levels in the body.^{3,4} Without the effects of insulin, the body's cells do not get the energy source they need, causing excess glucose to build up in the blood. As glucose levels rise, it "spills" into the urine. Excess glucose is often detected in both the blood and urine of diabetic patients.³

As in people, there are 2 major forms of diabetes in animals:

- *Type I* occurs when the pancreas does not produce enough insulin, necessitating insulin supplementation (by injection) to control the disease.^{3,4}
- *Type II* occurs when the body's tissue cells do not appropriately respond to or become "resistant" to insulin being produced.^{3,4} Most diabetic cats have type II diabetes.

When cats cannot properly transport glucose from their bloodstream to their cells with the assistance of insulin, the cells do not get the energy source they need, causing the body to break down fats and proteins.^{2,4} The result of protein breakdown is a reduction in the body's muscle mass.² Collectively, these problems can lead to severe illness and even death if not appropriately diagnosed and treated.

Is My Cat at Risk for Diabetes?

Although several factors may play a role in the development of diabetes in cats, the most significant risk factor is obesity.² Obese cats are 4× more likely to develop diabetes than non-obese cats.² If your pet is overweight, your veterinarian can discuss strategies or diets to help your cat achieve an optimum body weight.

Other risk factors include age, as diabetes is typically diagnosed in older cats, with risk for disease peaking between 10 and 13 years of age.² Although both male and female cats can be affected, diabetes appears to be more commonly found in male cats.² Some breeds are also at higher risk for developing diabetes, such as Burmese, Tonkinese, and Norwegian Forest cats.² Cats receiving steroids (often used to treat other diseases such as respiratory or gastrointestinal disease) are also at an increased risk for diabetes.³

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What Are the Symptoms of Diabetes?

There are several symptoms of diabetes that you can monitor your cat for at home. The most common include:

- **Increased thirst:** On average, healthy cats drink $\approx 1/2$ a cup of water per 5 pounds of body weight per day.⁵ This means that a 10-lb cat, on average, will drink ≈ 1 cup of water per day. If you are concerned your cat may be drinking more than average, consider measuring how much water you are giving each day and subtracting what is left at the end of the day.
- **Increased urination:** Pets with diabetes will drink more water and therefore have larger amounts of urine. Larger clumps of litter in the litter box may be an indication that your pet has an increased volume of urine. Urinating outside the litter box can also be an indication that your pet is drinking more and therefore urinating more than normal.
- **Increased appetite:** Because diabetic cats have trouble utilizing the nutrients they ingest, they are often hungrier than normal but may be losing weight. If you observe any changes in your cat's appetite or weight, bring them to the attention of your veterinary team.

Other, more generalized symptoms of illness may include:

- Lethargy/tiredness
- Lack of grooming/poor haircoat
- Reduced ability to jump or climb stairs
 - Your cat may seem weaker or clumsier in the hind end, and he/she may walk with “heels” lower to the ground.

Early detection is key; the sooner a diagnosis can be made, the faster treatment can be initiated, leading to better outcomes. If your cat has any of these symptoms, contact your veterinarian.

How Is Diabetes Diagnosed?

Together with clinical signs, a diagnosis of diabetes can be confirmed through simple laboratory testing. If high glucose levels are detected in the blood or urine, this may be an indication of diabetes. Your veterinarian will likely recommend repeating these tests to confirm persistent glucose elevations and make a diagnosis of diabetes. Of note, cats that are stressed may have elevated blood glucose, so this finding alone does not always indicate diabetes.³ Your veterinarian may also run a blood test called a fructosamine level to get a clearer understanding of whether your cat's blood sugar has been consistently elevated, which can aid in confirming a diagnosis.² Blood and urine testing is a common part of an annual examination for healthy pets, so it is possible for your veterinarian to detect signs of diabetes before symptoms are apparent at home.

Is Diabetes Treatable?

In most cases, diabetes is a manageable condition. For most cats, injectable insulin is an appropriate treatment and generally administered 1 to 2 times a day.⁶ Although it may seem daunting, most pet owners are able to successfully administer insulin at home, and most cats tolerate the injections well.³ If needed, ask your veterinarian about alternate options to treat diabetes orally in your cat.

Dietary modification is also important. Feeding a specially formulated, higher-protein, lower-carbohydrate diet may help control blood glucose levels, and canned food may also offer benefits over dry food due to lower carbohydrate levels.² In overweight cats, a plan may also be recommended to help achieve optimum body weight.

In some cases, a cat's diabetes may enter a state of remission and the cat may no longer require insulin injections but will still require close monitoring at home and by their veterinarian to detect signs of recurrence.

Conclusion

Diabetes is one of the most common endocrine diseases in cats, and understanding the basics can help reduce the risks of your cat developing diabetes. However, blood and urine testing are the only ways to definitively determine whether a cat has diabetes, which is why it is critical for pet owners to take their cat to the veterinarian for routine examinations, regardless of obvious concerns seen at home. Although diabetes requires close management and monitoring both at home and in the veterinary clinic, early intervention and dedicated management can lead to a good prognosis. If you have any concerns regarding diabetes or your cat, contact your veterinarian.

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US-PET-0574-2023

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